Mission: *To develop lifelong learners through effective teaching in a safe and caring environment.*

Vision: *Educational excellence for every child – setting the standard others aim for.*

AGENDA
BOARD OF EDUCATION – REGULAR MEETING
Instructional Planning Center/Huron Arena
December 14, 2015
7:00 p.m.

1. **Call to order**

2. **Roll call**

3. **Pledge of Allegiance**

4. **Adoption of the Agenda**

5. **Dates to Remember**

December 14	Board Meeting 7:00 P.M. - IPC
December 23	Early Release – Holiday Travel
December 24-31	Christmas Break – No School
January 1	New Year's Day – No School – Happy New Year!
January 4	Calendar Committee Meeting 3:30 P.M. – IPC
January 11	Board Meeting 5:30 P.M - IPC
January 13	Early Release – In-Service
January 18	Martin Luther King Day – No School
January 23	Credit Recovery Day
January 25	Board Meeting 5:30 P.M. - IPC

6. **COMMUNITY INPUT ON ITEMS NOT ON THE AGENDA**

7. **CONSENT AGENDA**
The Superintendent of Schools recommends approval of the following:
   a) **Approval and/or Correction of Minutes of Previous Meetings**
   b) **Consideration and Approval of Bills**
   c) **Approval and/or Correction of the Financial Report**
   d) **Board Approval of New Hires**
   As was mentioned previously, classified personnel and substitute teachers/classroom aides must be approved in order to be covered by our workers' compensation plan.
      1) Heather Buckmaster / Substitute Custodian / $15.00 per hr
      2) Sam Lodmel / Substitute Custodian / $15.00 per hr
      3) Angel Olivo / Substitute Custodian / $15.00 per hr
      4) Alita Rathbun / Substitute Teacher / $100 per day
      5) Rebecca Granados / Substitute Teacher / $100 per day
      6) Robert Brooks / Substitute Teacher / $100 per day
      7) William (Bill) Murphy / Substitute Teacher / $100 per day
      8) Cassidee King / SPED Para-Educator / Buchanan / $12.81 per hr
      9) Karen Morley / Substitute Bus Driver / $25.00 per hr
      10) Angie Boetel / TAP Program Substitute / $16.22 per hr
   e) **Contracts for Board Approval**

f) **Resignations for Board Approval**
   1) Eh Ku Paw / ESL Para-Educator @ Madison / 1 year
   2) Mike Knigge / Head Coach-Boys Tennis / 9 years
   3) Edwin Irving / Food Service / 2 years
   4) June Wheeler / ESL Teacher / 6 years

g) **Request to go to Bid**
   1) Prime Vendor for food for the 2016-2017 school year
   2) Milk/Dairy Products for the 2016-2017 school year

8. **CELEBRATE SUCCESSES IN THE DISTRICT**

Congratulations:

- 2015-2016 Spelling Bee of Champions – 1st place Aubrey Rutledge 7th Gr, 2nd place Mackenzie Christensen 7th Gr, and 3rd place Jackson Trandall 8th Gr.

Thank You to:

- Performers/Production Crew/Hosts – Everyone involved in the Salvation Army Christmas Basket Program – Tremendous Job
- "We Found Sound" Show Choir Company – Outstanding Performance

9. **REPORTS TO THE BOARD:**

a) **Classified Employee of the Month**
Kevin Isaacson, Lead Maintenance Worker, has been selected as Classified Employee of the Month for December 2015. Nomination comments are included in this packet. Congratulations Kevin!

b) **Huron Public Library-Library Cards/Non-Resident Children** – Shirley Apley

c) **NWEA / MAP Fall Results** – Gay Pickner

d) **Report from the Business Manager**

e) **Superintendent's Report**
   - Calendar Committee 2016-2017 – Meeting January 4th, 2016 3:30 P.M. – IPC
   - Updating Amendments to Bullying Policy

10. **OLD BUSINESS**

a) **Washington Liquidated Damages**

b) **Madison Liquidated Damages**

c) **Facilities – 8:00 P.M.**
   - Presentation on FieldTurf and AstroTurf – Terry Rotert & Company Reps
   - Approve Architect Contract to Create Project Specifications and Bidding Documents

d) **Section J** – Superintendent Update

e) **Administrative Policy – Amendment to Student Handbooks**
Student Meal Policy / Negative Account Balances – 2nd Reading

11. **NEW BUSINESS**

a) **Tax Increment Financing (TIF)**

b) **Madison Change Order No. G-7 - $11,308.00**

12. **ADJOURNMENT**

Huron School District
New Hire Justification

Date: 11/30/15

Applicant Information

Applicant Name: Cassidee King

Address: 527 Jefferson Blvd, Huron, SD 57350

Phone: 605-350-6161

Education: None

Experience: 0 Year

References: Laura Willemssen, Michelle Johnson, Jonna Reid

Reason for New Hire

New Position: SPED Para at Buchanan

Replacement: New Hire

Position Information

Department: SPED

Position: Para at Buchanan

Supervisor: Julie Kasperson

Responsibilities: SPED Para

Hours: 7.5 Hours

Hiring Information

Wages: $12.81

Classification: Step Zero

Wage Justification: No Experience

Start Date: Fall 2015

Requested by: Lori Wehlander (Administrator)

Huron School District
New Hire Justification

Date: 12-8-2015

Applicant Information

Applicant Name: Angie Boetel

Address: 1879 Cardinal Lane; Huron, SD 57350

Phone: 605-352-2318

Education: NA

Experience: NA

References: Heather Rozell

Reason for New Hire

New Position:

Replacement:

Position Information

Department: Tiger After-School Program

Position: Substitute Classroom Leader at various sites

Supervisor: Gay Pickner

- **Responsibilities:** Classroom leader will assist in delivering 30-90 minutes of reading, math, and science instruction daily using the adopted curriculum. Leaders will maintain records to assist with evaluating the effectiveness of the TAP.

Hours: 3:30-5:30 (days/hours will vary)

Hiring Information

Wages: $16.22

Classification:

Wage Justification:

Start Date:

Requested by: Gay Pickner (Administrator)

Begin forwarded message:

From: "Paw, Eh Ku" <EhKu.Paw@k12.sd.us>
Date: November 16, 2015 at 4:54:43 PM CST
To: "Hinker, Kari" <Kari.Hinker@k12.sd.us>

Hi Kari

This Ehku Paw. Im looking forward to leaving my ESL para job end of December if possible or as soon as you find a replacement. I'm planning to go back to school and add up more hours of my other job relating to my major and spend a little more time with my little ones while getting ready to go to school. Please let me know if you have any questions.
Thank you

Terry Rotert
Athletic Director
Huron School District

November 26, 2015

Dear Terry:

Please accept this letter as my formal notification that I am resigning my position as Huron High School Boys Tennis Coach. I feel there are very capable and talented coaches that can now take my place and do a great job. I believe the Huron high school programs are in good hands.

Thank you once again for the opportunity to coach the sport I love and to work with so many great student athletes and parents, as well as assistant coaches. I also want to personally thank you Terry for doing as much as you have to back me up through the years and to provide the tennis programs.

It was a very difficult decision, but I now have a Granddaughter and I feel I need to free up time to be there for family more now than ever. Part of me feels burnt out from tennis this year more than ever, and as much as I love tennis, I feel that is a sign I need to ease up. I will plan to run the summer league as of now, and promote tennis that way, and hope to continue in the growth of Huron's young players!

Thanks again for all you have done supporting me as tennis coach and for all you do for the Huron School System!

Sincerely,

Michael A. Kruger

TR
12-2-15

December 3, 2015

My last day of work will be Wednesday, December 23, 2015. Please accept my Resignation effective on this date.

Edwin M [signature]

Rec
12-4-2015
JN

December 4, 2015

Dear Mr. Nebelsick,

I am submitting my resignation effective at the end of the 2015-2016 school year.

Thank you for the opportunity to serve the students in Huron. I am fortunate to work with other dedicated professionals in the Huron School District.

Sincerely,

June Wheeler

June Wheeler

Huron Public Schools
1045 18th Street SW
PO Box 949
Huron, South Dakota 57350-0949

Office: 605-353-6909
Fax: 605-353-6910
Email:carol.tompkins@k12.sd.us

Carol Tompkins
School Nutrition Director
Concessions Director

To: Board of Education
Mr. Nebelsick
Mr. Christopherson

From: Carol Tompkins
Date: December 3, 2015
Re: Request permission to let bids for a Prime Vendor for food

I respectfully request permission to let bids for a prime vendor for food for the 2016-2017 school year.

Thank you for your consideration.

Huron Public Schools
1045 18th Street SW
PO Box 949
Huron, South Dakota 57350-0949

Office: 605-353-6909
Fax: 605-353-6910
Email:carol.tompkins@k12.sd.us

Carol Tompkins
School Nutrition Director
Concessions Director

To: Board of Education
Mr. Nebelsick
Mr. Christopherson

From: Carol Tompkins
Date: December 3, 2015
Re: Request permission to let bids for milk/dairy products

I respectfully request permission to let bids for milk/dairy products for the 2016-2017 school year.

Thank you for your consideration.

Classified Employee of the Month

Name Kevin Isaacson

Position Lead Maintenance Worker

Date December 04, 2015

Kevin Isaacson has been employed with the Huron School District for 35 years. Kevin began his career as a Custodian and transferred to the Maintenance Dept. 3 years later. During those years Kevin has seen many changes to the school district and the buildings. He has extensive knowledge about the buildings, their operations, and the equipment that runs them. He seems to know every square foot of the buildings and where every shut off valve, breaker switch and light switch is at. When an emergency situation arises in a building, he calmly walks into the building, while the rest of us are frantically trying to figure out what is wrong, and walks over and pushes a button or turns a valve and the problem is resolved. These things will take a new person many years to learn.

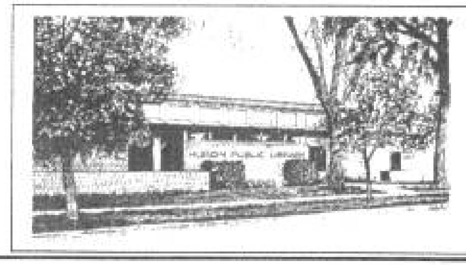
I have relied heavily upon Kevin for answers and assistance in solving problems that arise in the buildings or other areas of the district. Kevin is extremely helpful and has always been there when called upon. Because he is so well known and respected in the district, his cell phone probably rings more than anyone else I know. And each and every time it rings, he gives each caller the same courtesy and respect while offering advice or letting them know when he will be able to assist them. Kevin is one of those guys that never turns anyone away and always finds a way to get to any area he is needed at. I have never seen him raise his voice or become angry at anyone asking for his assistance.

With the recent renovation of the elementary school buildings in the district, many of the old existing steam boilers were replaced with modern hot water boiler systems and automated building controls. Kevin immediately began learning the new boilers systems and automated building controls and how they operated. His vast knowledge of boilers and his willingness to learn new things soon proved why Kevin is so valuable and will be talked about for many years to come. He is not afraid of new technology and has embraced the challenges that come along with new ways of doing business.

I do not recall any challenge that Kevin has every shied away from. He has a willingness and the determination to figure things out. We affectionately refer to him as McGyver because he is so handy and able to fix so many things.

Huron Public Library

521 Dakota South, Huron, SD 57350
Phone: (605) 353-8530



November 24, 2015

Dear Parents & Guardians,

On behalf of the Huron Public Library Board of Trustees, I wish to announce a new service at the library. Effective December 1, 2015 the Huron Public Library will offer to children ages 5 through 18 living outside of the Huron city limits but within Beadle County a free library card. Normally a non-resident library card costs $20.00 per person. The Elaine Smogard Trust will pay for the children's library cards on an annual basis.

In April of 2013 the Huron Public Library was named as beneficiaries in Elaine C. Smogard's will. Born on Dec. 26, 1923, in Huron, Elaine was the daughter Theodore and Edna B. (Snyder) Smogard. Mr. Smogard was Mayor of Huron 1935-1936. Elaine went on to become a librarian who worked at Harvard University and Holyoke College. Miss Smogard kept close ties to Huron and Beadle County.

Eligible children will need to have their parents or guardian complete a library application form giving them permission to participate in this program. Enclosed is a copy of our application form. The completed forms must be presented in person at the library by the parent or guardian. We do require a photo id of the parent signing the form for administrative purposes.

The children will have full access to books, magazines, eBooks, databases, DVDs, programs and other services provided to the public. We do ask that the children checkout age appropriate materials. They will be responsible for any fines or fees charged against their cards.

The Library Board feels that this is a wonderful opportunity to help children with their educational and recreational reading needs. We hope to instill a lifelong love of reading. If you have any questions please don't hesitate to ask.

Best regards,

Shirley Apley, Library Director
librarydirector@libraryhuronsd.com

SMOGARD

Huron Public Library
Application for Library

Please note Library account information must be updated annually.

LAST NAME:	FIRST NAME:	MIDDLE INITIAL:
MAILING ADDRESS	HOME ADDRESS:	
CITY & STATE	ZIP	Email:
GENDER: MALE OR FEMALE:	HOME PHONE:	BIRTHDAY:

Please initial here if you would like to receive notifications of holds, overdue materials, and library news by email:________

Preschool: 5-12________________ Ages13-17_______ Ages 18+_____ Library card # 259580003______________Expires ________________

IF APPLICANT IS UNDER AGE 18, THIS SECTION MUST BE COMPLETED BY A PARENT OR GUARDIAN

I accept responsibility for all items checked out on my child's or teen's library card and their use of other resources, including the Internet. I will pay for any items lost or damaged and fines for overdue material. I understand that a child with a library card may check out any circulating item, use the electronic resources and access the Internet.

I understand that children below the age of 10 must be supervised at all times by an adult while in the library and that all children need to know how to contact a parent or caregiver if unaccompanied. If my child is left at the library at closing time, the police may be contacted.

I understand that the library assumes no responsibility for child supervision. Anyone who is disruptive will be asked to leave the library.

Signature of parent or guardian____ **Email** ____________________________________

Printed name of parent or guardian____ **Parent/Guardian ID#**______________________________

- I accept responsibility for all items checked out on my card.
- Library cards are for self-use only and not transferable even within the family to protect each patron's borrowing privileges and to prevent misuse.
- I understand that I am responsible for paying my fines and fees in a timely manner and my account may be referred to a collection agency if I don't.
- I have read and agree to follow all library policies.

Signature______________________________ Date: ______________

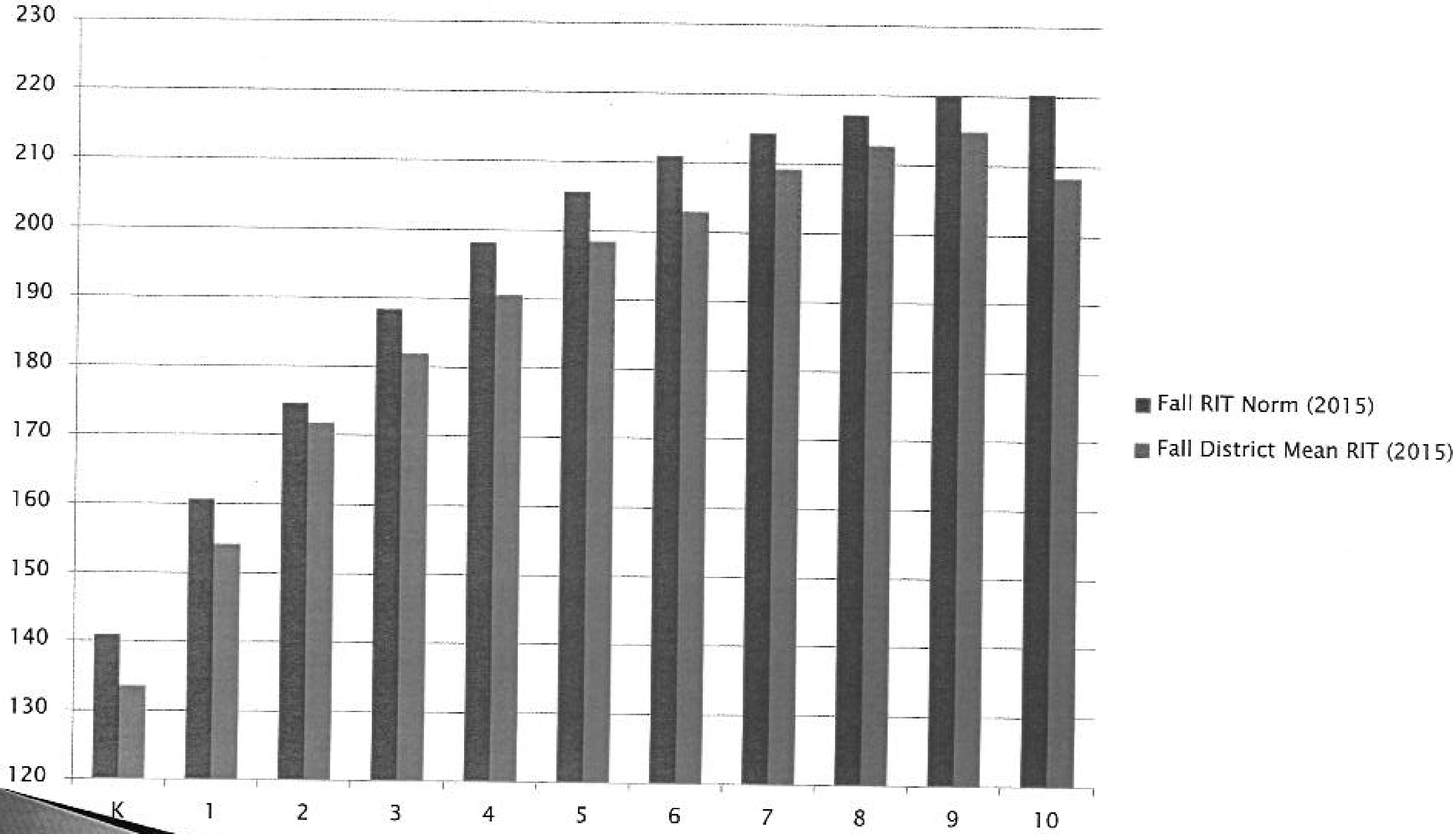
NWEA/MAP Fall Results

Gay Pickner
Director of Curriculum, Instruction and Assessment

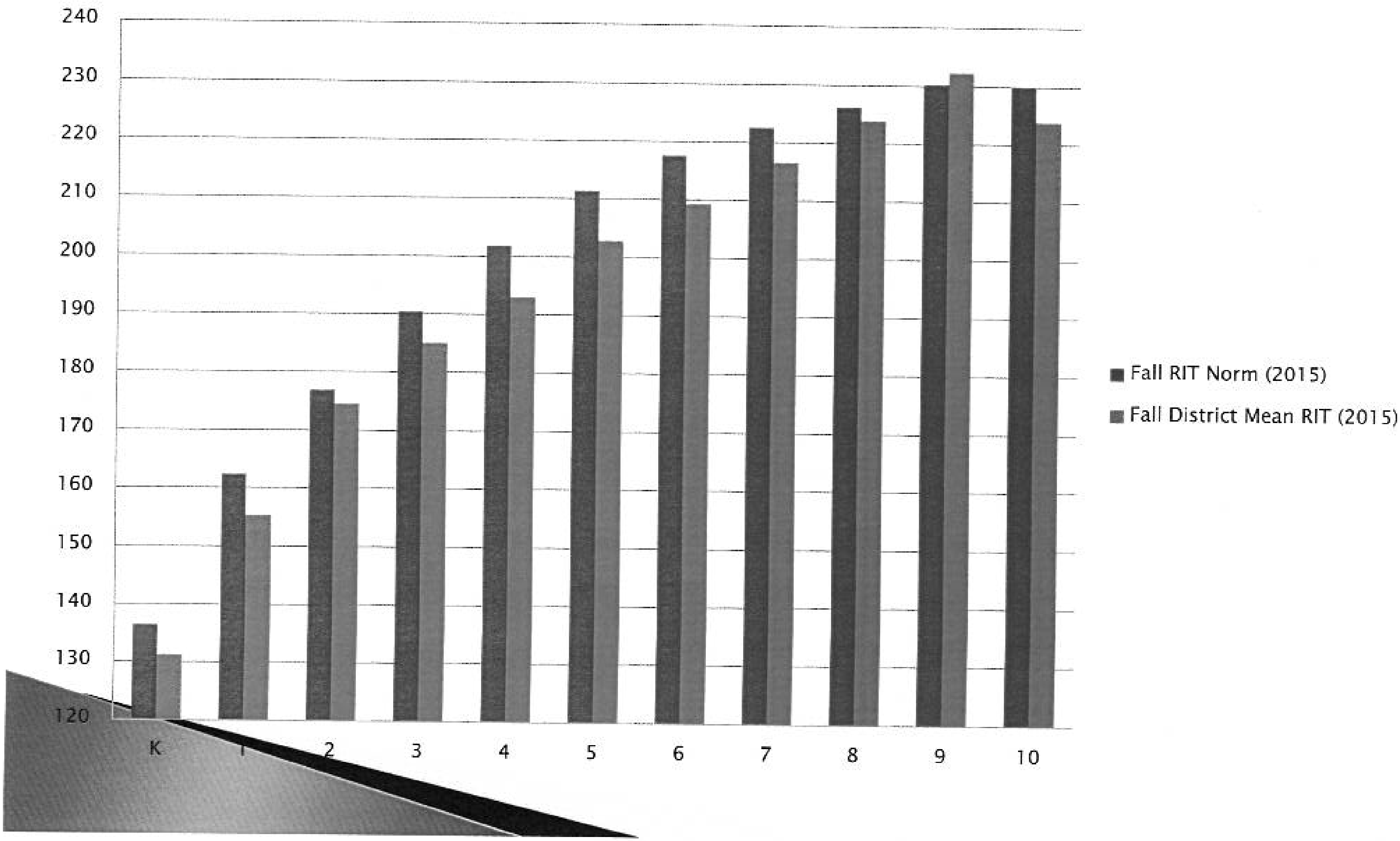
Objectives:

- Discuss the Fall 2015 NWEA/MAP data;
- Discuss Fall results from 2012–2015 (different years; different students)
- Discuss Fall results from 2012–2015 (different years; same students)

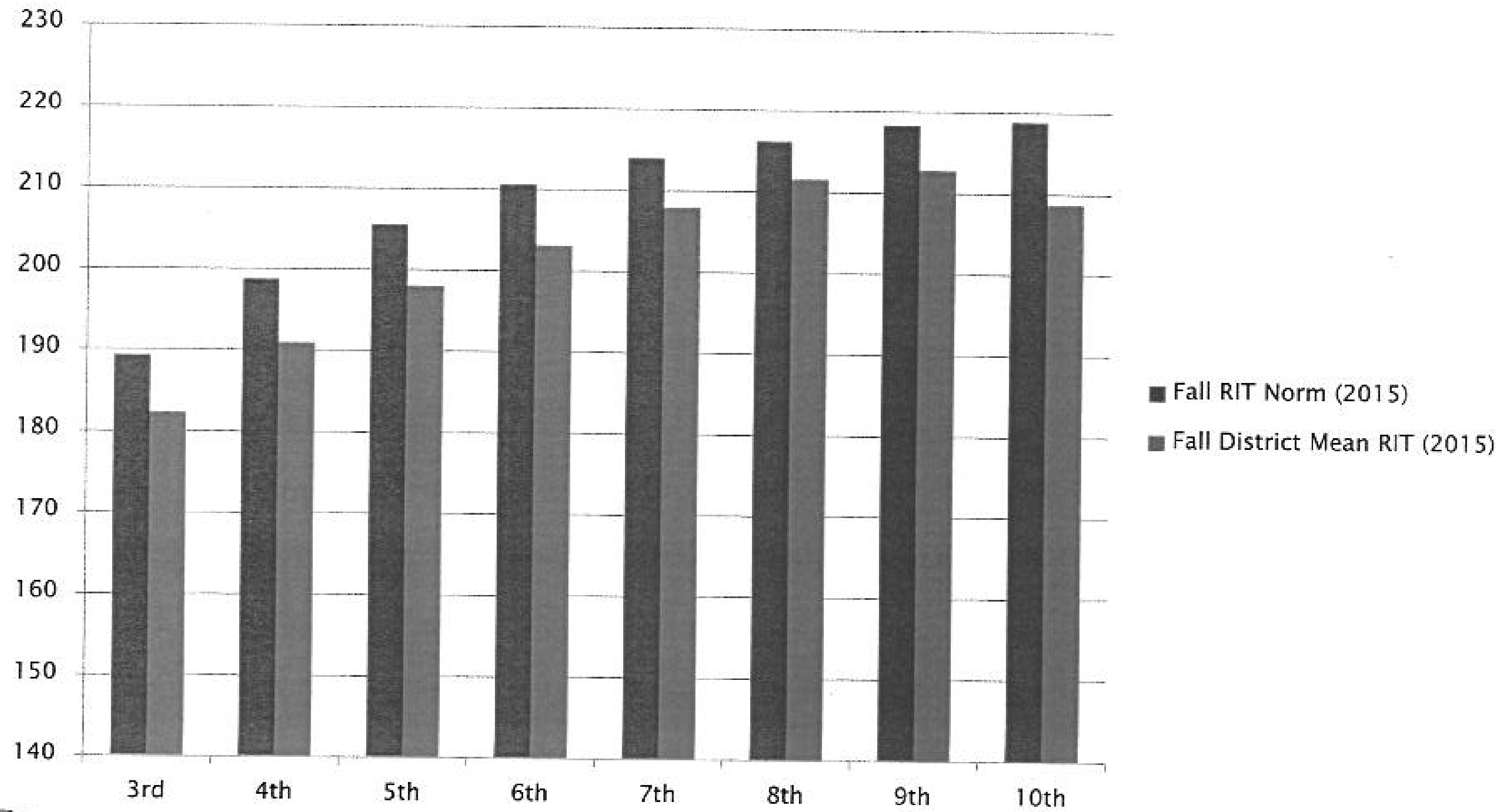
Reading Fall 2015 Results



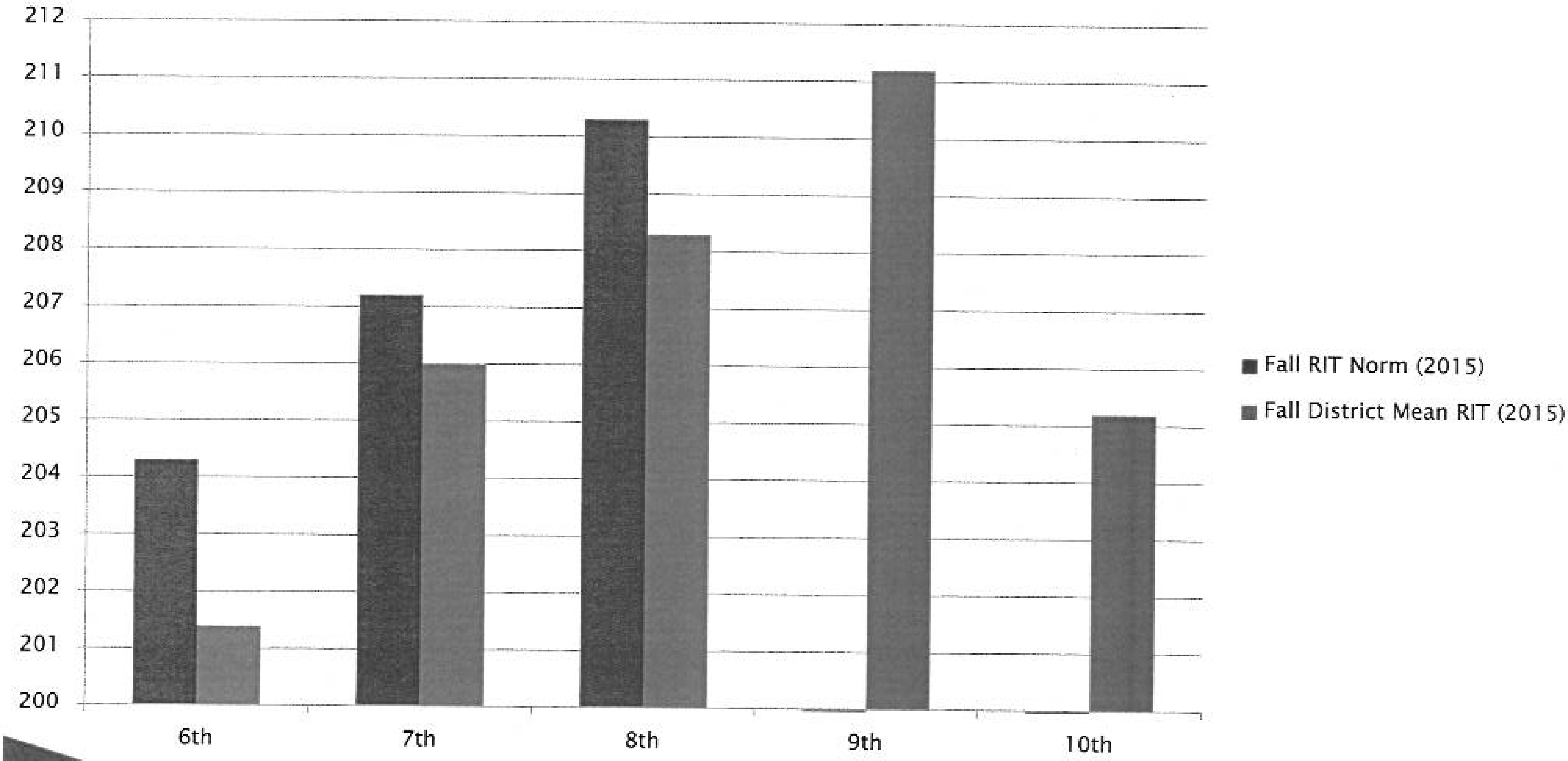
Math Fall 2015 Results



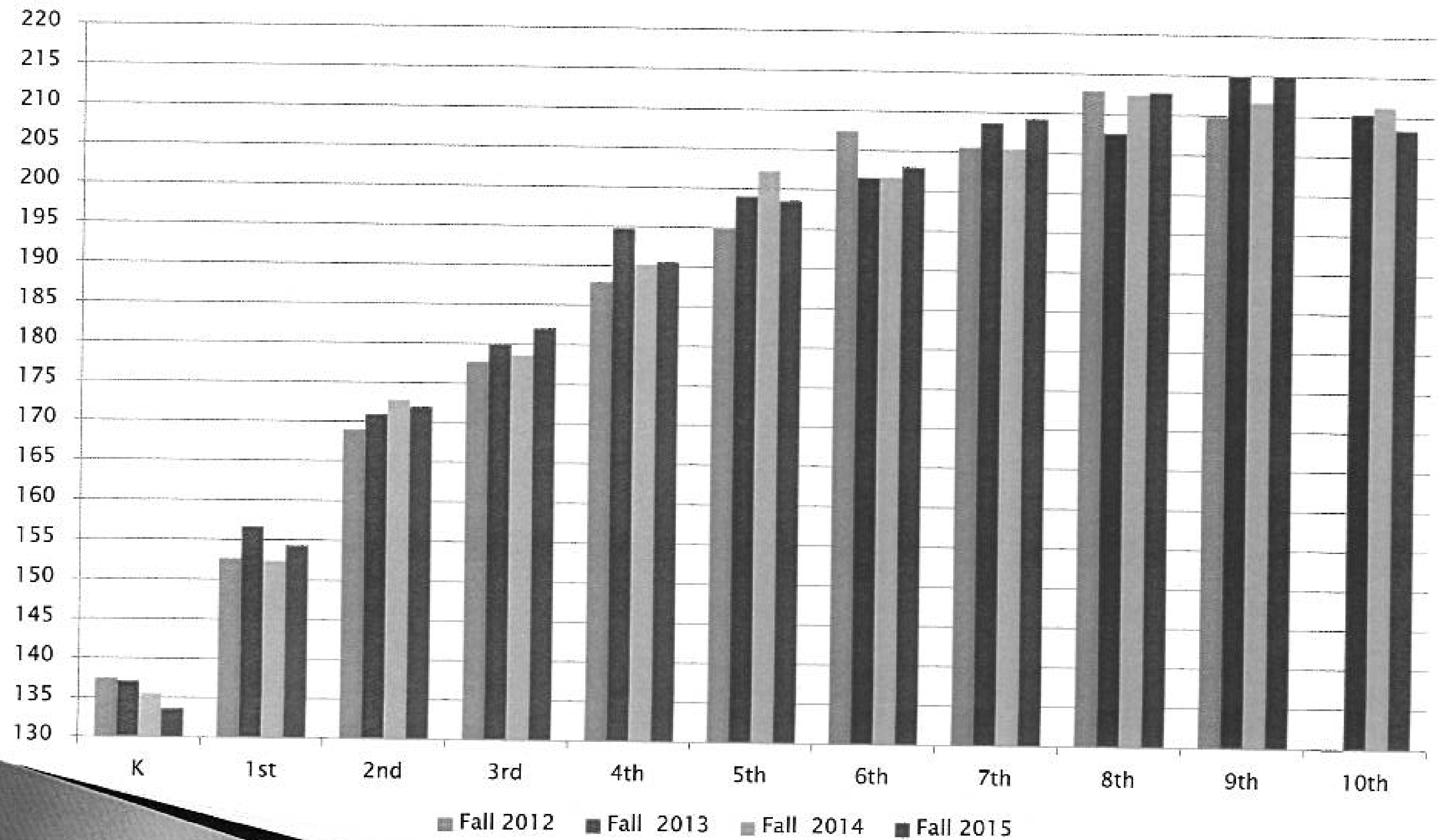
Language Arts Fall 2015 Results



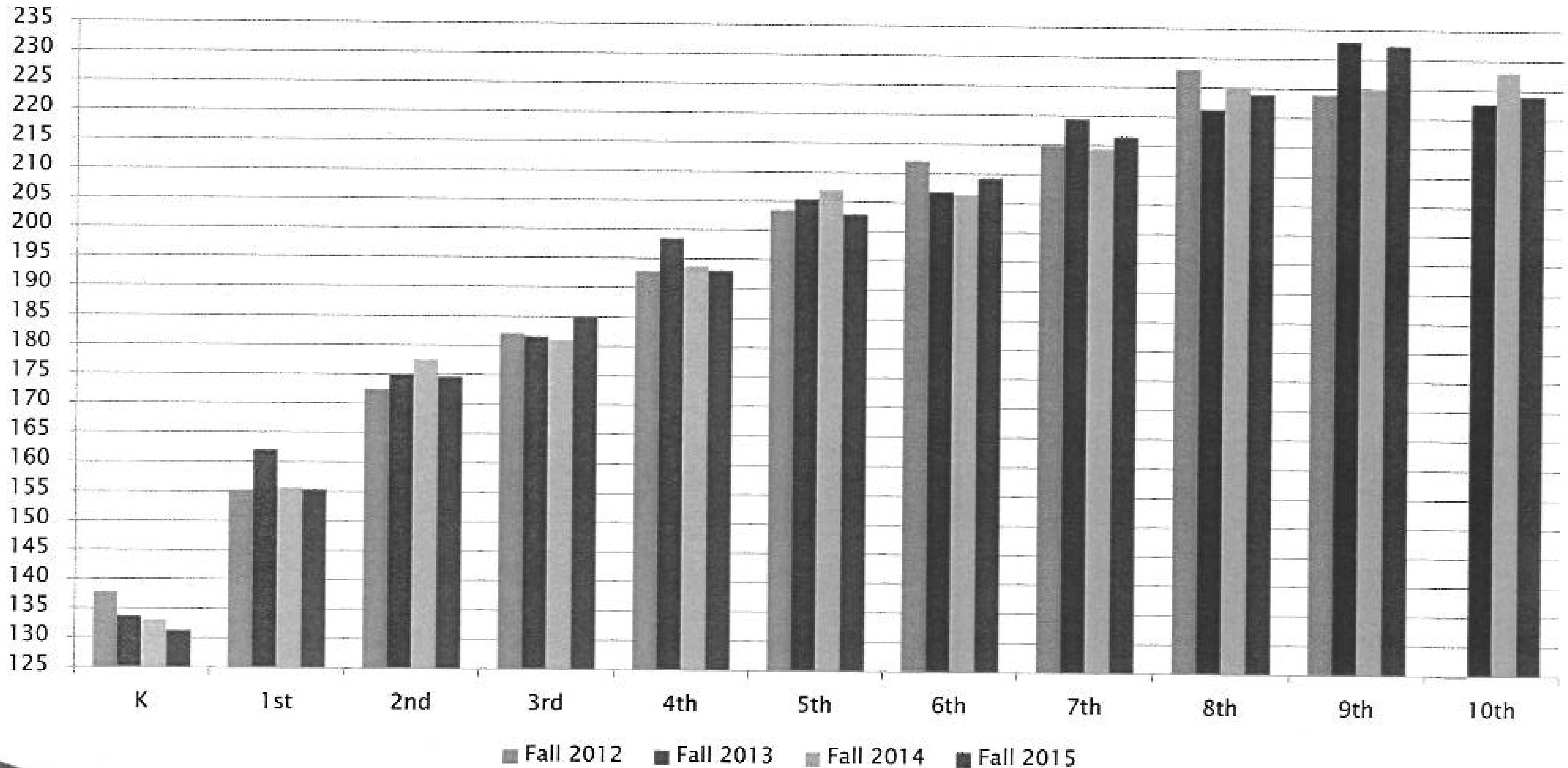
Science Fall 2015 Results



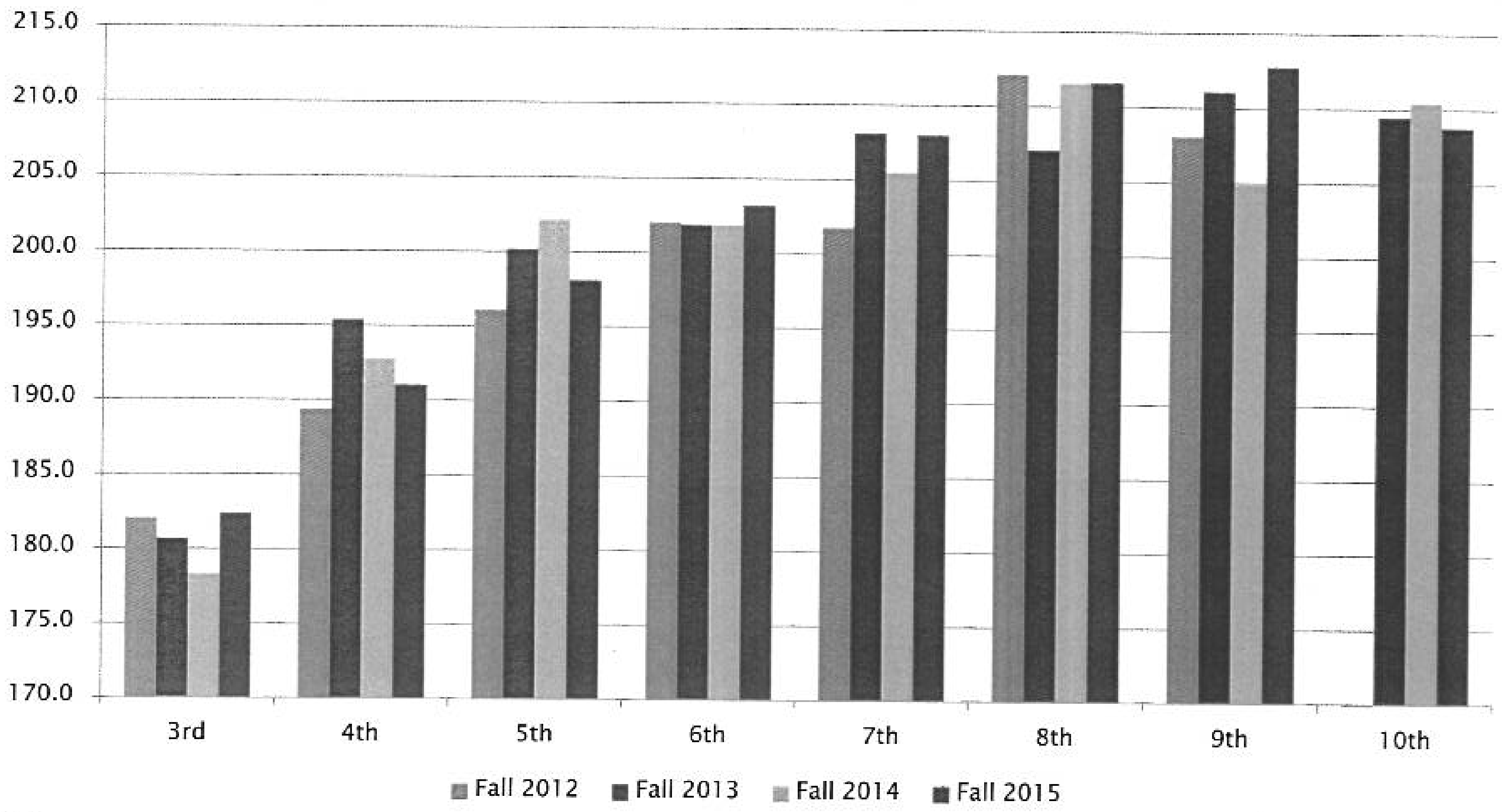
Reading District Fall Scores 2012-2013-2014-2015



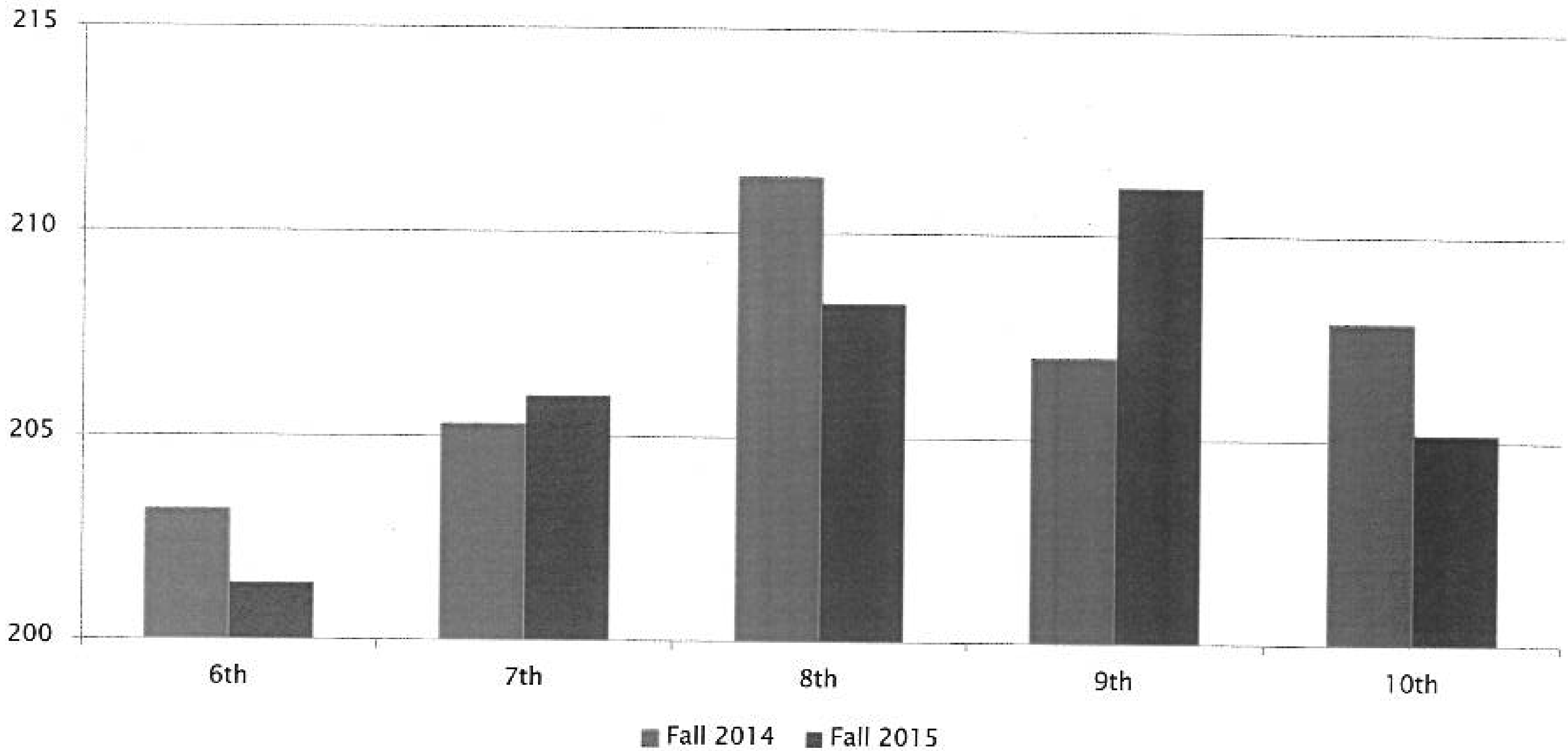
Math District Fall Scores 2012-2013-2014-2015



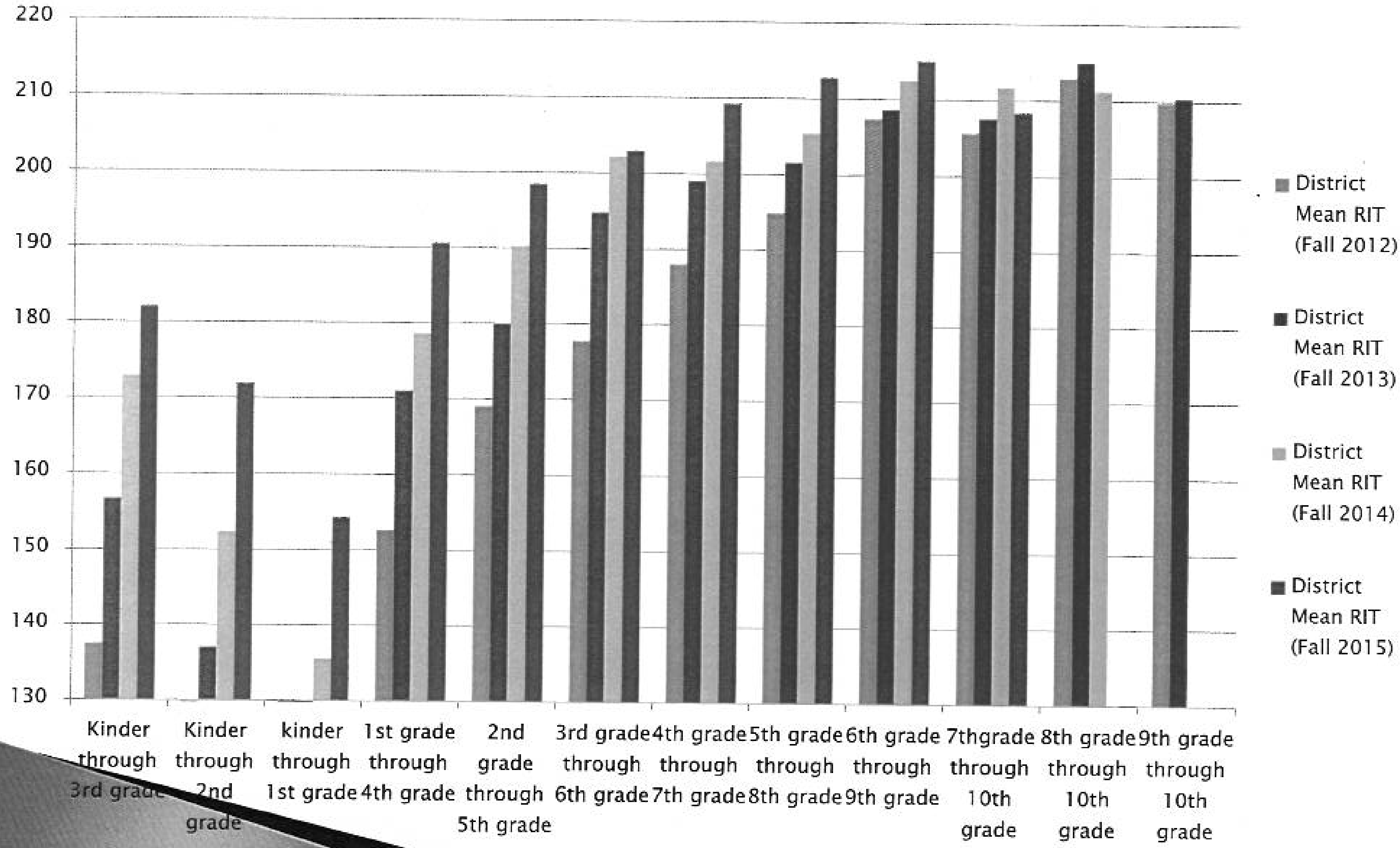
Language Arts Fall Scores 2012-2013-2014-2015



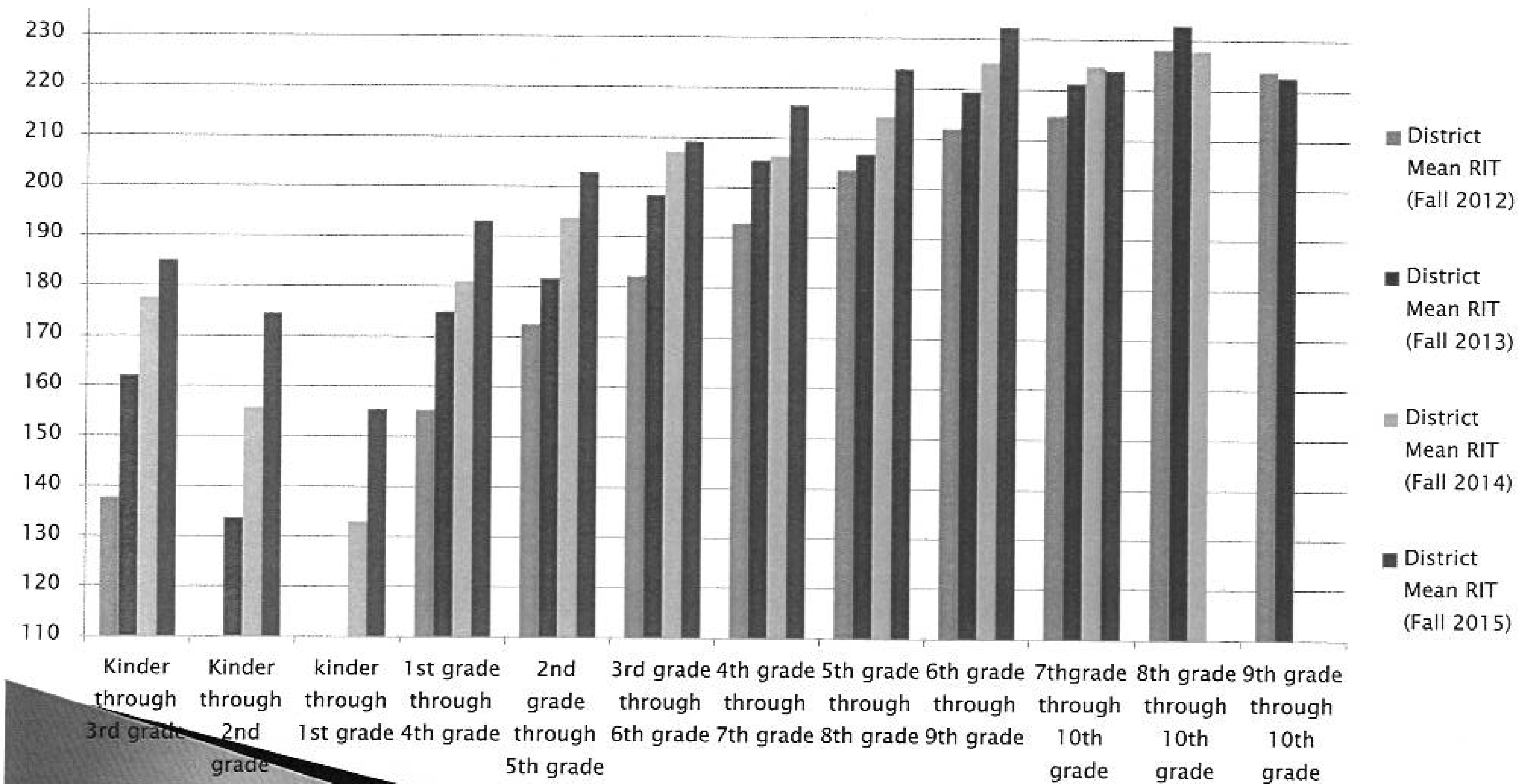
Science District Fall Scores 2014–2015



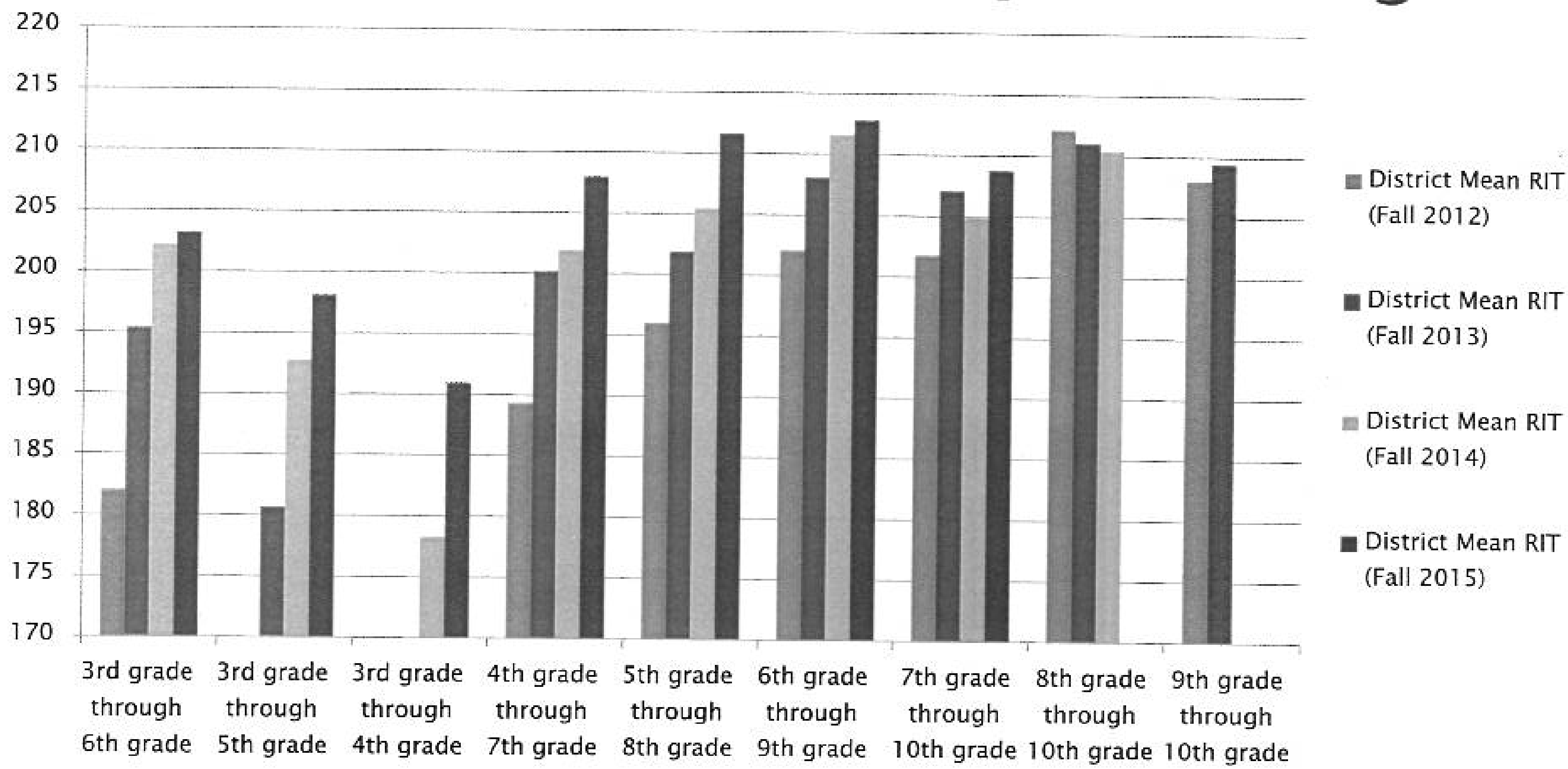
Fall Reading Results— Same students moving grade to grade



Fall Math Results— Same students moving grade to grade



Fall Language Arts Results— Same students moving grade to grade



Questions

Reading	District Mean RIT (Fall 2012)	District Mean RIT (Fall 2013)	District Mean RIT (Fall 2014)	District Mean RIT (Fall 2015)	Fall RIT Norm (2015-16)		District Mean RIT (Winter 2013)	District Mean RIT (Winter 2014)	District Mean RIT (Winter 2015)	District Mean RIT (Winter 2016)	Winter RIT Norm (2015-16)
K	137.6	137.1	135.6	133.6	141		147.2	144	145.7		151.3
1st	152.7	156.7	152.4	154.3	160.7		162.3	165.9	164.2		171.5
2nd	169.1	171	172.9	171.9	174.7		177.5	177.8	181.4		184.2
3rd	177.8	179.9	178.6	182	188.3		187.7	188.3	186.4		195.6
4th	188.1	194.8	190.3	190.6	198.2		194.5	200.8	195.5		203.6
5th	195	199.1	202.3	198.5	205.7		203.9	200.7	203.2		209.8
6th	207.5	201.6	201.7	203	211		210.4	204	205.2		214.2
7th	205.7	208.7	205.5	209.3	214.4		209.9	210.7	209.2		216.9
8th	213	207.6	212.5	212.8	217.2		216.7	210.3	213.6		219.1
9th	209.8	215	211.7	215	220.2		211	214	211.3		221.3
10th	NA	210.4	211.4	208.4	220.4		NA	212.9	212.1		221

The Measures of Academic Progress®(MAP) is a research-based, computerized assessments to help educators answer a crucial question: Are my students learning?

This table shows the RIT (Rasch Unit) scale for reading at each grade and testing window. The scores measure our students' growth over time.

BOE power point presentation Slide 3

BOE power point presentation Slide 11

District Mean RIT (Spring 2013)	District Mean RIT (Spring 2014)	District Mean RIT (Spring 2015)	District Mean RIT (Spring 2016)	Spring RIT Norm (2015-16)
154	151.5	152.2		158.1
170.3	174.3	173.1		177.5
184.7	182.7	187.3		188.7
191.8	191.5	190.1		198.6
197.2	203.9	199.8		205.9
204.4	202.2	207.2		211.8
215.2	209.2	210.3		215.8
211.2	213.3	212.2		218.2
217.5	212	216.7		220.1
214.6	217.2	212.4		221.9
NA	212.9	214.4		221.2

Math	District Mean RIT (Fall 2012)	District Mean RIT (Fall 2013)	District Mean RIT (Fall 2014)	District Mean RIT (Fall 2015)	Fall RIT Norm (2015-16)		District Mean RIT (Winter 2013)	District Mean RIT (Winter 2014)	District Mean RIT (Winter 2015)	District Mean RIT (Winter 2016)	Winter RIT Norm (2015-16)	
K	137.9	133.8	133.1	131.3	140		148.4	144.7	145		151.5	
1st	155.4	162.1	155.8	155.4	162.4		168.5	170.7	167.6		173.8	
2nd	172.6	175	177.7	174.6	176.9		180.9	181.9	186.6		186.4	
3rd	182.3	181.7	181.1	185.1	190.4		190.9	189.7	189.4		198.2	
4th	193	198.5	193.9	193.1	201.9		198	205.9	198.6		208.7	
5th	203.7	205.5	207.2	202.9	211.4		208.9	207.3	207.2		217.2	
6th	212.3	206.9	206.5	209.3	217.6		220.6	212.8	211.6		222.1	
7th	214.9	219.5	214.5	216.6	222.6		218.3	223.2	220.2		226.1	
8th	228.3	221.3	225.4	224	226.3		231.5	223.3	228.7		229.1	
9th	224.1	233	224.9	232.4	230.3		226.2	232.3	225.5		232.2	
10th	NA	222.7	228.2	224	230.1		NA	225.8	229.8		231.5	

The Measures of Academic Progress®(MAP) is a research-based, computerized assessments to help educators answer a crucial question: Are my students learning?
This table shows the RIT (Rasch Unit) scale for mathematics at each grade and testing window. The scores measure our students' growth over time.

BOE power point presentation Slide 4

BOE power point presentation Slide 12

3

District Mean RIT (Spring 2013)	District Mean RIT (Spring 2014)	District Mean RIT (Spring 2015)	District Mean RIT (Spring 2016)	Spring RIT Norm (2015-16)
158.3	154.3	153.1		159.1
177.9	179.7	176.7		180.8
190.4	190.2	196.1		192.1
198.9	197.1	196.1		203.4
206.1	213.5	208		213.5
212.8	209.8	217.9		221.4
226	218.6	219.3		225.3
223.7	227.4	224.7		228.6
235	226.6	232.8		230.9
230.2	234.7	228.6		233.4
NA	228.7	235.3		232.4

LA	District Mean RIT (F 2012)	District Mean RIT (F 2013)	District Mean RIT (F 2014)	District Mean RIT (F 2015)	Fall RIT Norm (2015-16)		District Mean RIT (Winter 2013)	District Mean RIT (Winter 2014)	District Mean RIT (Winter 2015)	District Mean RIT (Winter 2016)	Winter RIT Norm (2015-16)
3rd	182.1	180.7	178.3	182.4	189.4		189.9	189.2	188.9		196.8
4th	189.4	195.4	192.8	191	198.8		195.5	200.7	196.7		204.4
5th	196.1	200.2	202.2	198.1	205.6		200.8	201.9	204.9		209.7
6th	202.1	201.9	201.9	203.2	210.7		206.3	204	204.9		213.9
7th	201.8	208.1	205.5	208	214		206.9	211.2	209.3		216.5
8th	212.2	207.1	211.6	211.6	216.2		213.2	209.8	213.3		218.1
9th	208.1	211.1	204.9	212.8	218.4		207.1	210.4	204.7		219.7
10th	NA	209.5	210.5	208.8	218.9		NA	211	211		219.7

The Measures of Academic Progress®(MAP) is a research-based, computerized assessments to help educators answer a crucial question: Are my students learning?

This table shows the RIT (Rasch Unit) scale for language arts at each grade and testing window. The scores measure our students' growth over time.

BOE power point presentation Slide 5

BOE power point presentation Slide 13

District Mean RIT (Spring 2013)	District Mean RIT (Spring 2014)	District Mean RIT (Spring 2015)	District Mean RIT (Spring 2016)	Spring RIT Norm (2015-16)
193.4	193.2	192.2		200
198.1	204.9	200.6		206.7
203.2	203.7	207		211.5
209.9	208.1	208.6		215.3
209	212.4	211.7		217.6
214	212.5	217		219
208.6	209.5	206.8		220.4
NA	212.2	214		220.1

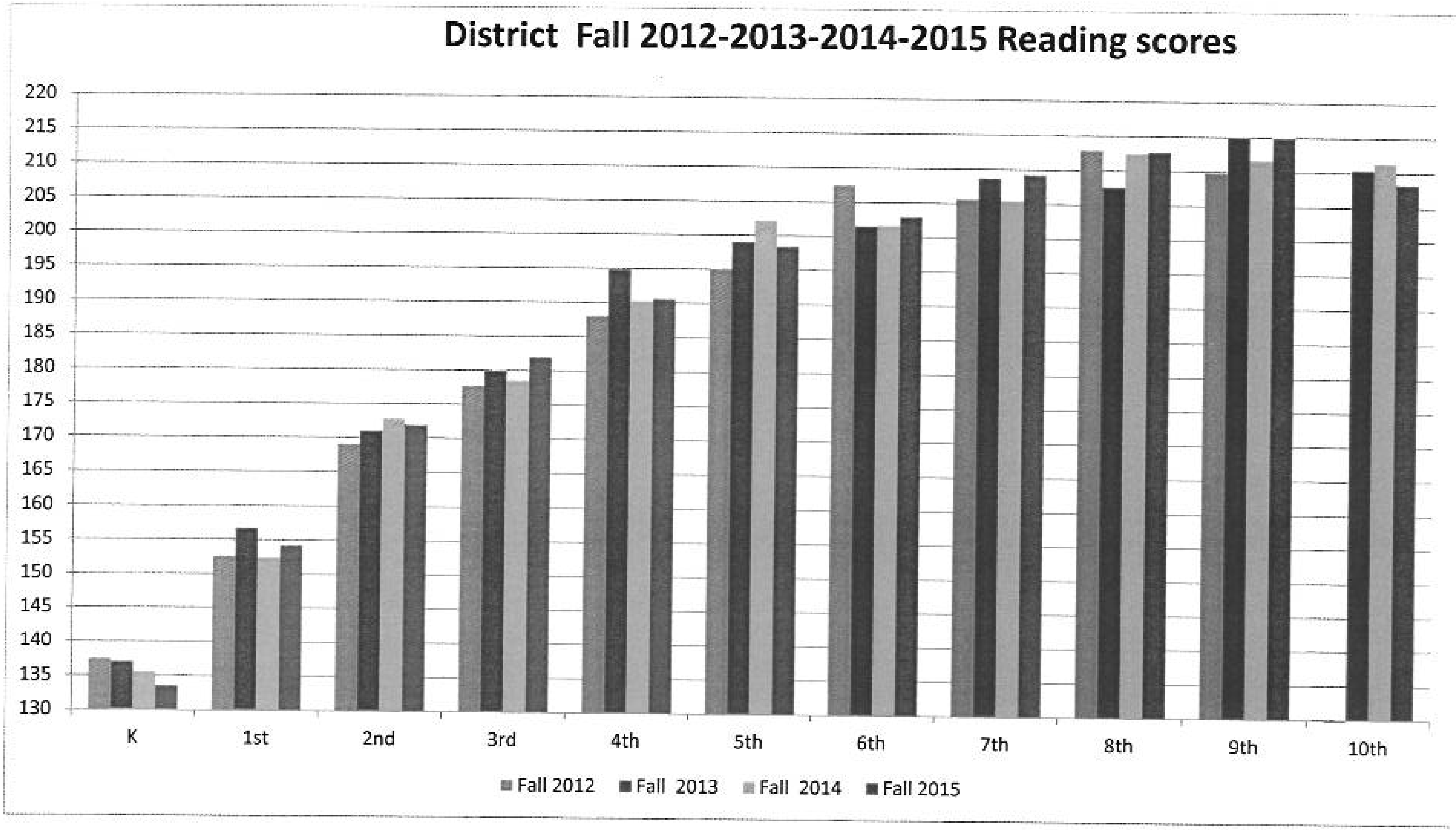
Science	District Mean RIT (F 2014)	Fall District Mean RIT (2015)	Fall RIT Norm (2015-16)		District Mean RIT (Winter 2015)	District Mean RIT (Winter 2016)	Winter RIT Norm (2015-16)		District Mean RIT (Spring 2015)	District Mean RIT (Spring 2016)	Spring RIT Norm (2015-16)
6th	203.2	201.4	204.3		203.3		207.1		208.7		208.6
7th	205.3	206	207.2		206.1		209.5		209.1		210.9
8th	211.4	208.3	210.3		210.2		212.3		214.9		213.5
9th	207	211.2	NA		208.5		NA		209.2		NA
10th	207.9	205.2	NA		208.9		NA		210.8		NA

The Measures of Academic Progress®(MAP) is a research-based, computerized assessments to help educators answer a crucial question: Are my students learning?

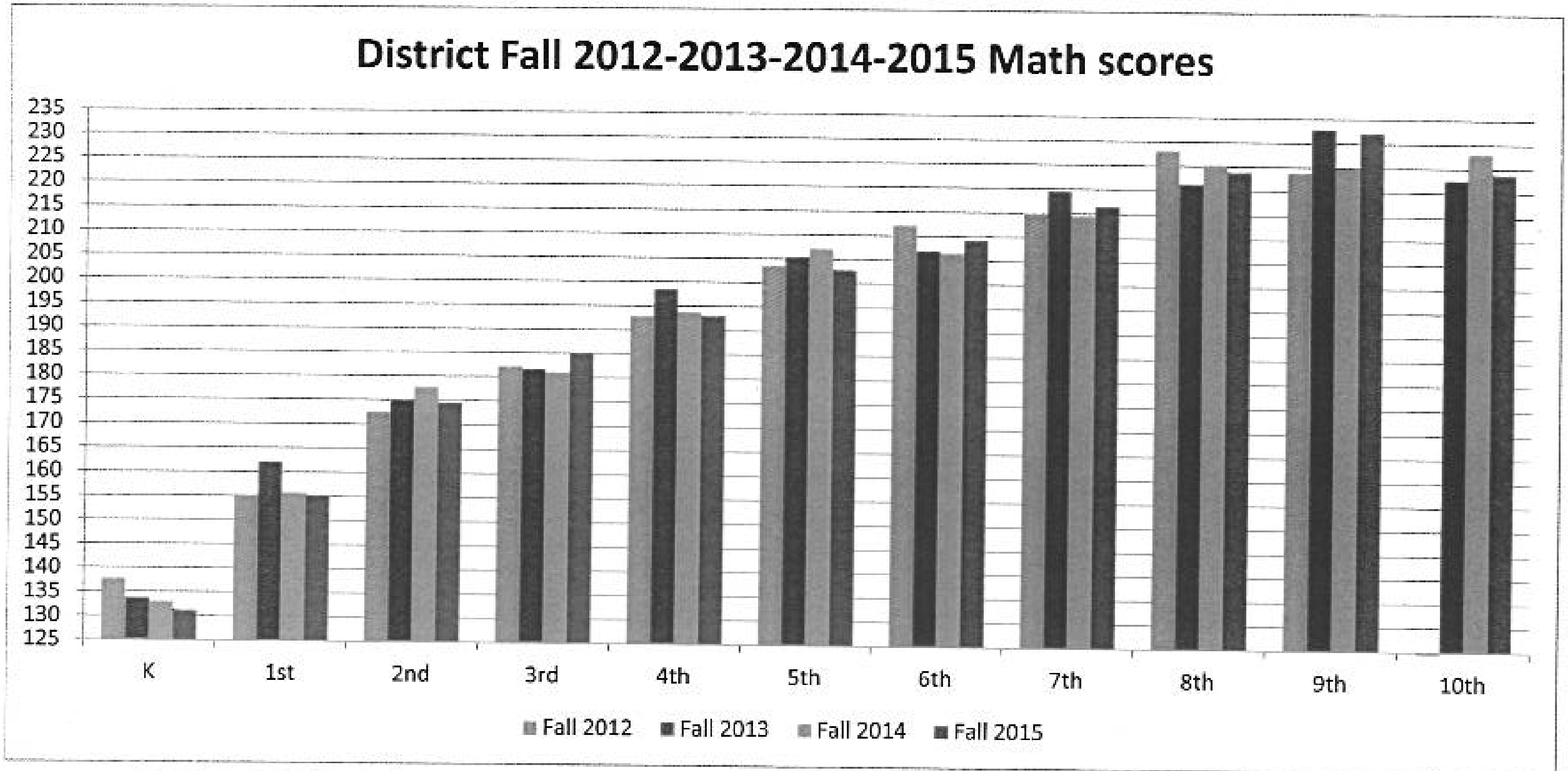
This table shows the RIT (Rasch Unit) scale for science at each grade and testing window. The scores measure our students' growth over time.

BOE power point presentation Slide 6

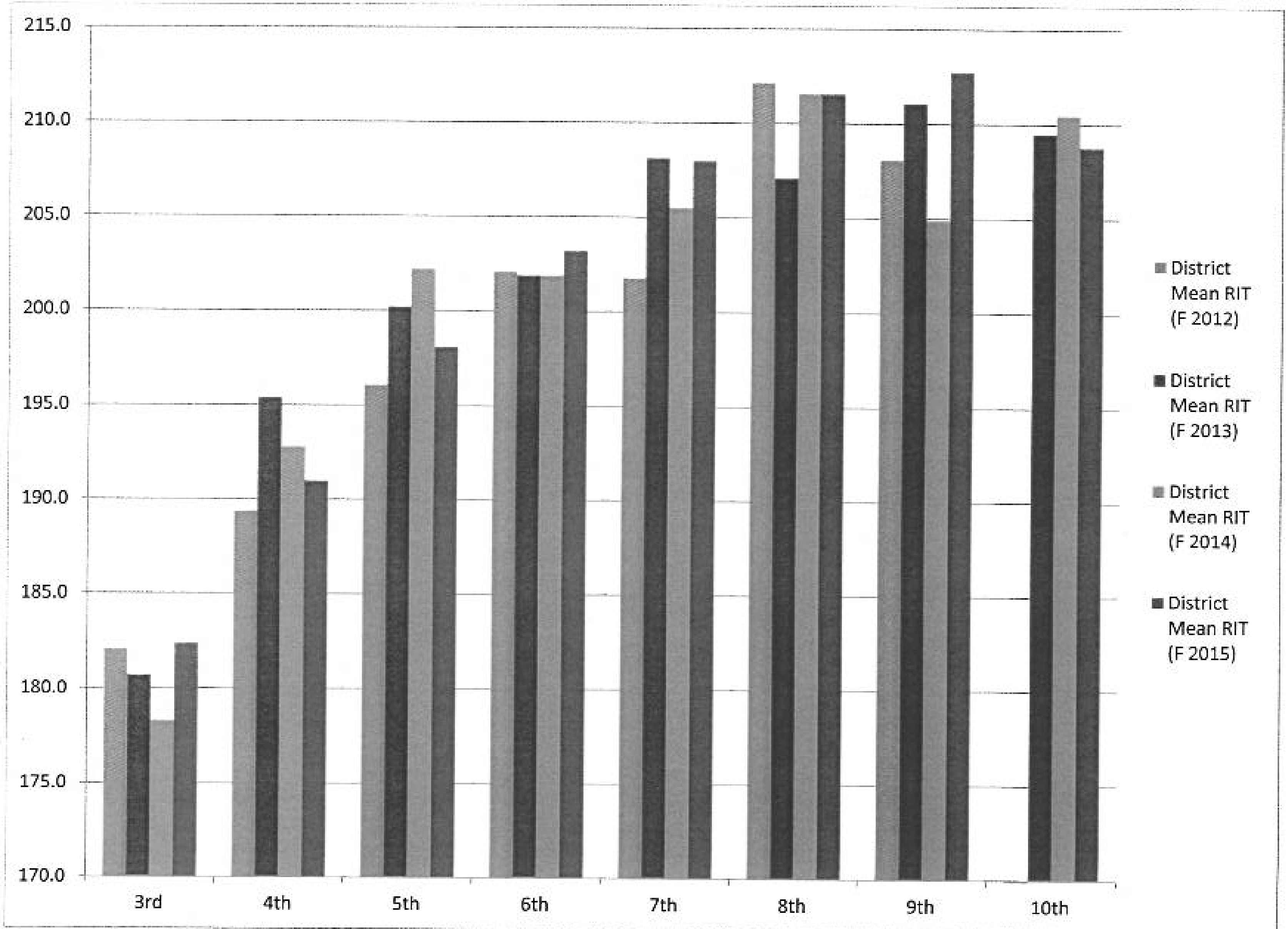
NA= No RIT Norm for grades 9 and 10.



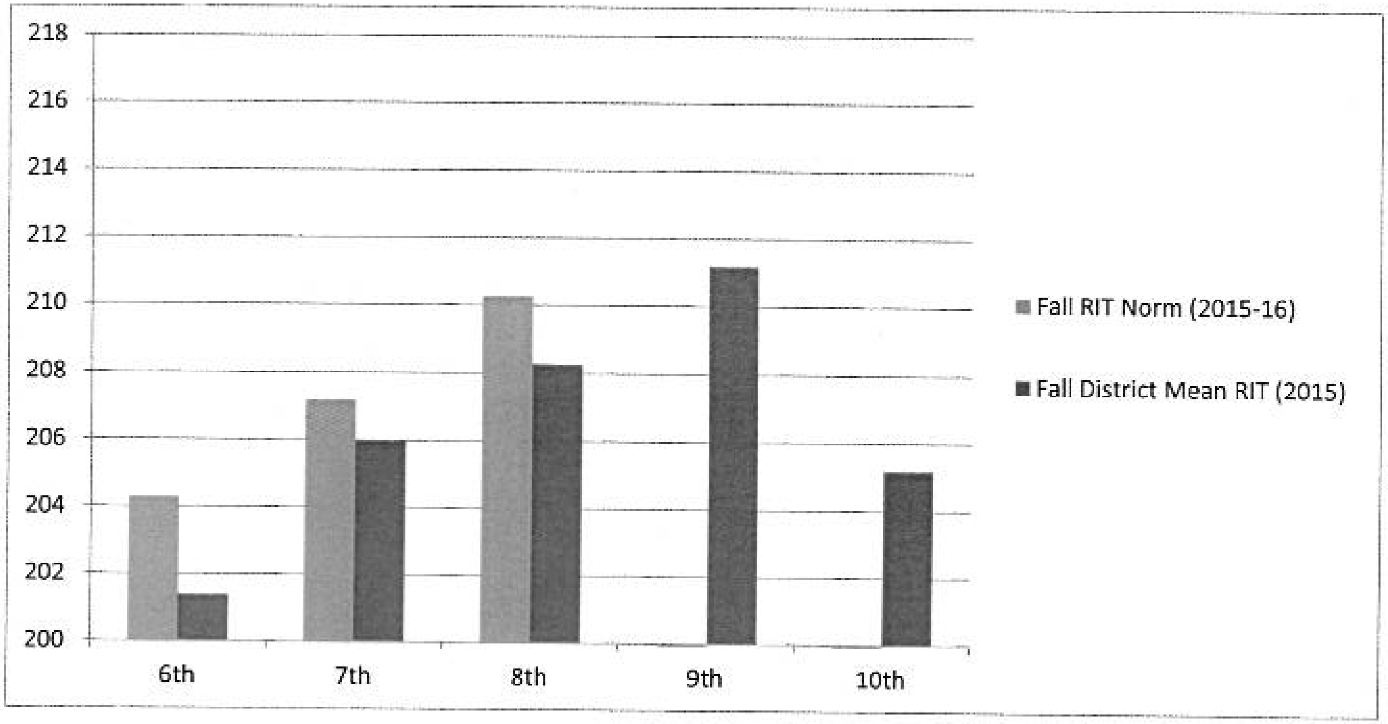
BOE power point presentation
Slide 7



BOE power point presentation Slide 8

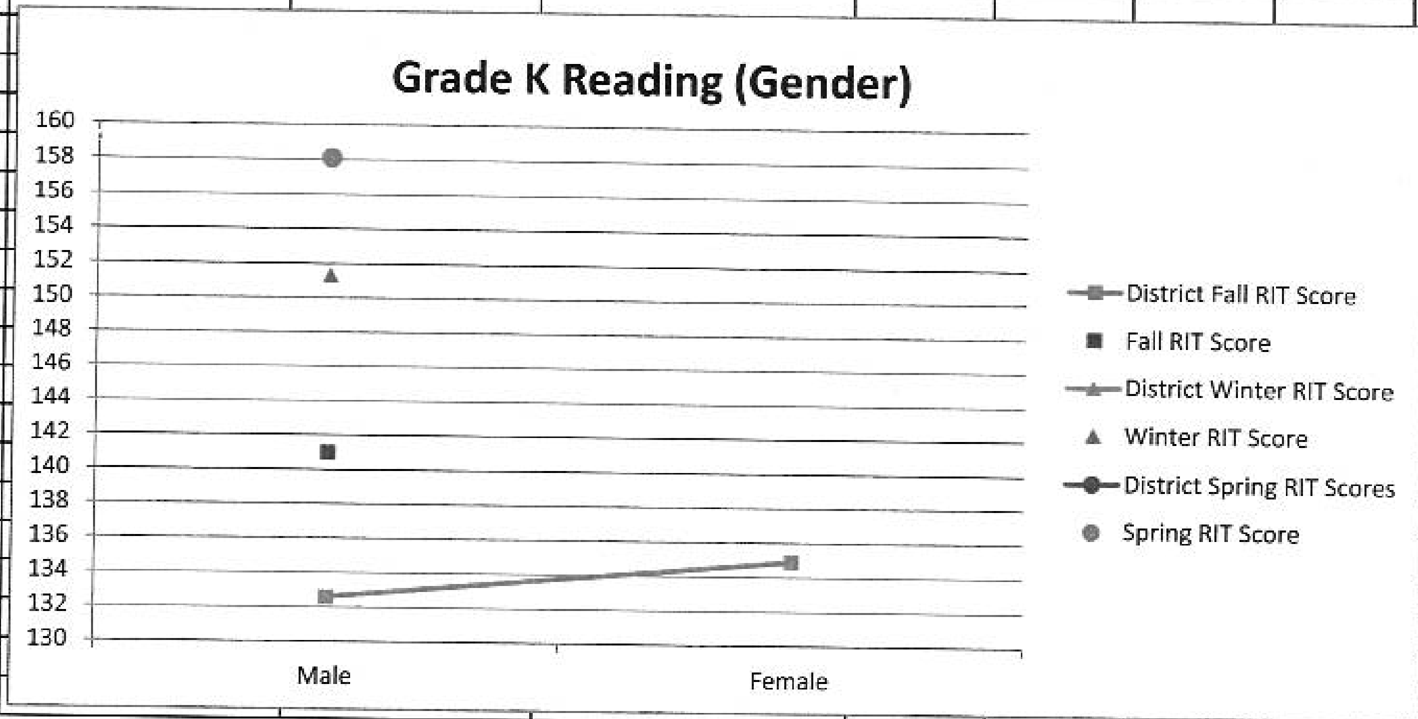


BOE power point presentation Slide 9



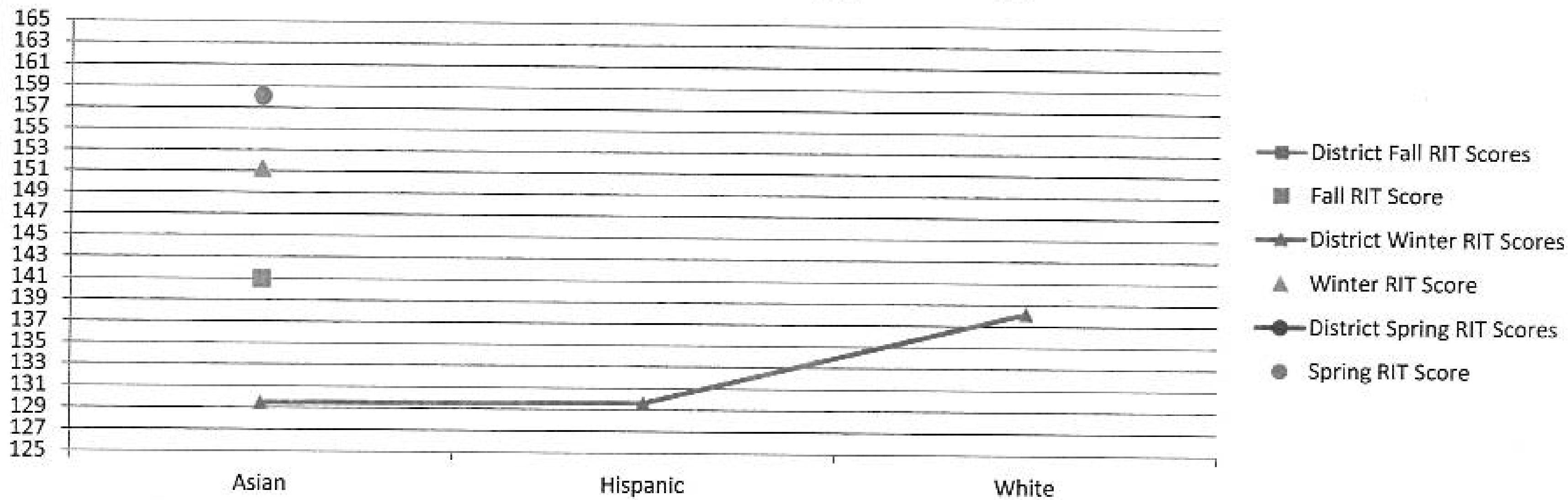
BOE power point presentation Slide 10

Reading			
Gr K	Fall Norm RIT--141	ter Norm RIT--151.3	Spring Norm RIT--158.1
Male	132.6		
Female	134.9		

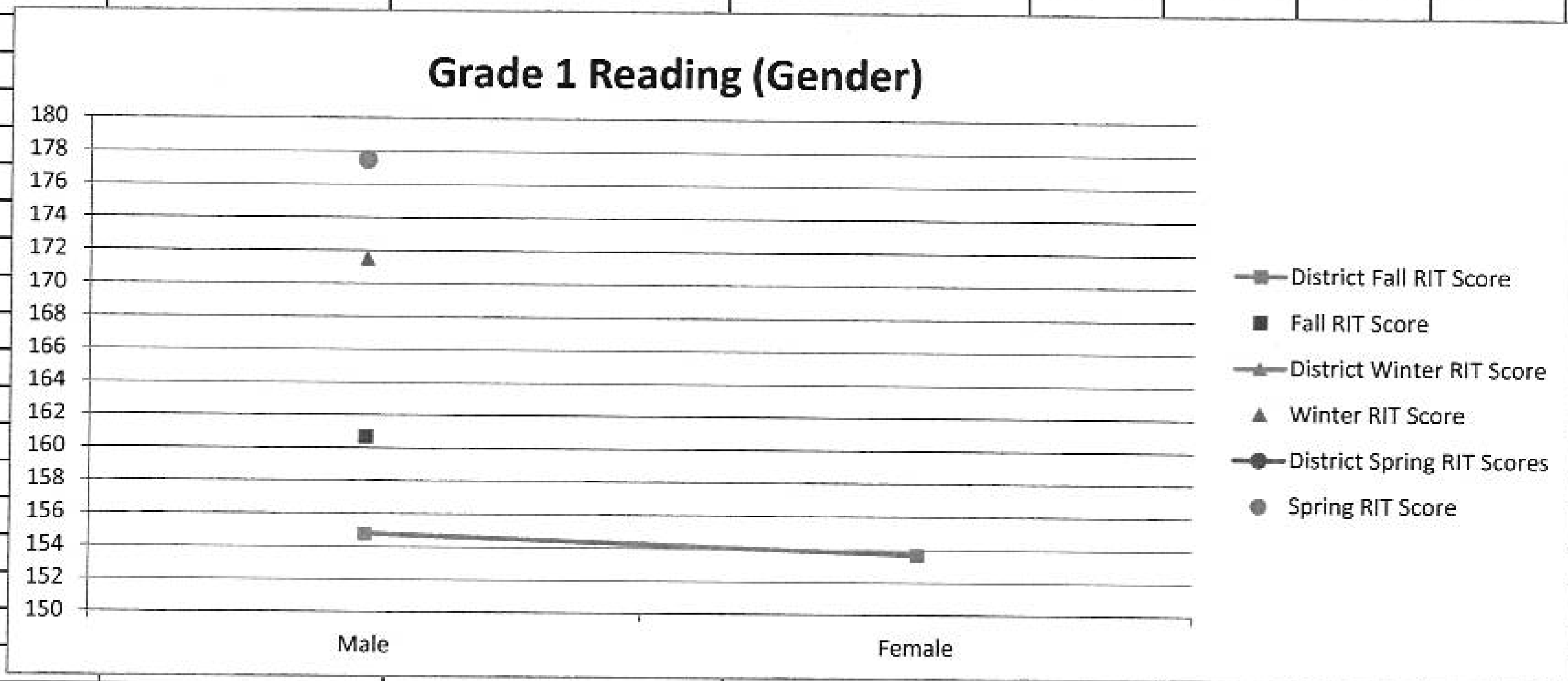


Reading				
Gr K				
Ethnicity	**Student Count**	**Mean RIT Fall--141**	**Mean RIT Winter--151.3**	**Mean RIT Spring--158.1**
American Indian	3	132		
Asian	49	129.5		
Black	2	132.5		
Hispanic	71	129.6		
Multi-ethnic	10	139.3		
White	95	138.2		

Kinder Reading (ethnicity)

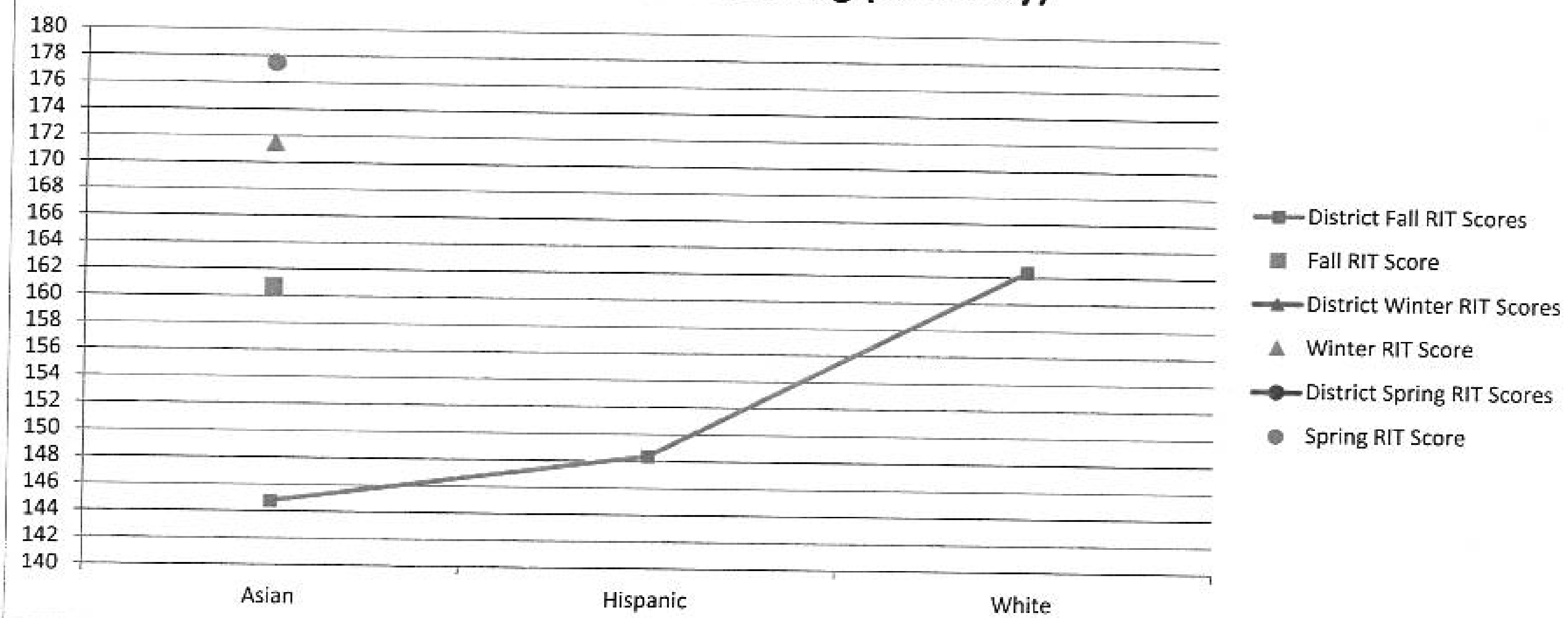


Reading			
Gr 1	Fall Norm RIT--160.7	Winter Norm RIT--171.5	Spring Norm RIT--177.5
Male	154.8		
Female	153.7		

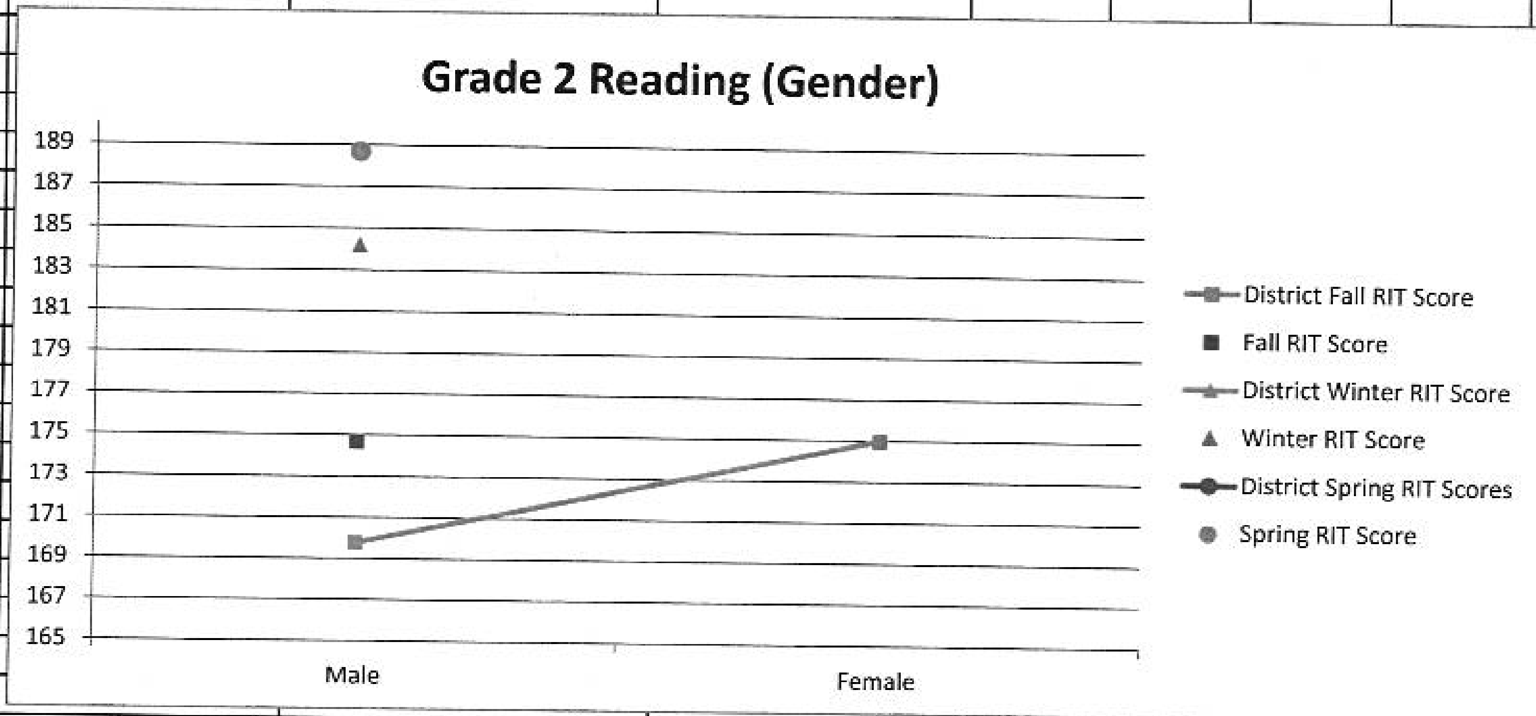


Reading					
Gr 1					
Ethnicity	Student Count	Mean RIT Fall--160.7	Mean RIT Winter--171.5	Mean RIT Spring--177.5	
American Indian	5	145.2			
Asian	39	144.8			
Black	1	159			
Hispanic	61	148.4			
Multi-ethnic	6	154.5			
White	94	162.4			

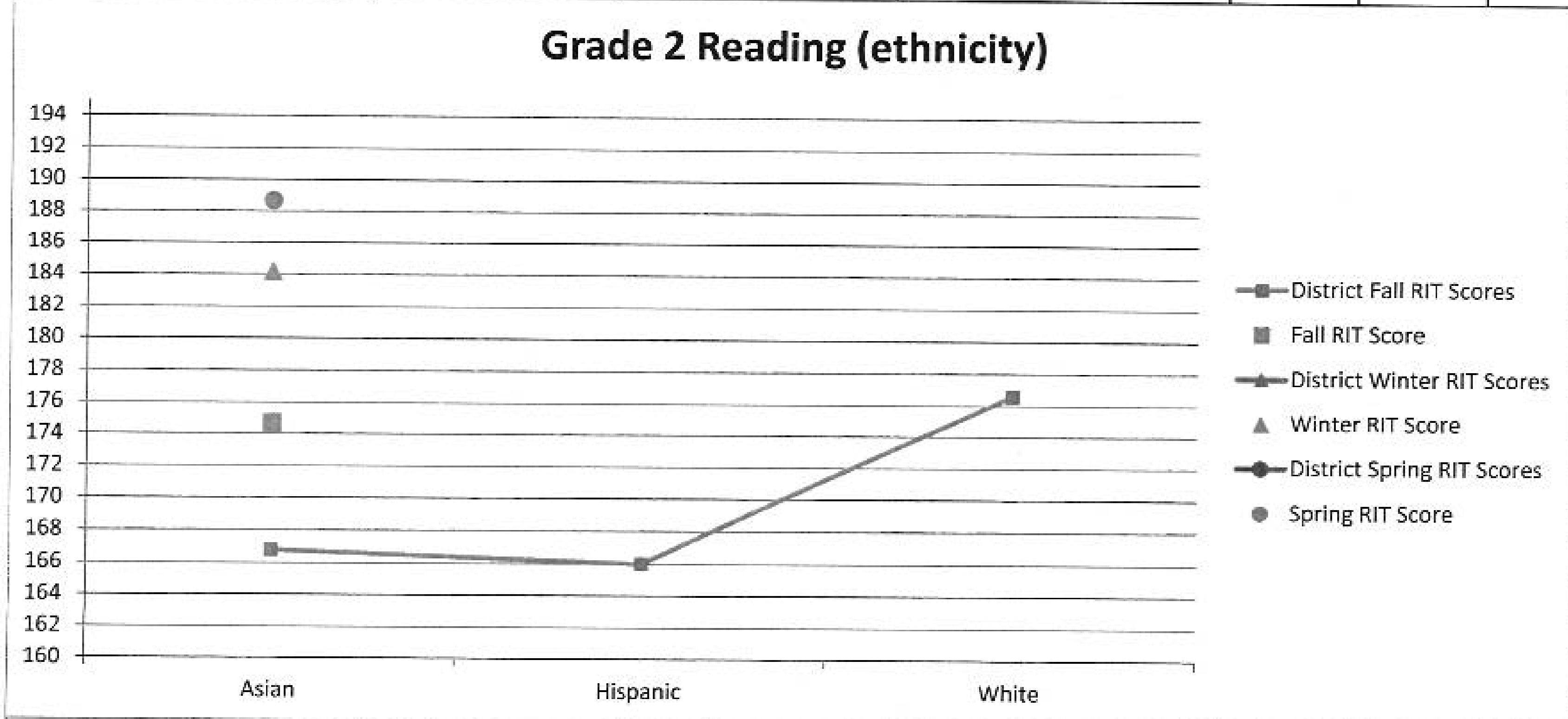
Grade 1 Reading (ethnicity)



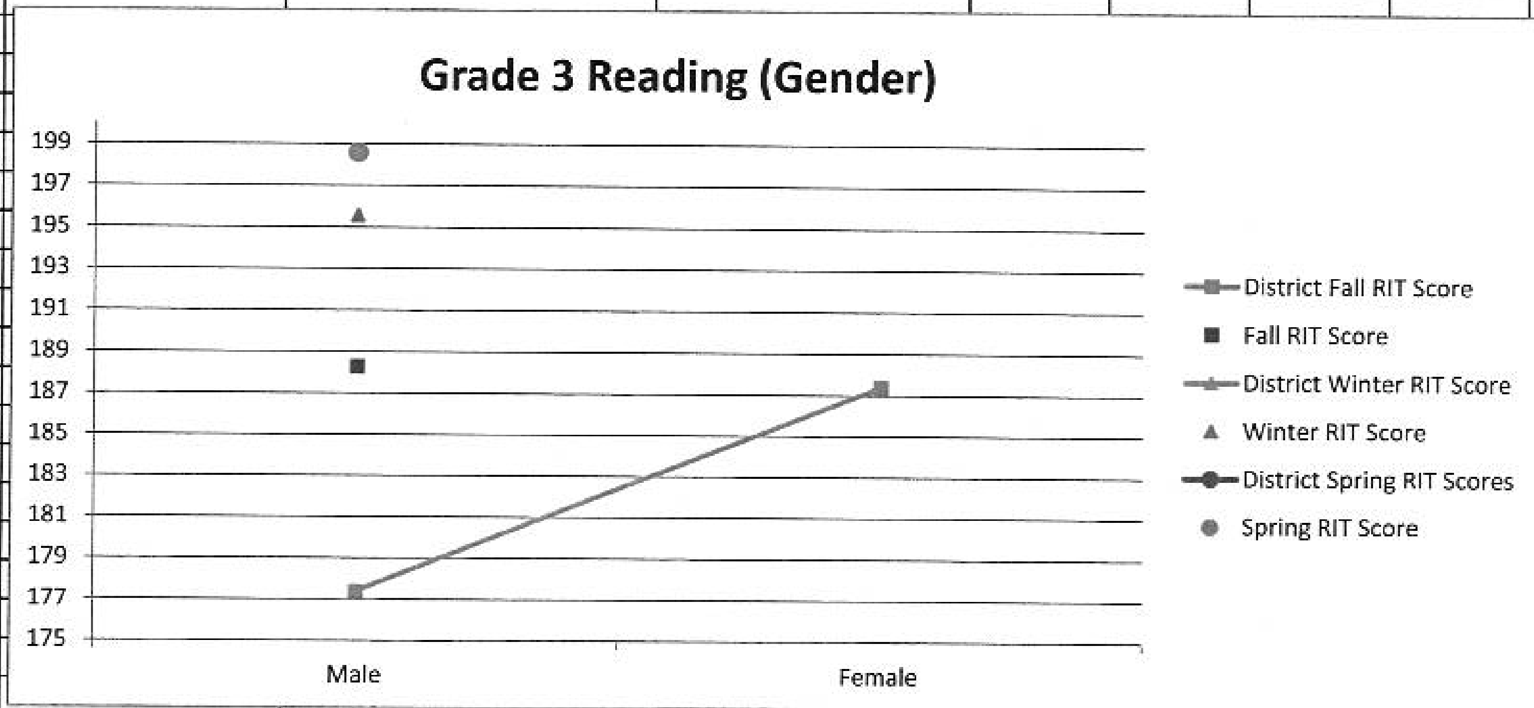
Reading			
Gr 2	Fall Norm RIT--174.7	Winter Norm RIT--184.2	Spring Norm RIT--188.7
Male	169.8		
Female	175		



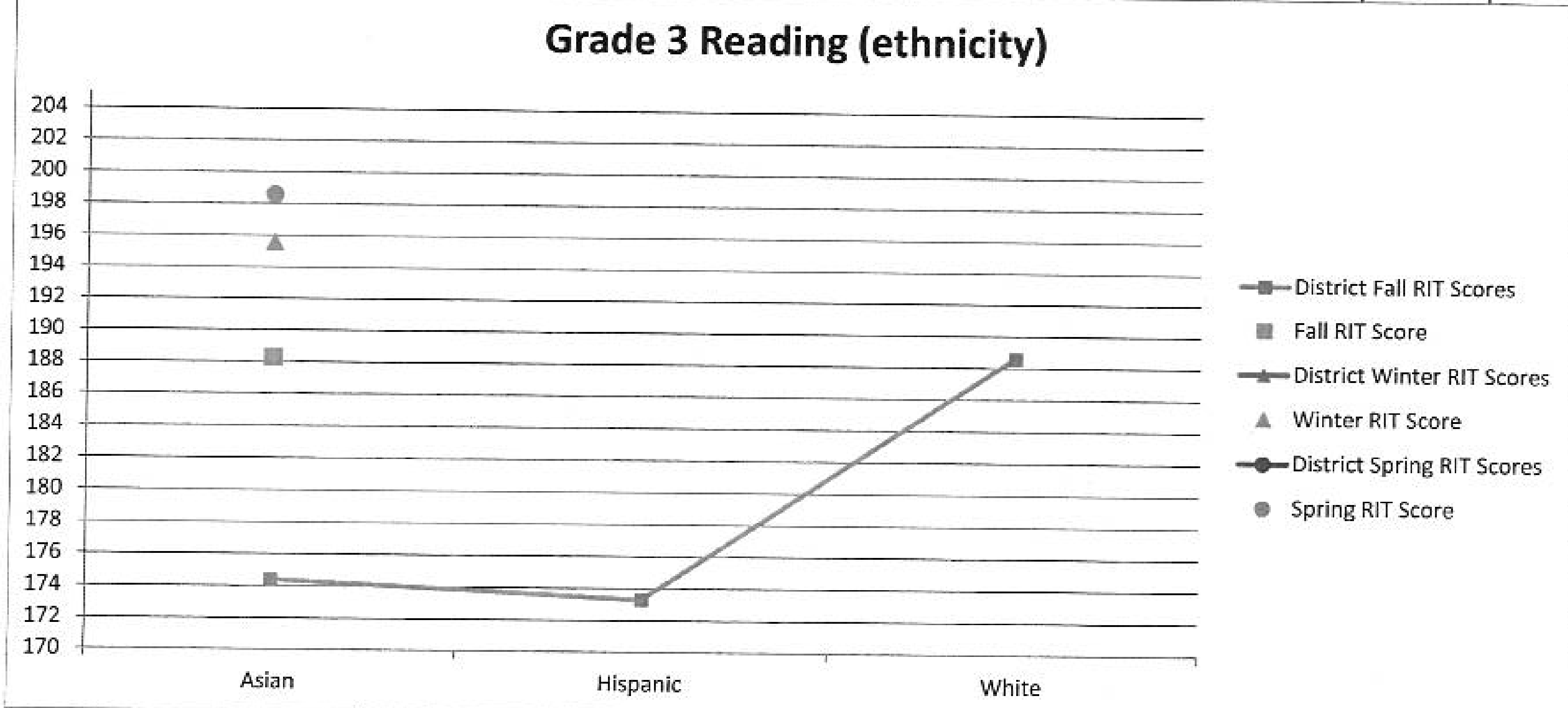
Reading				
Gr 2				
Ethnicity	Student Count	Mean RIT Fall--174.7	Mean RIT Winter--184.2	Mean RIT Spring--188.7
American Indian	2	159.5		
Asian	41	166.8		
Black	2	170.5		
Hispanic	55	166		
Multi-ethnic	7	184.1		
White	100	176.6		



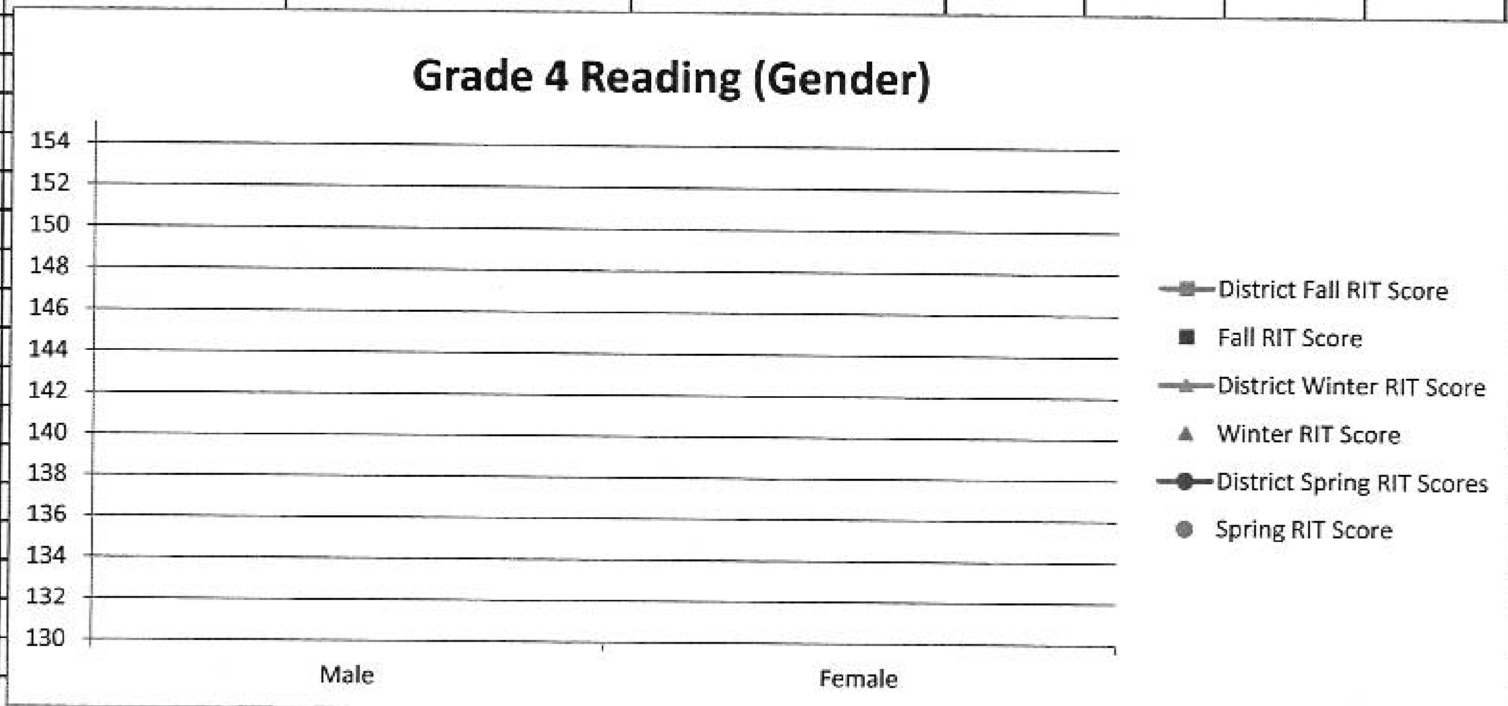
Reading			
Gr 3	Fall Norm RIT--188.3	Winter Norm RIT--195.6	Spring Norm RIT--198.6
Male	177.4		
Female	187.4		



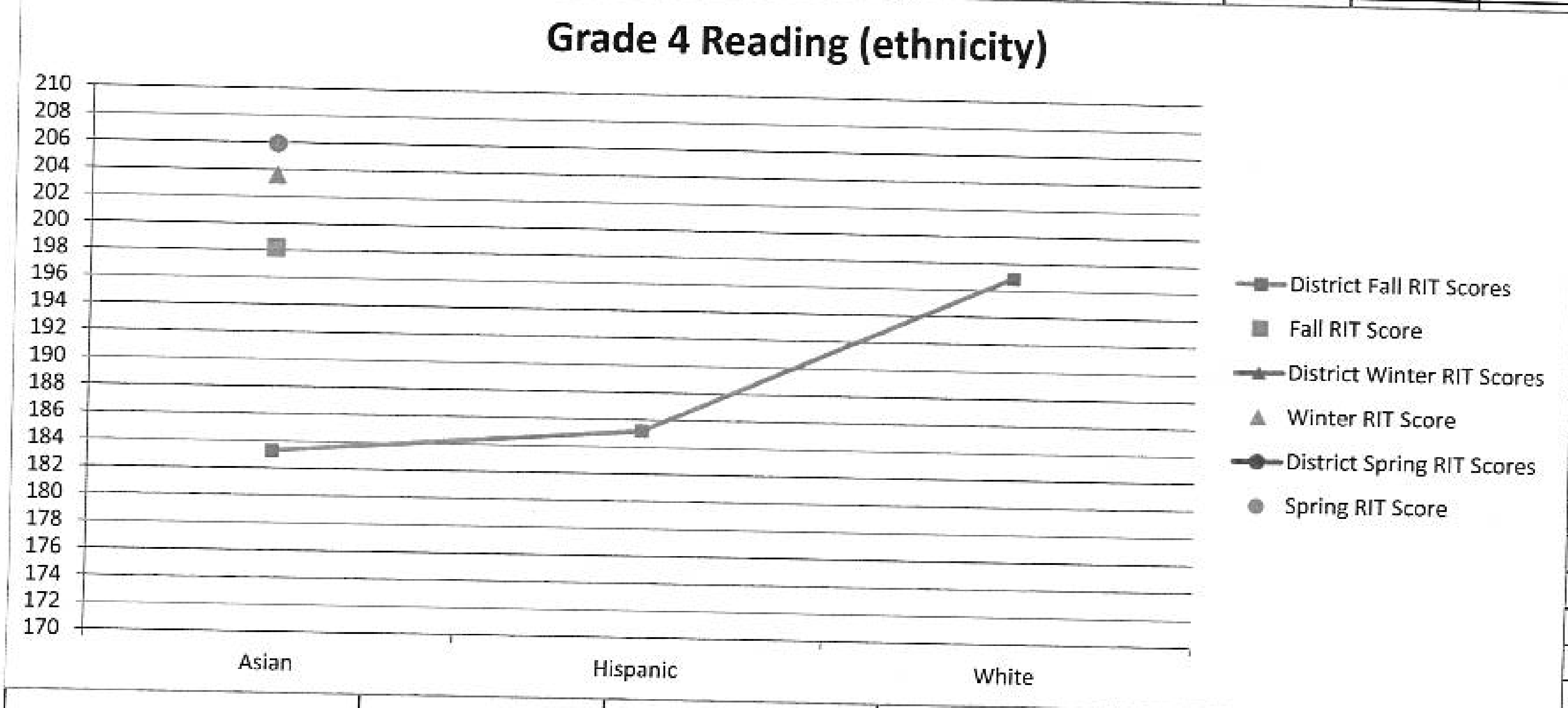
Reading				
Gr 3				
Ethnicity	Student Count	Mean RIT Fall--188.3	Mean RIT Winter--195.6	Mean RIT Spring--198.6
American Indian	6	176.7		
Asian	34	174.4		
Black	3	193.7		
Hispanic	34	173.3		
Multi-ethnic	3	183		
White	82	188.6		



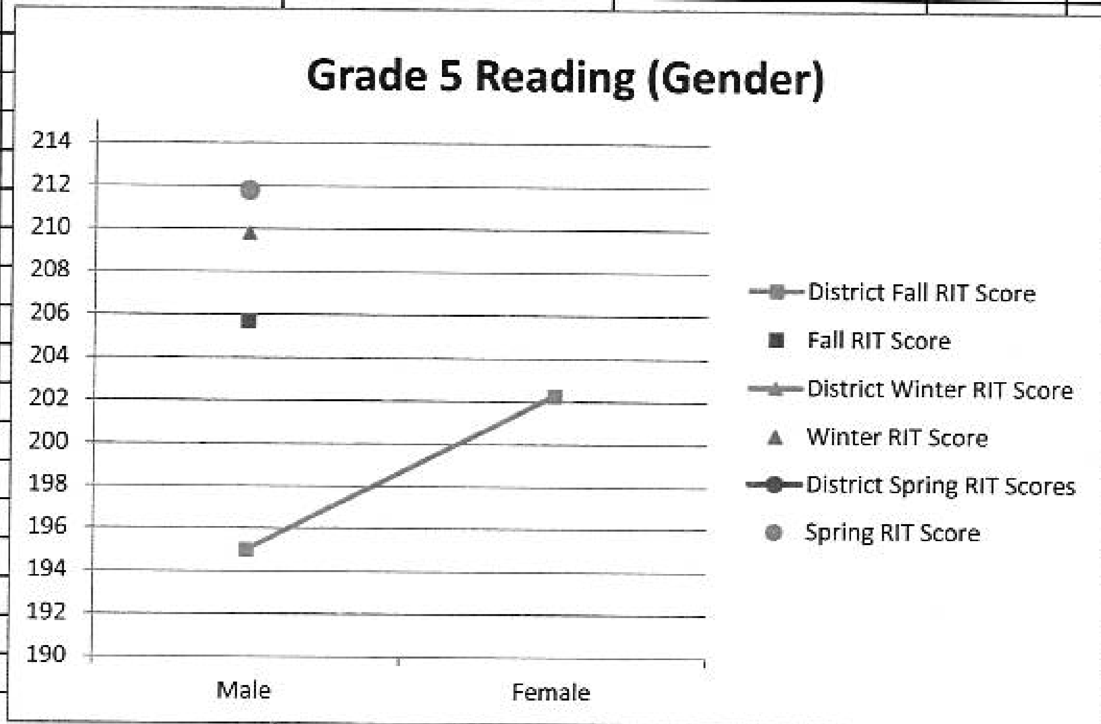
Reading			
Gr 4	Fall Norm RIT--198.2	Winter Norm RIT--203.6	Spring Norm RIT--205.9
Male	189.4		
Female	191.7		



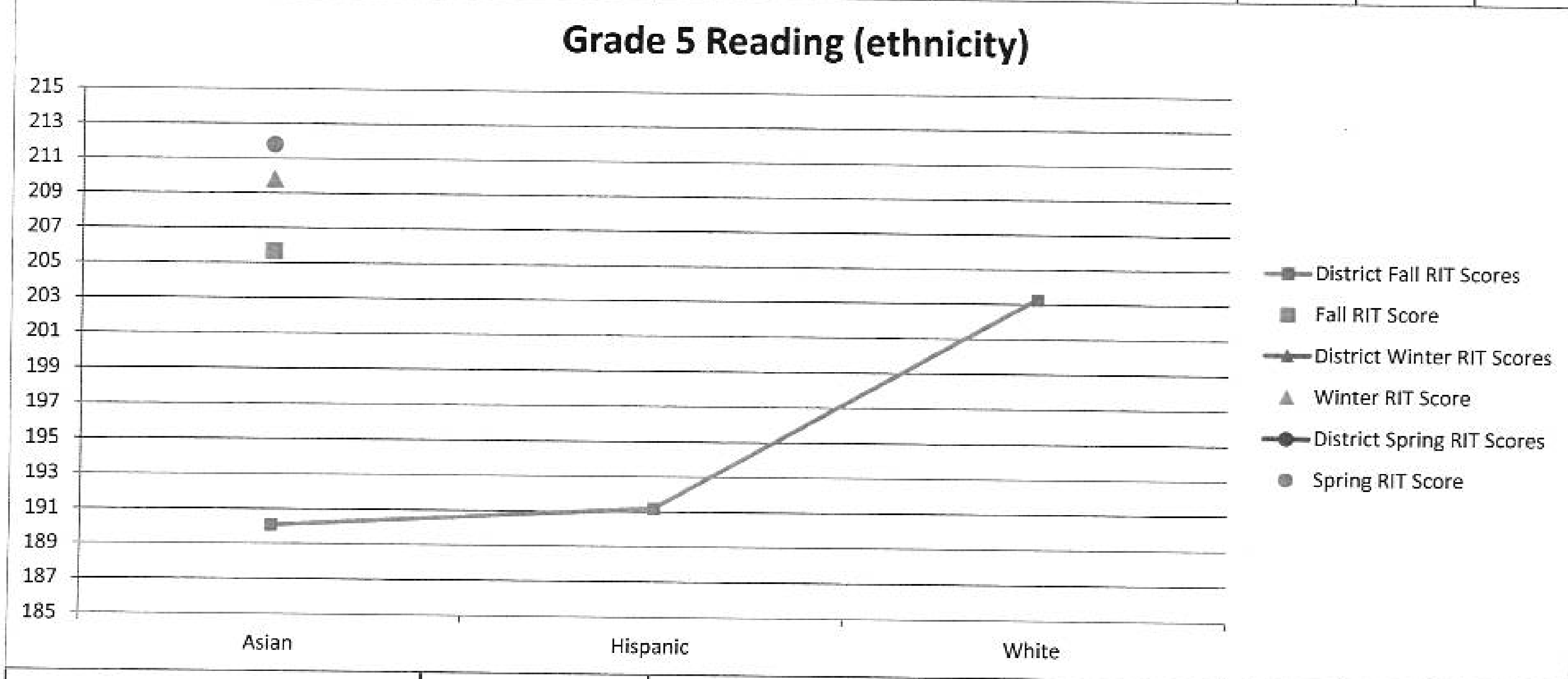
Reading				
Gr 4				
Ethnicity	Student Count	Mean RIT Fall--198.2	Mean RIT Winter--203.6	Mean RIT Spring--205.9
American Indian	4	187.8		
Asian	47	183.3		
Black	4	199.3		
Hispanic	39	185.2		
Multi-ethnic	3	199		
White	81	196.9		



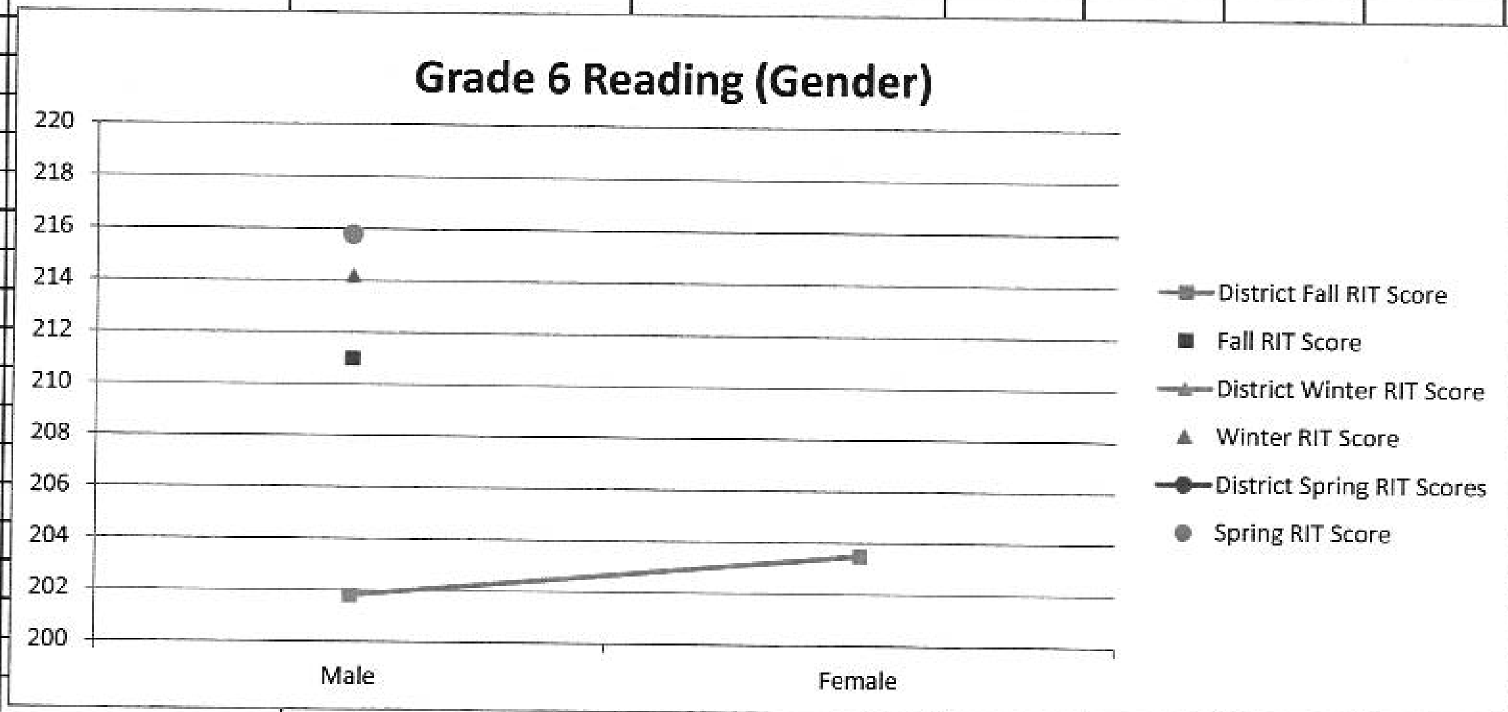
Reading					
Gr 5	Fall Norm RIT--205.7	Winter Norm RIT--209.8	Spring Norm RIT--211.8		
Male	195				
Female	202.3				



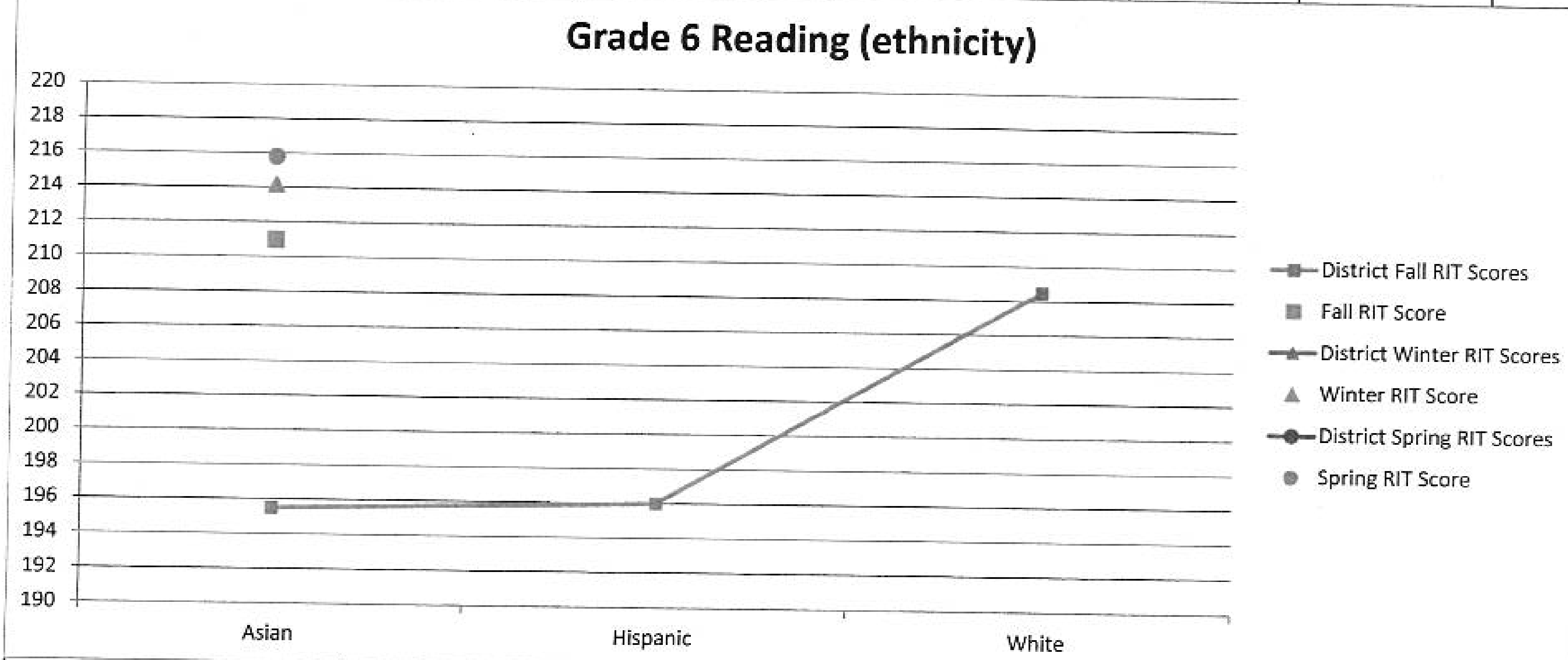
Reading						
Gr 5						
Ethnicity	Student Count	Mean RIT Fall--205.7	Mean RIT Winter--209.8	Mean RIT Spring--211.8		
American Indian	3	211.3				
Asian	35	190.1				
Black	2	185.5				
Hispanic	27	191.2				
Multi-ethnic	2	206				
Native Hawaiian or Other Pacific Islande	1	195				
White	98	203.3				



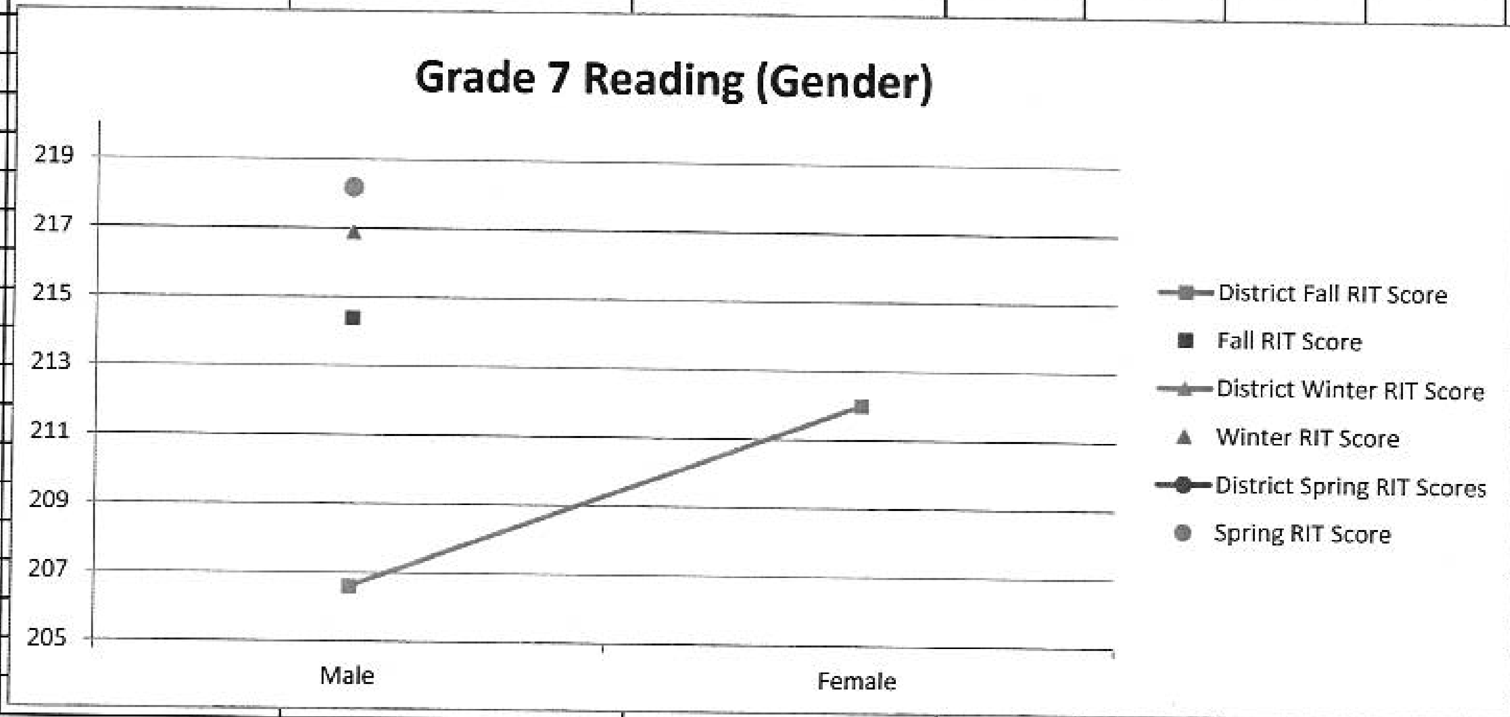
Reading			
Gr 6	Fall Norm RIT--211	Winter Norm RIT--214.2	Spring Norm RIT--215.8
Male	201.8		
Female	203.5		



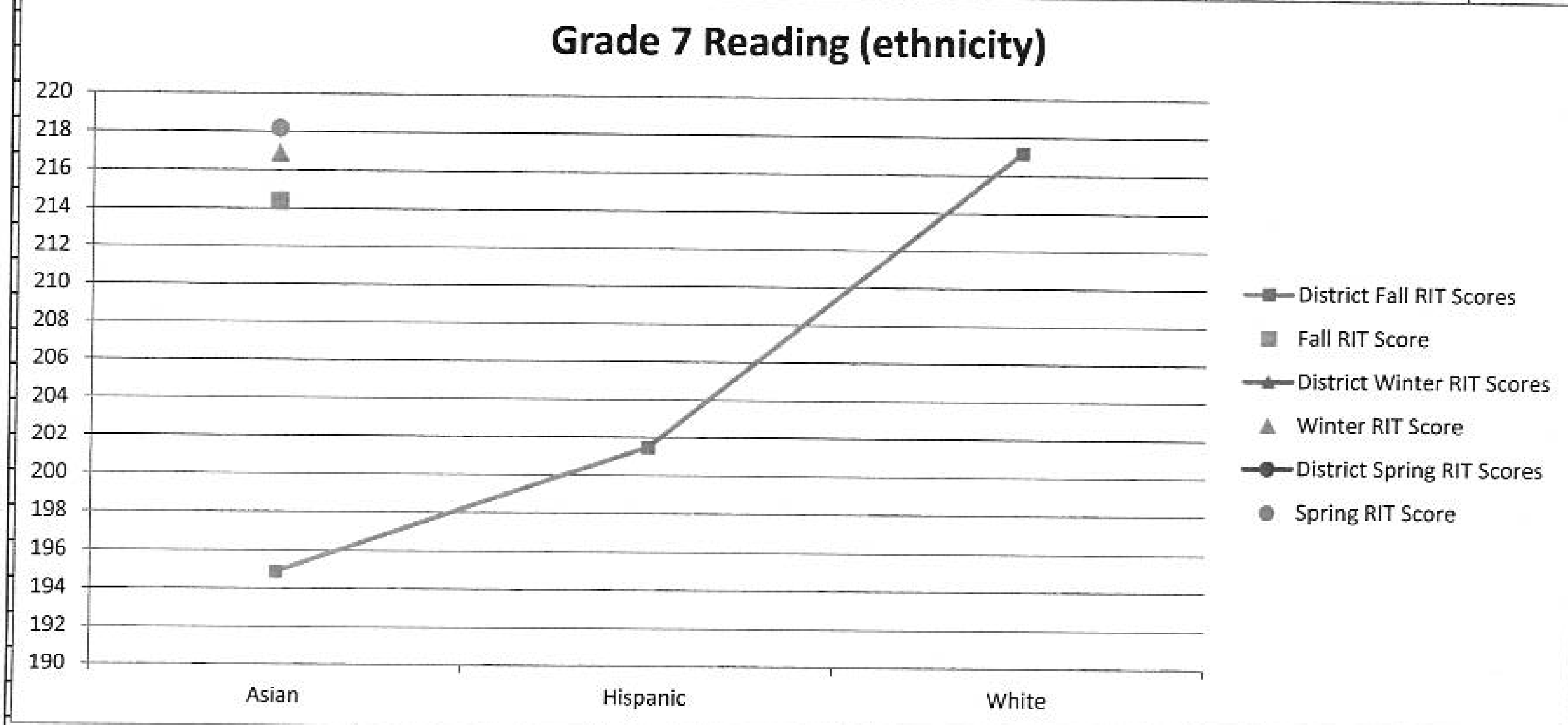
Reading				
Gr 6				
Ethnicity	Student Count	Mean RIT Fall--211	Mean RIT Winter--214.2	Mean RIT Spring--215.8
American Indian	2	193.5		
Asian	31	195.5		
Black	3	206		
Hispanic	32	196		
Multi-ethnic	NA	NA		
White	77	208.5		



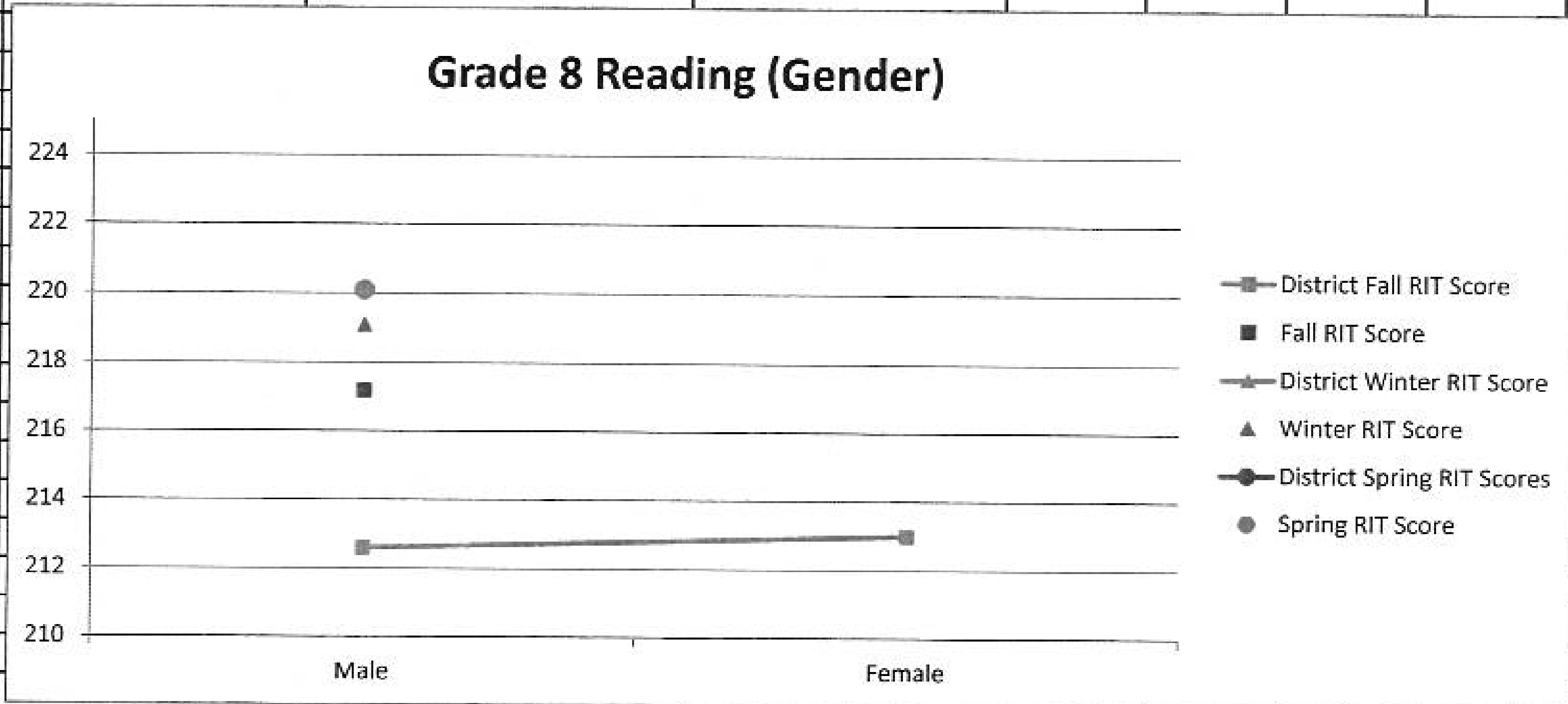
Reading			
Gr 7	Fall Norm RIT--214.4	Winter Norm RIT--216.9	Spring Norm RIT--218.2
Male	206.6		
Female	212		



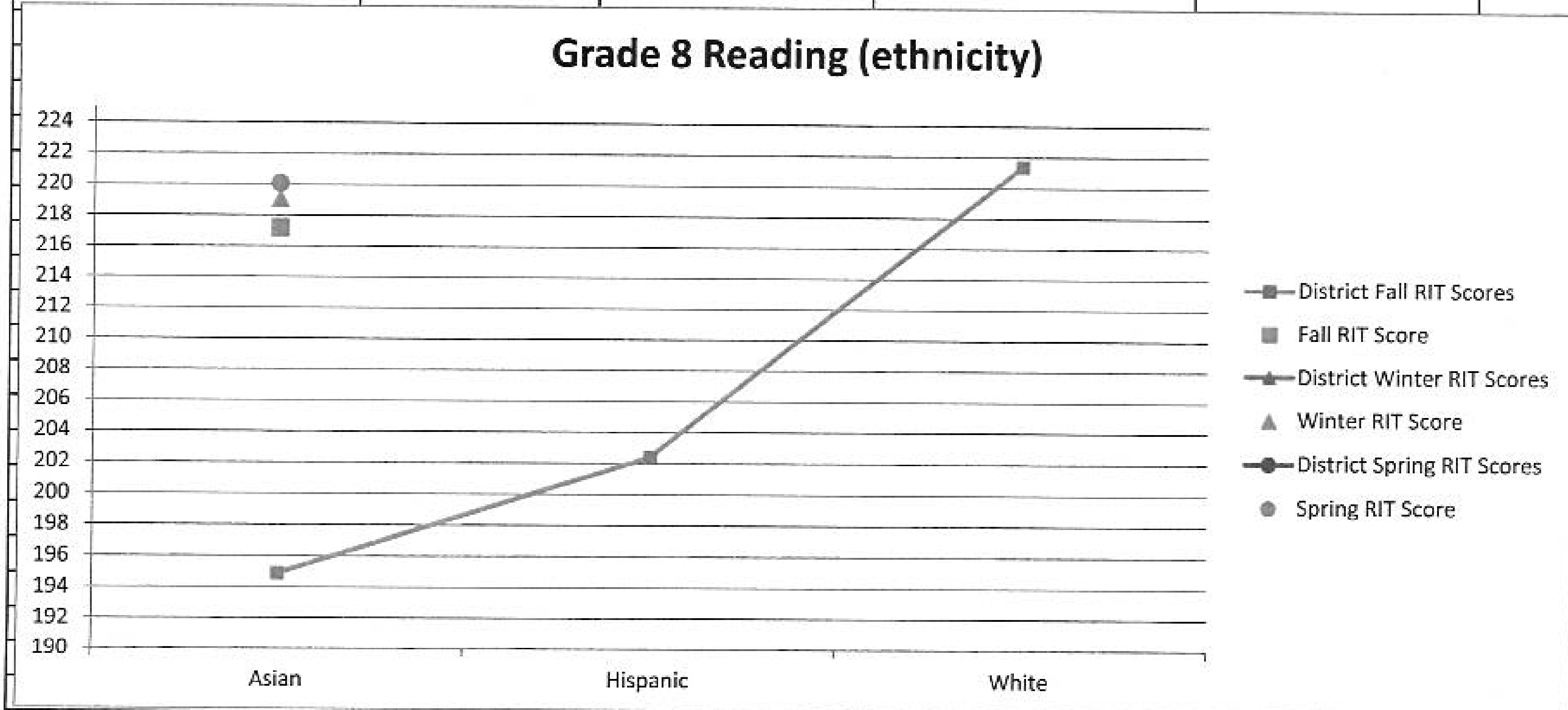
Reading					
Gr 7					
Ethnicity	Student Count	Mean RIT Fall--214.4	Mean RIT Winter--216.9	Mean RIT Spring--218.2	
American Indian	4	204.5			
Asian	39	194.9			
Black	3	230			
Hispanic	33	201.5			
Multi-ethnic	1	207			
White	99	217.2			



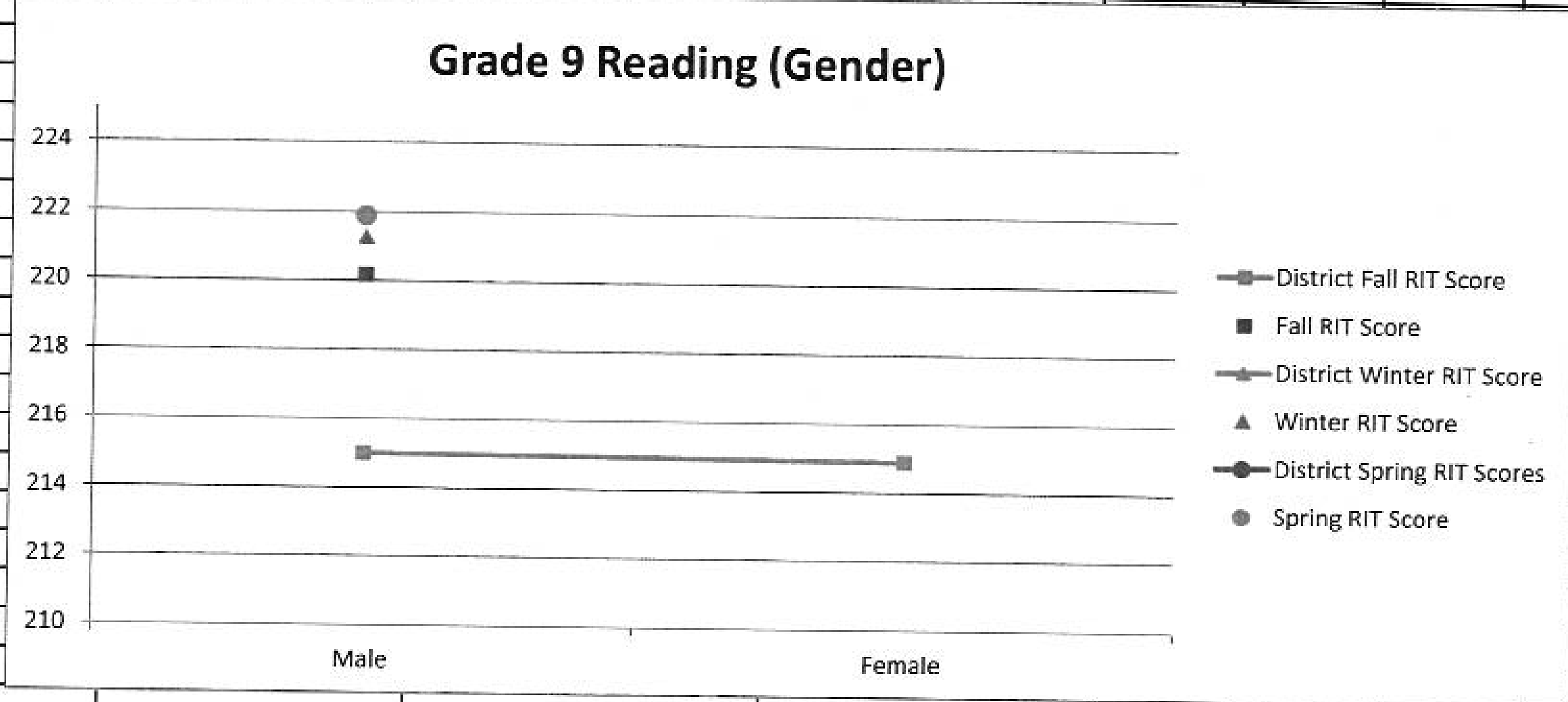
Reading			
Gr 8	Fall Norm RIT--217.2	Winter Norm RIT--219.1	Spring Norm RIT--220.1
Male	212.6		
Female	213		



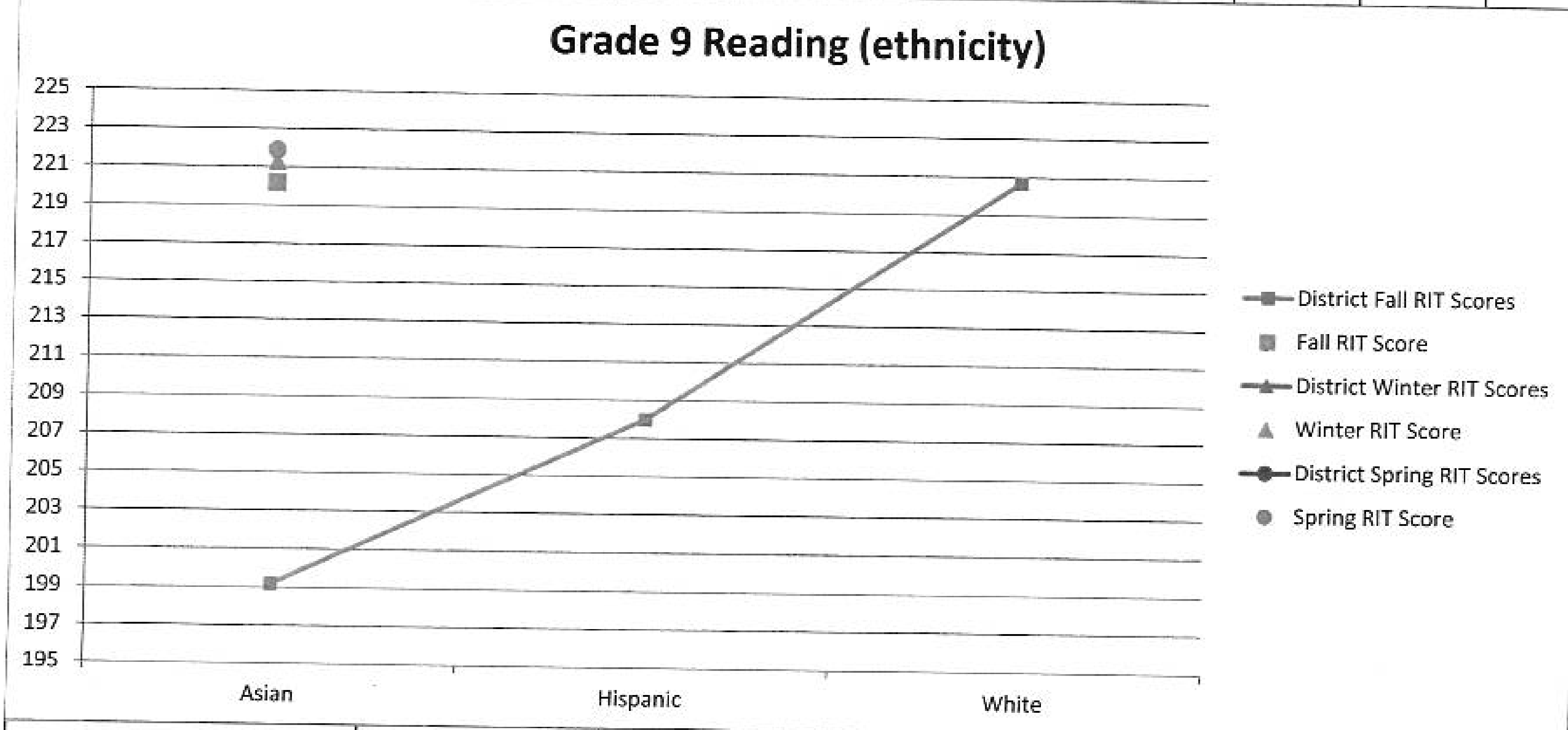
Reading					
Gr 8					
Ethnicity	Student Count	Mean RIT Fall--217.2	Mean RIT Winter--219.1	Mean RIT Spring--220.1	
American Indian	4	219.3			
Asian	45	194.9			
Black	4	221			
Hispanic	21	202.4			
Multi-ethnic	NA	NA			
White	112	221.4			



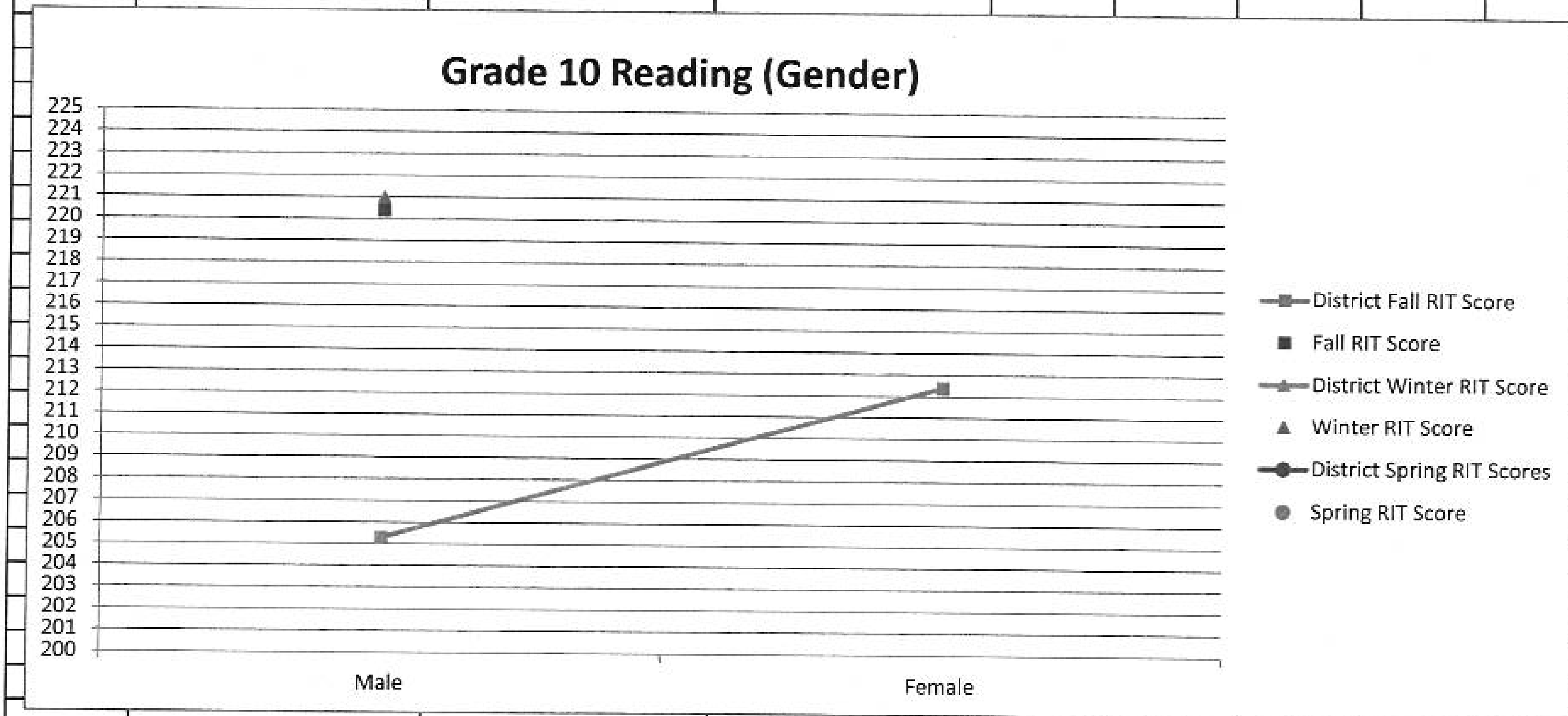
Reading			
Gr 9	Fall Norm RIT--220.2	Winter Norm RIT--221.3	Spring Norm RIT--221.9
Male	215		
Female	214.9		



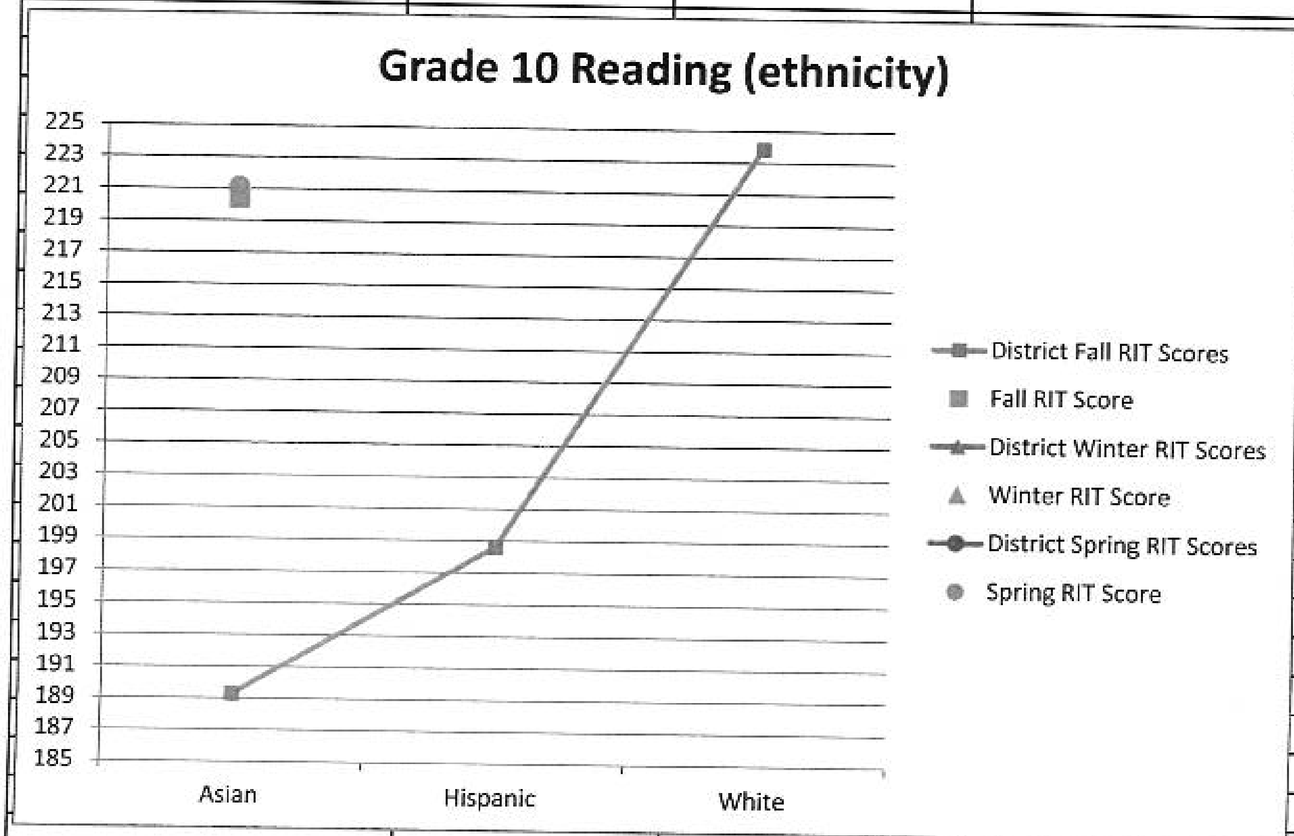
Reading				
Gr 9				
Ethnicity	Student Count	Mean RIT Fall--220.2	Mean RIT Winter--221.3	Mean RIT Spring--221.9
American Indian	1	219		
Asian	33	199.2		
Black	2	222		
Hispanic	17	208		
Multi-ethnic	NA	NA		
White	108	220.7		



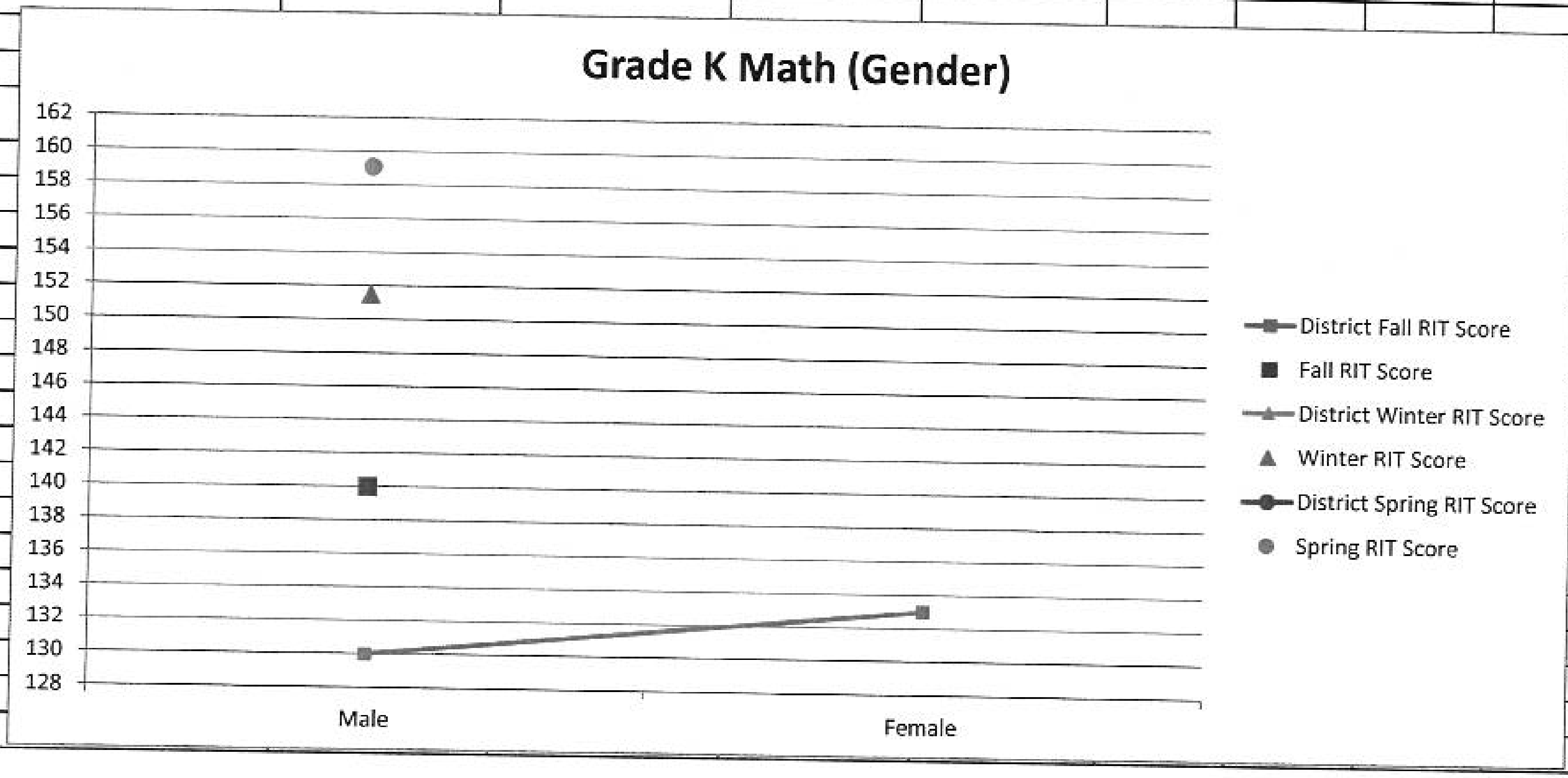
Reading			
Gr 10	Fall Norm RIT--220.4	Winter Norm RIT--221	Spring Norm RIT--221.2
Male	205.3		
Female	212.4		



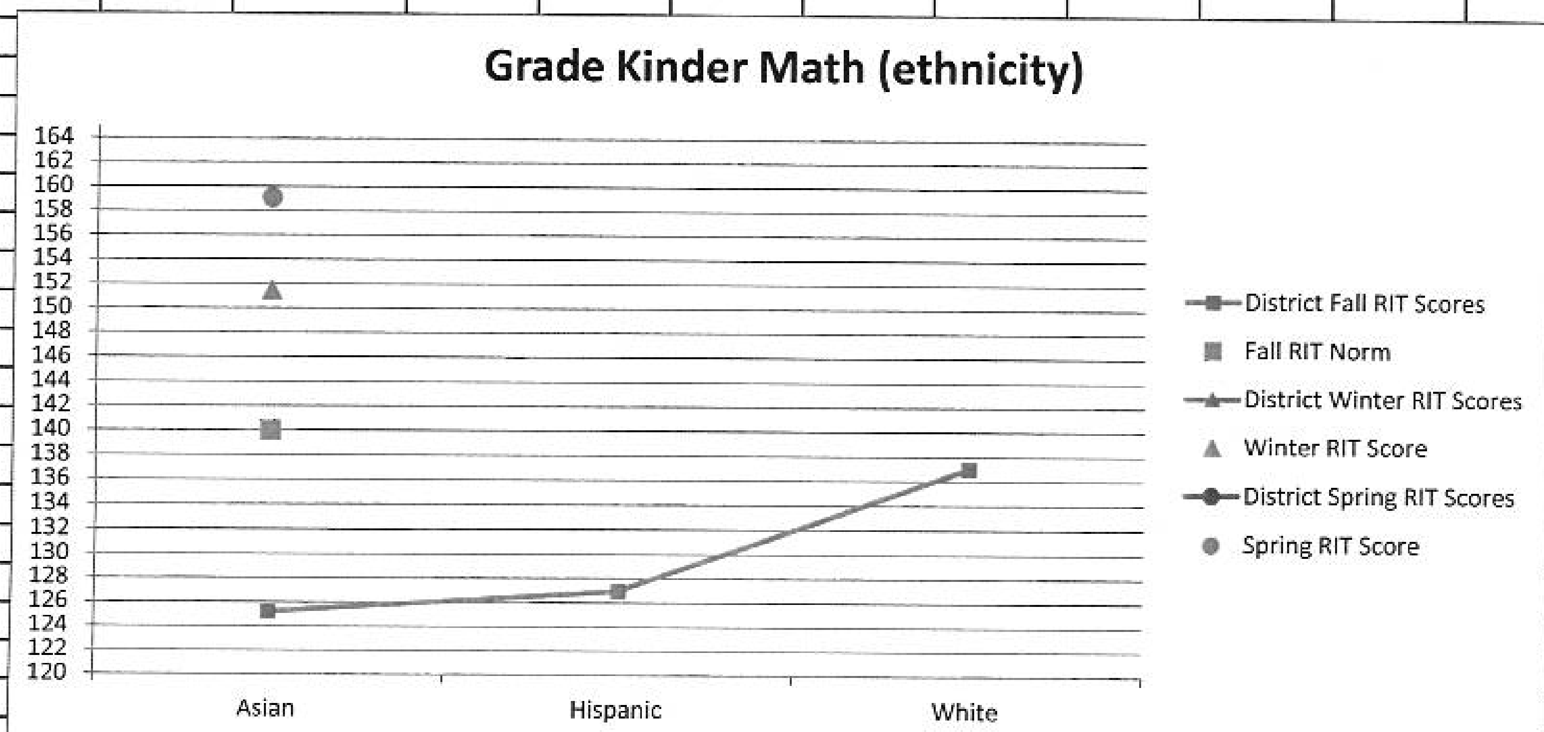
Reading					
Gr 10					
Ethnicity	Student Count	Mean RIT Fall--220.4	Mean RIT Winter--221	Mean RIT Spring--221.2	
American Indian	3	217			
Asian	51	189.3			
Black	3	203			
Hispanic	44	198.6			
Multi-ethnic	NA	NA			
White	90	223.9			



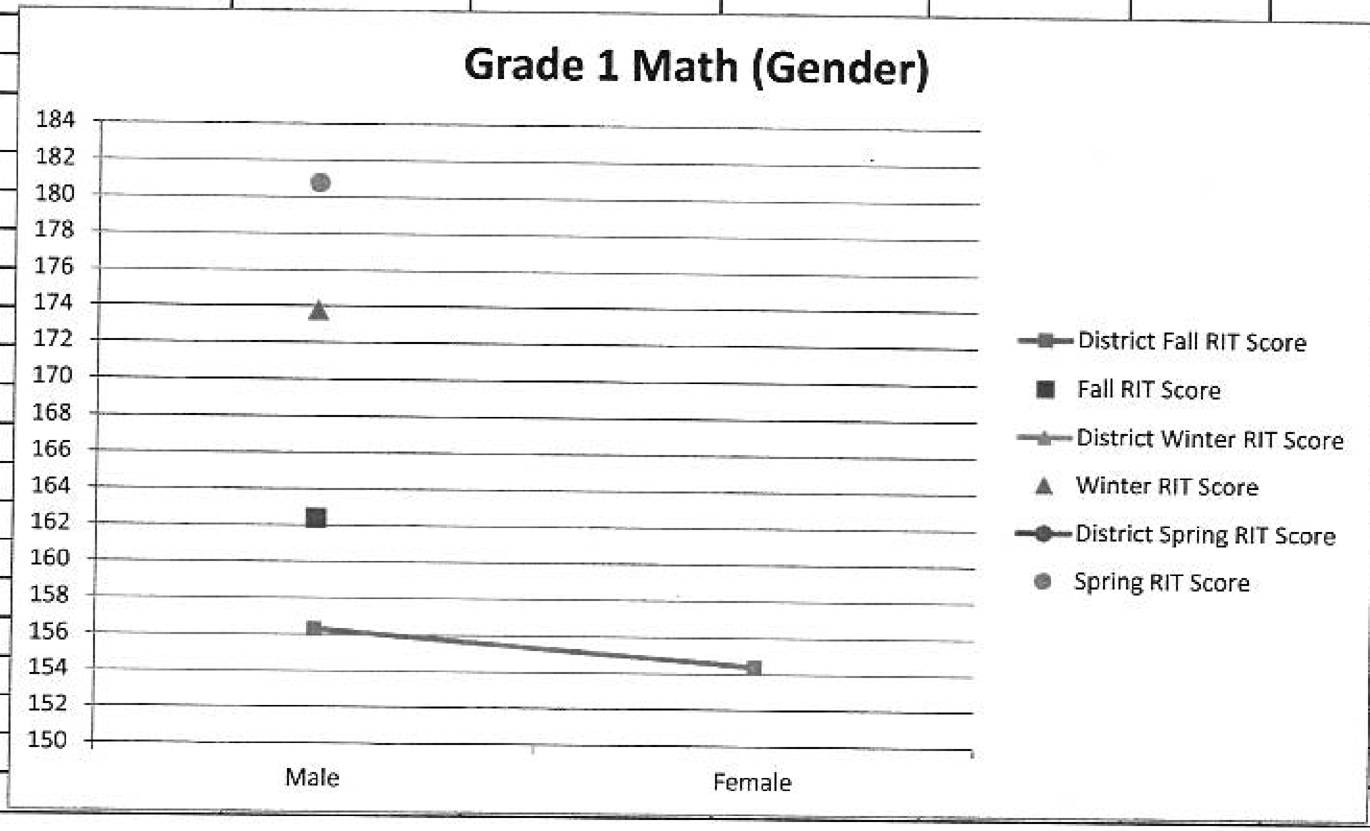
Gr K			
Math RIT Value--	Fall--140	Winter--151.5	Spring--159.1
Male	130		
Female	133		



Gr K							
Math	RIT Value	Fall--140		Winter--151.5		Spring--159.1	
Ethnicity	Student Count Fall	Mean RIT fall	Student Count Winter	Mean RIT winter	Student Count Spring	Mean RIT spring	
American Indian	3	127.7					
Asian	49	125.2					
Black	2	134.5					
Hispanic	67	127					
Multi-ethnic	10	136.9					
White	95	137					

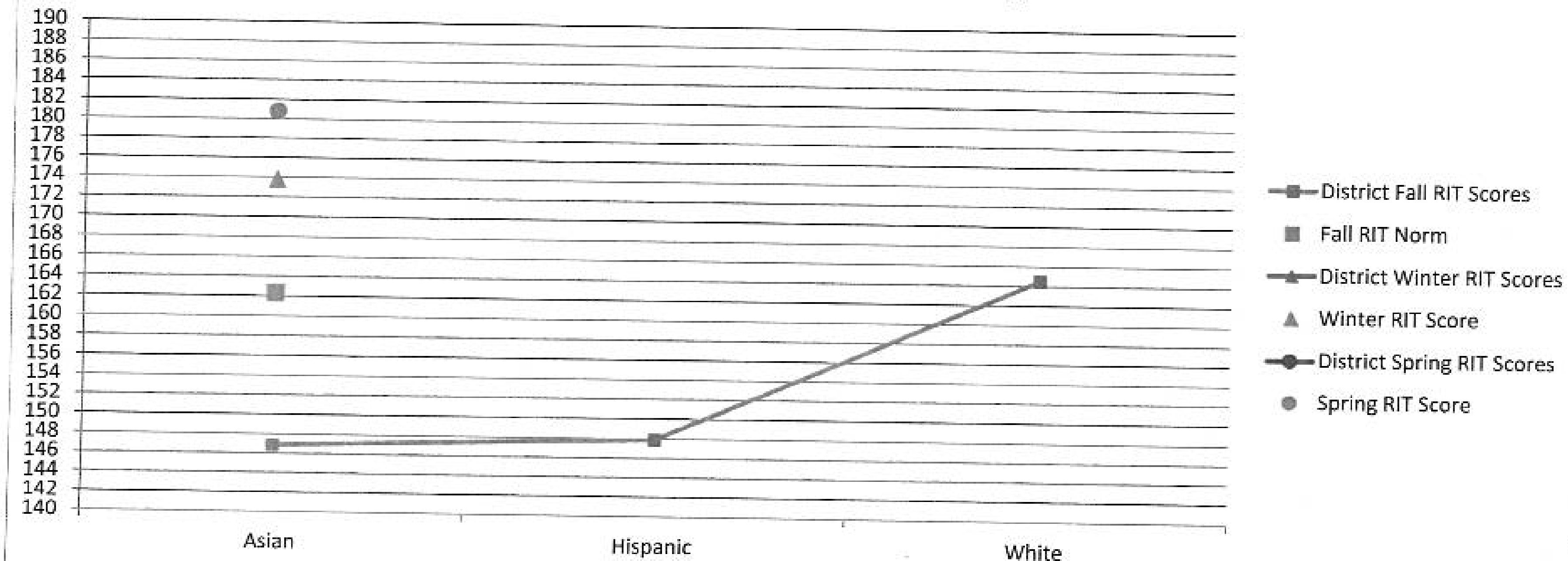


Gr 1			
Math RIT Value--	Fall--162.4	Winter--173.8	Spring--180.8
Male	156.3		
Female	154.4		

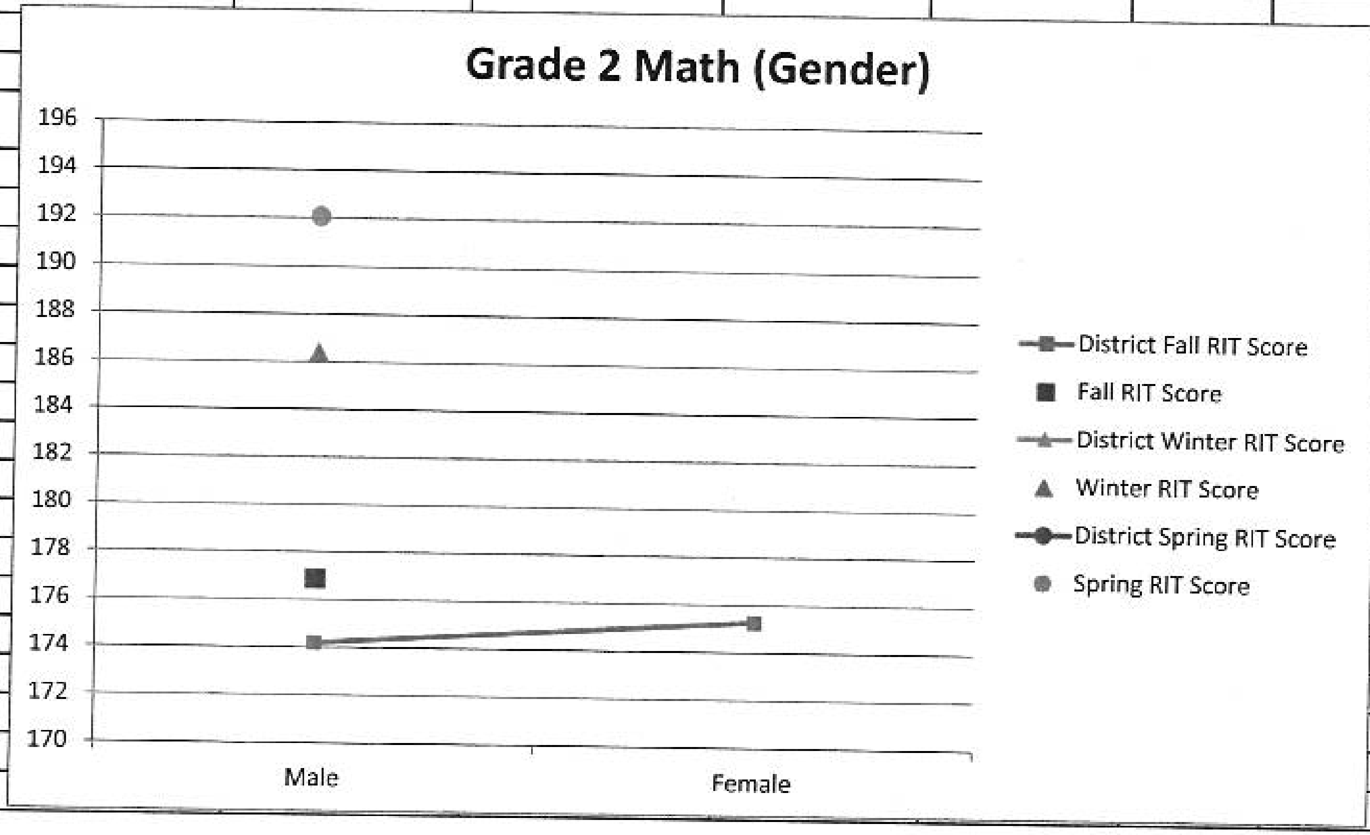


Gr 1st						
Math	RIT Value	Fall--162.4		Winter--173.8		Spring---180.8
Ethnicity	Student Count Fall	Mean RIT fall	Student Count Winter	Mean RIT winter	Student Count Spring	Mean RIT spring
American Indian	5	150.4				
Asian	40	146.9				
Black	1	166				
Hispanic	62	147.9				
Multi-ethnic	6	149.3				
White	94	164.5				

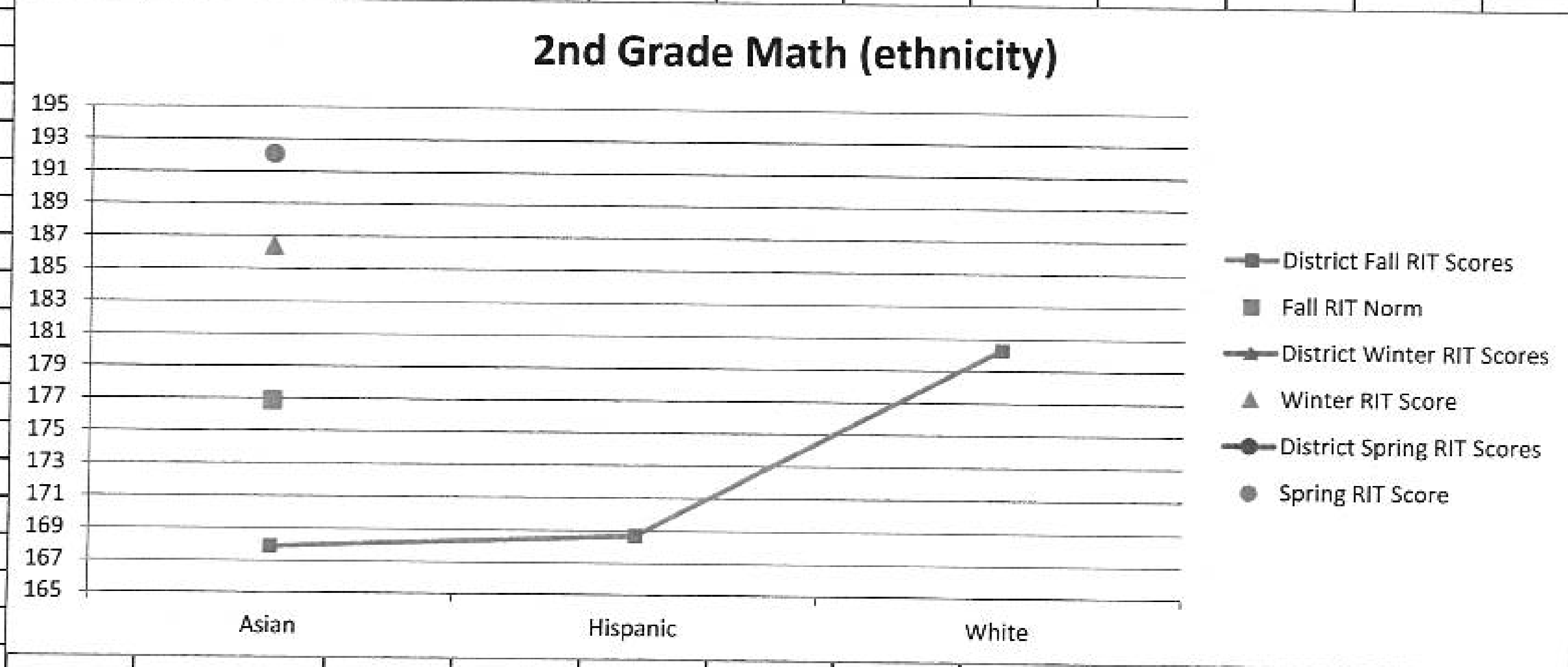
1st Grade Math (ethnicity)



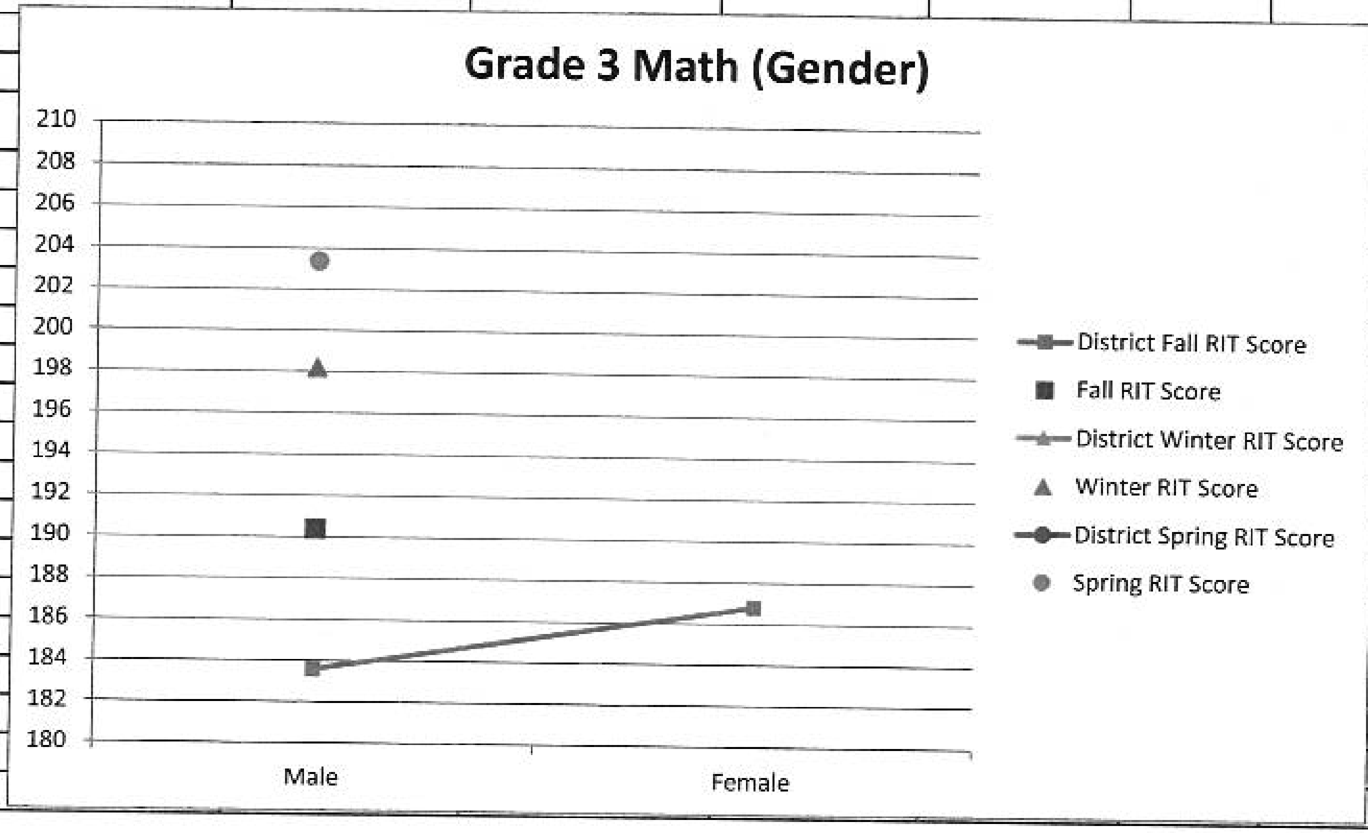
Gr 2			
Math RIT Value--	Fall--176.9	Winter--186.4	Spring--192.1
Male	174.2		
Female	175.3		



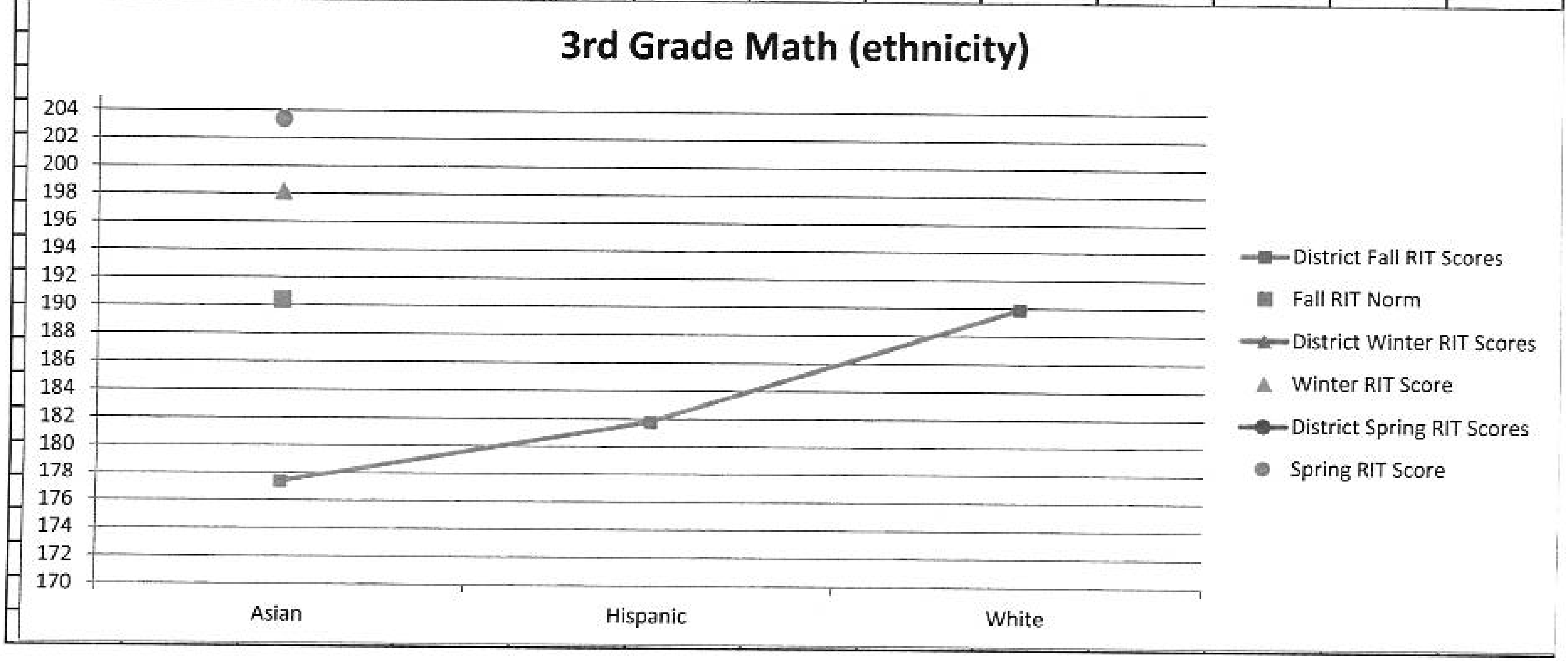
Gr 2nd							
Math	RIT Value	Fall--176.9		Winter--186.4		Spring--192.1	
Ethnicity	Student Count Fall	Mean RIT fall	Student Count Winter	Mean RIT winter	Student Count Spring	Mean RIT spring	
American	2	162					
Asian	41	167.9					
Black	2	166					
Hispanic	54	168.7					
Multi-ethr	7	183.9					
White	101	180.3					



Gr 3			
Math RIT Value--	Fall--190.4	Winter--198.2	Spring--203.4
Male	183.6		
Female	186.8		



Gr 3rd						
Math	RIT Value	Fall--190.4	Winter--198.2		Spring--203.4	
Ethnicity	Student Count Fall	Mean RIT fall	Student Count Winter	Mean RIT winter	Student Count Spring	Mean RIT spring
American	6	181				
Asian	34	177.4				
Black	3	192.7				
Hispanic	35	181.8				
Multi-ethr	3	179.3				
White	82	189.9				



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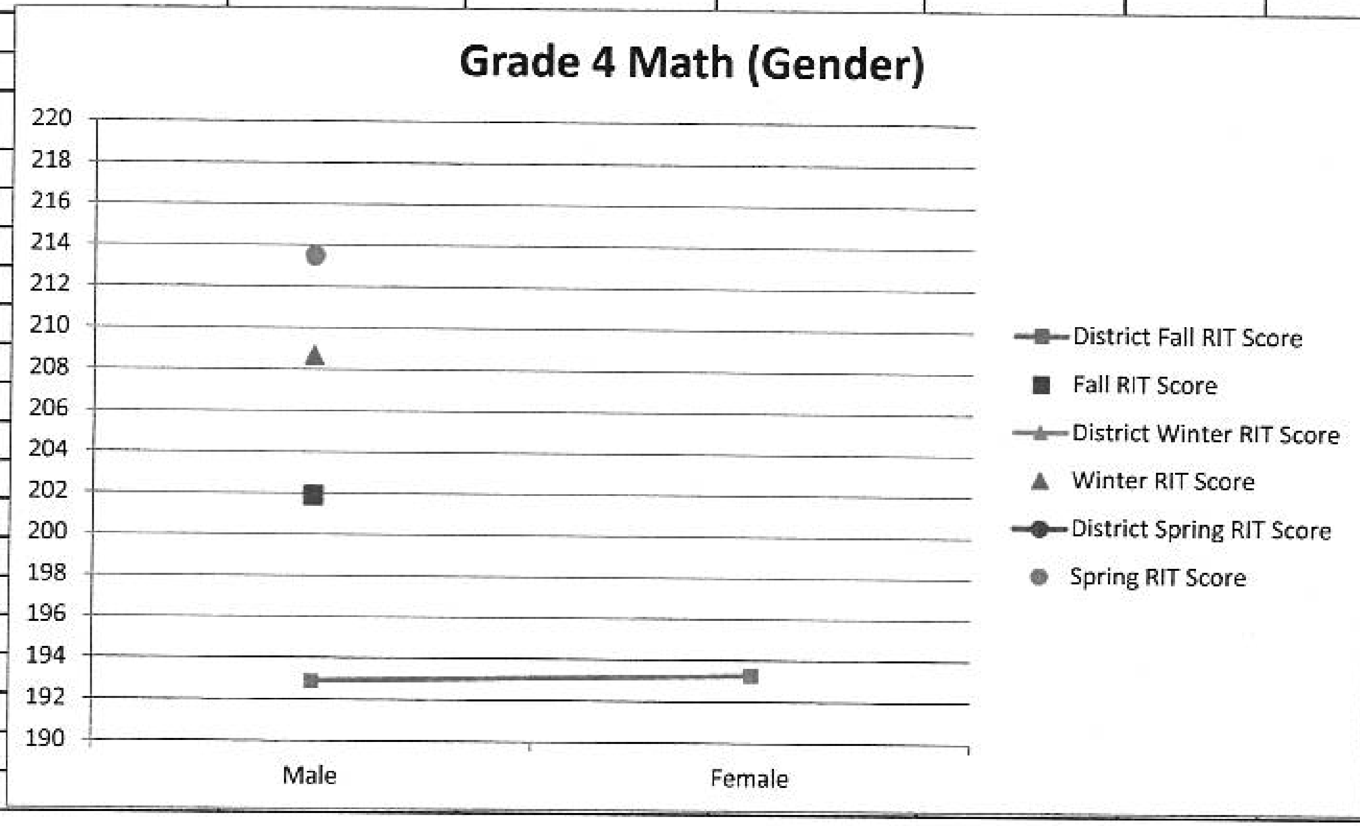
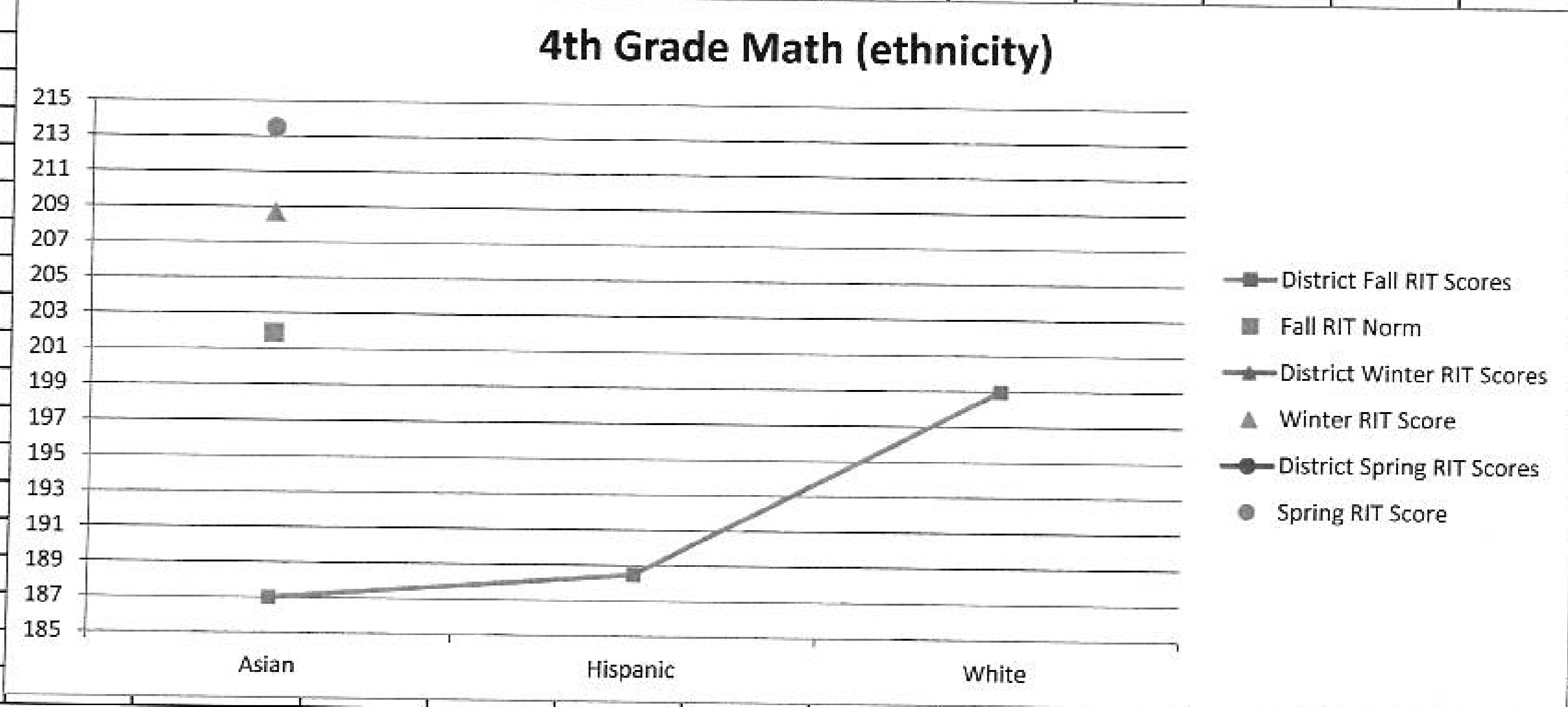
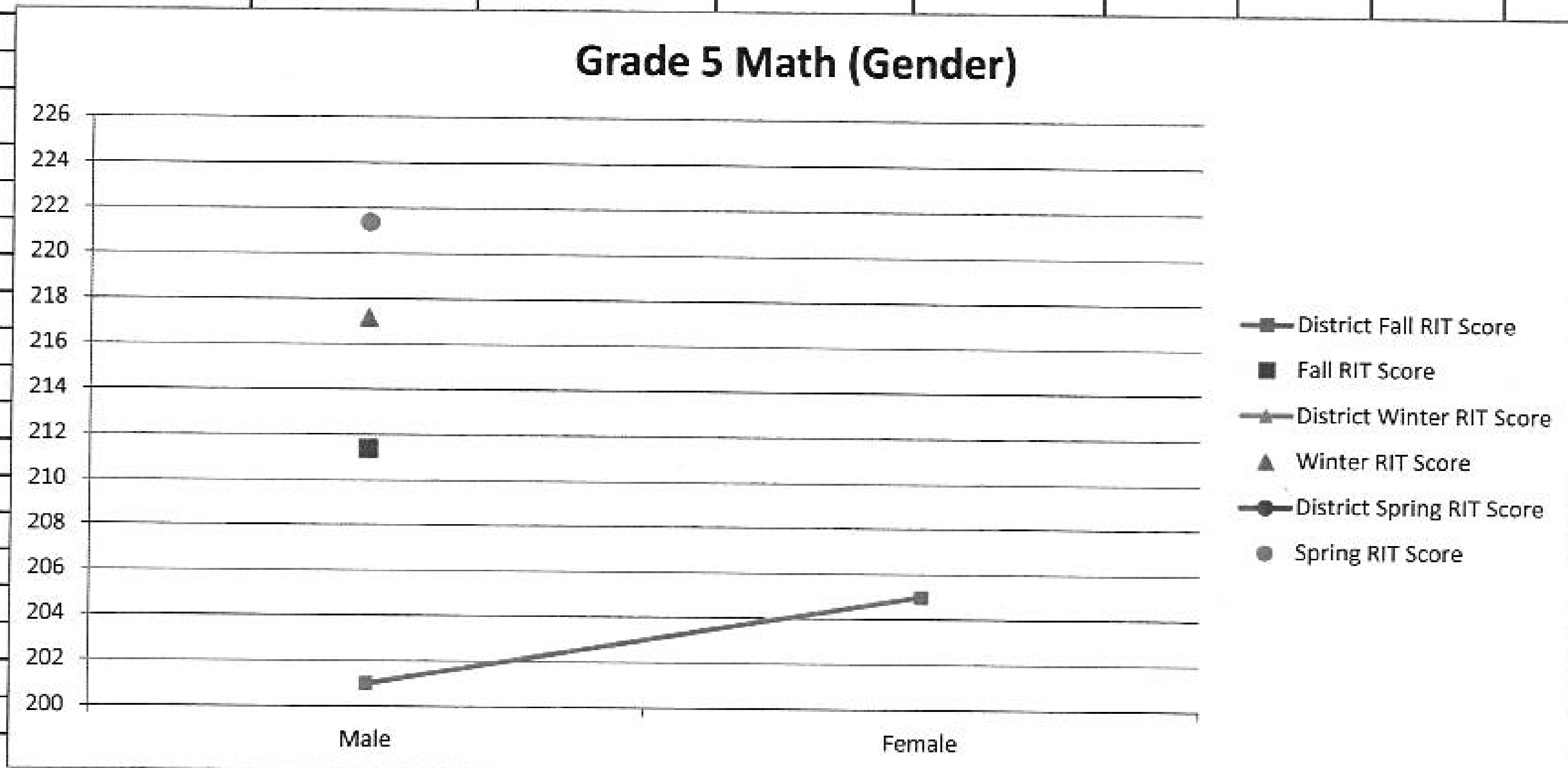
Gr 4						
Math RIT Value--	Fall--201.9	Winter--208.7	Spring--213.5			
Male	192.9					
Female	193.3					



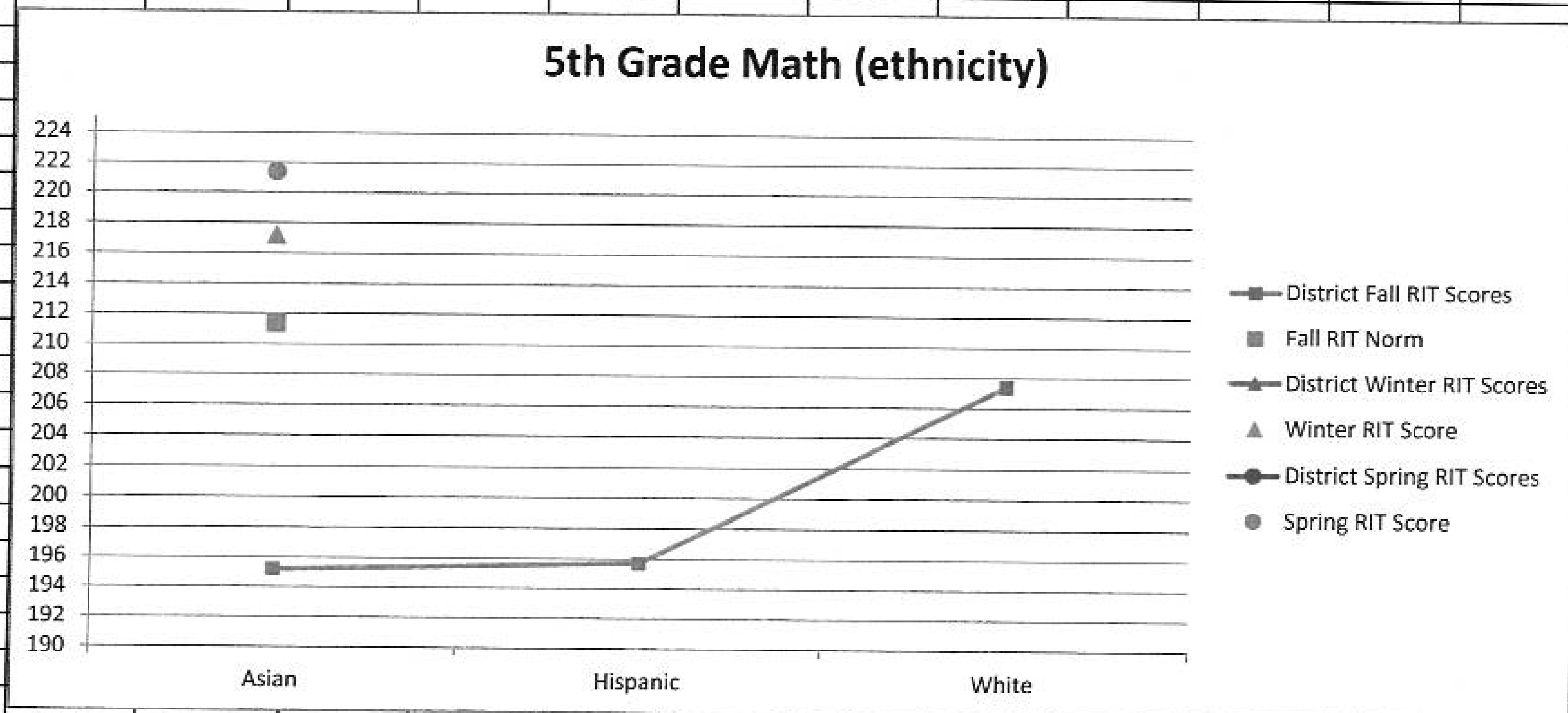
Gr 4th						
Math	RIT Value	Fall--201.9	Winter--208.7		Spring--213.5	
Ethnicity	Student Count Fall	Mean RIT fall	Student Count Winter	Mean RIT winter	Student Count Spring	Mean RIT spring
American	4	191.5				
Asian	47	187				
Black	4	198.8				
Hispanic	39	188.5				
Multi-ethr	3	186.3				
White	81	199				



Gr 5			
Math RIT Value--	Fall--211.4	Winter--217.2	Spring--221.4
Male	201		
Female	205		



Gr 5th							
Math	RIT Value	Fall--211.4		Winter--217.2		Spring--221.4	
Ethnicity	Student Count Fall	Mean RIT fall	Student Count Winter	Mean RIT winter	Student Count Spring	Mean RIT spring	
American I	3	213					
Asian	35	195.2					
Black	2	189					
Hispanic	27	195.7					
Multi-ethn	2	213.5					
Native Hav	1	190					
White	98	207.4					



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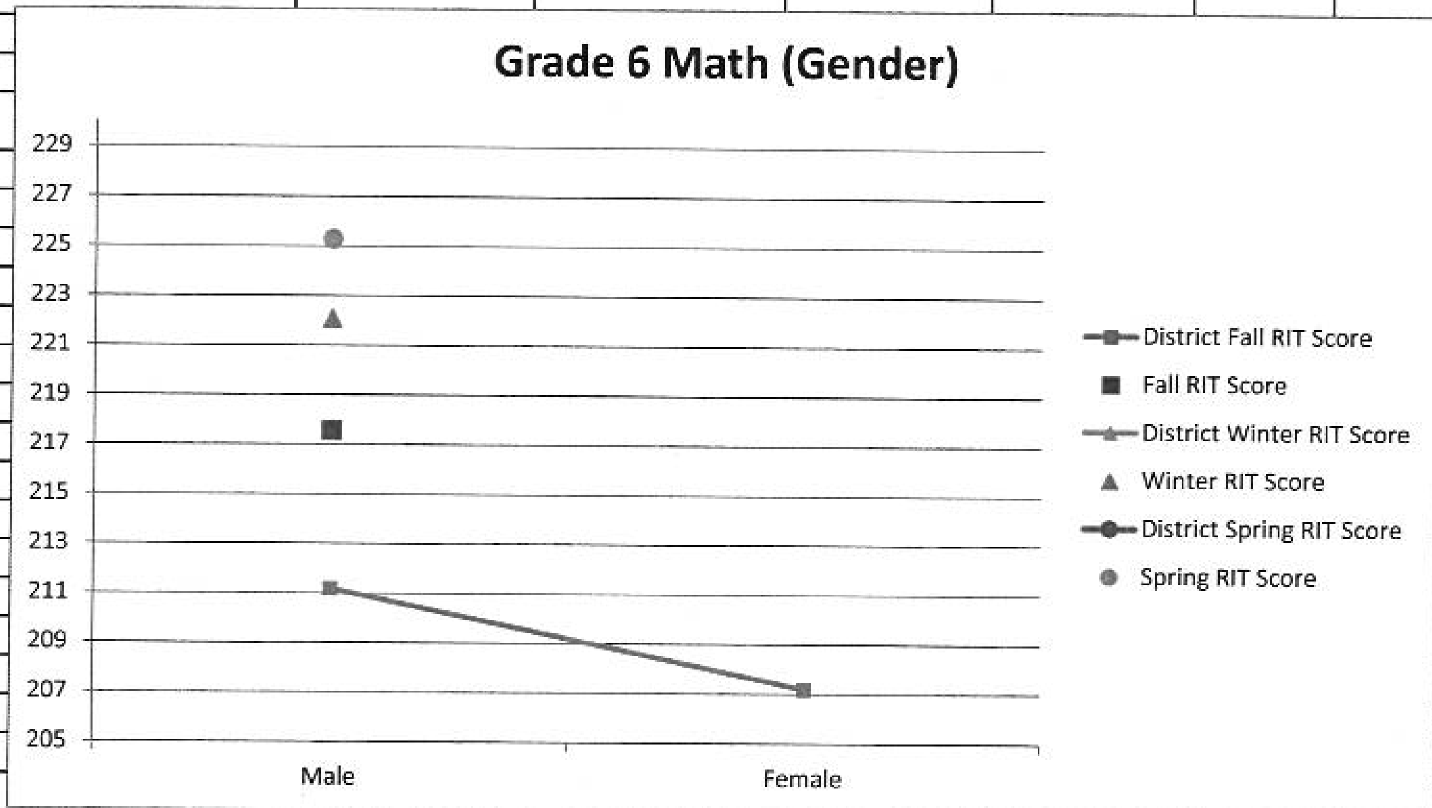
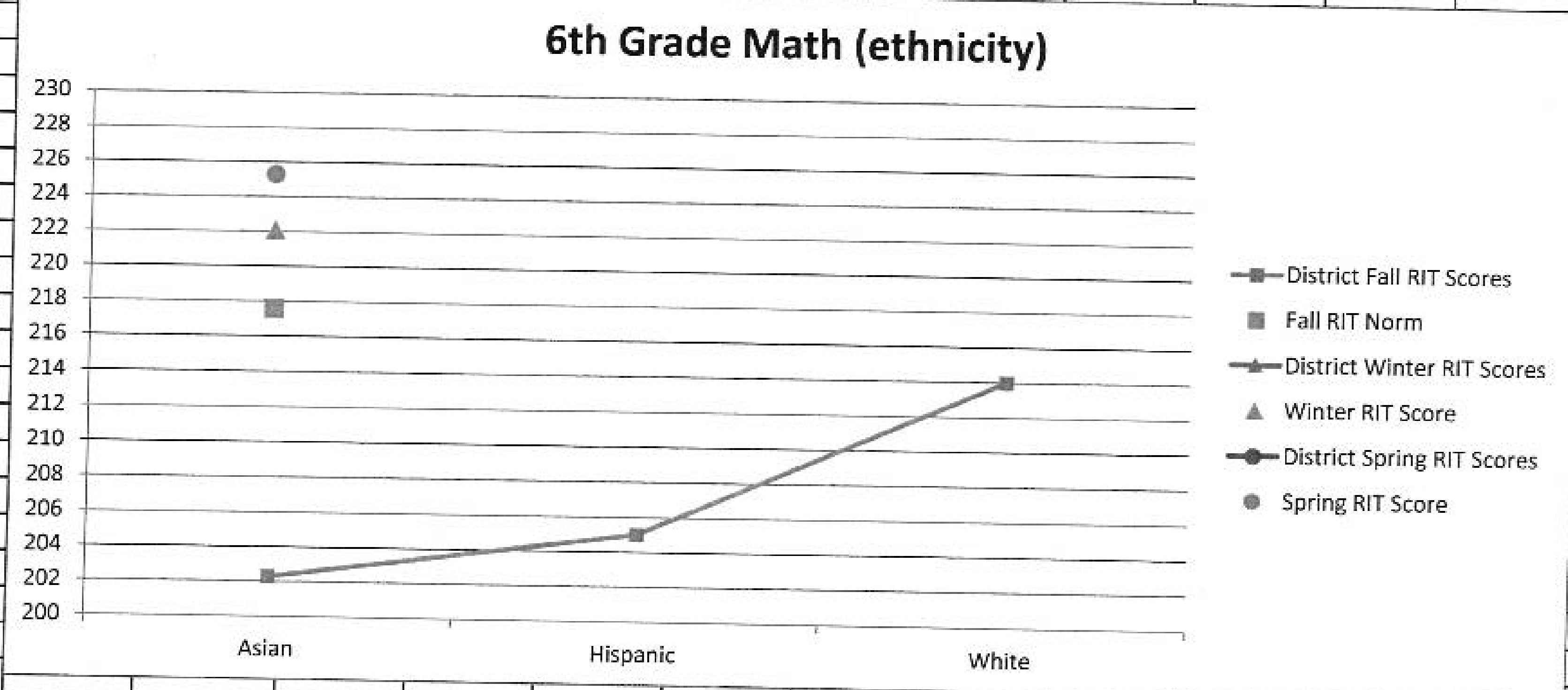
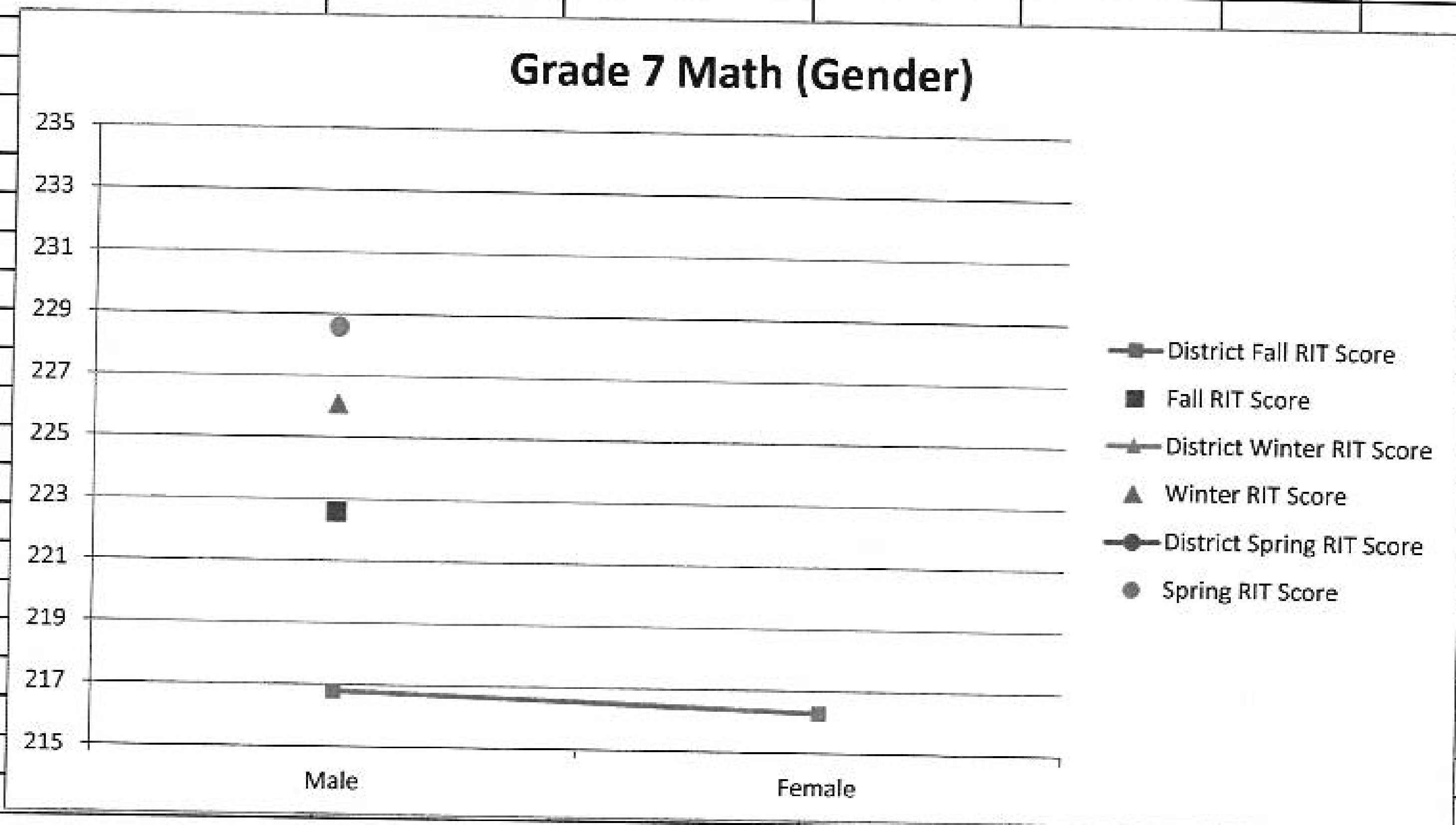
Gr 6						
Math RIT Value--	Fall--217.6	Winter--222.1	Spring--225.3			
Male	211.2					
Female	207.2					



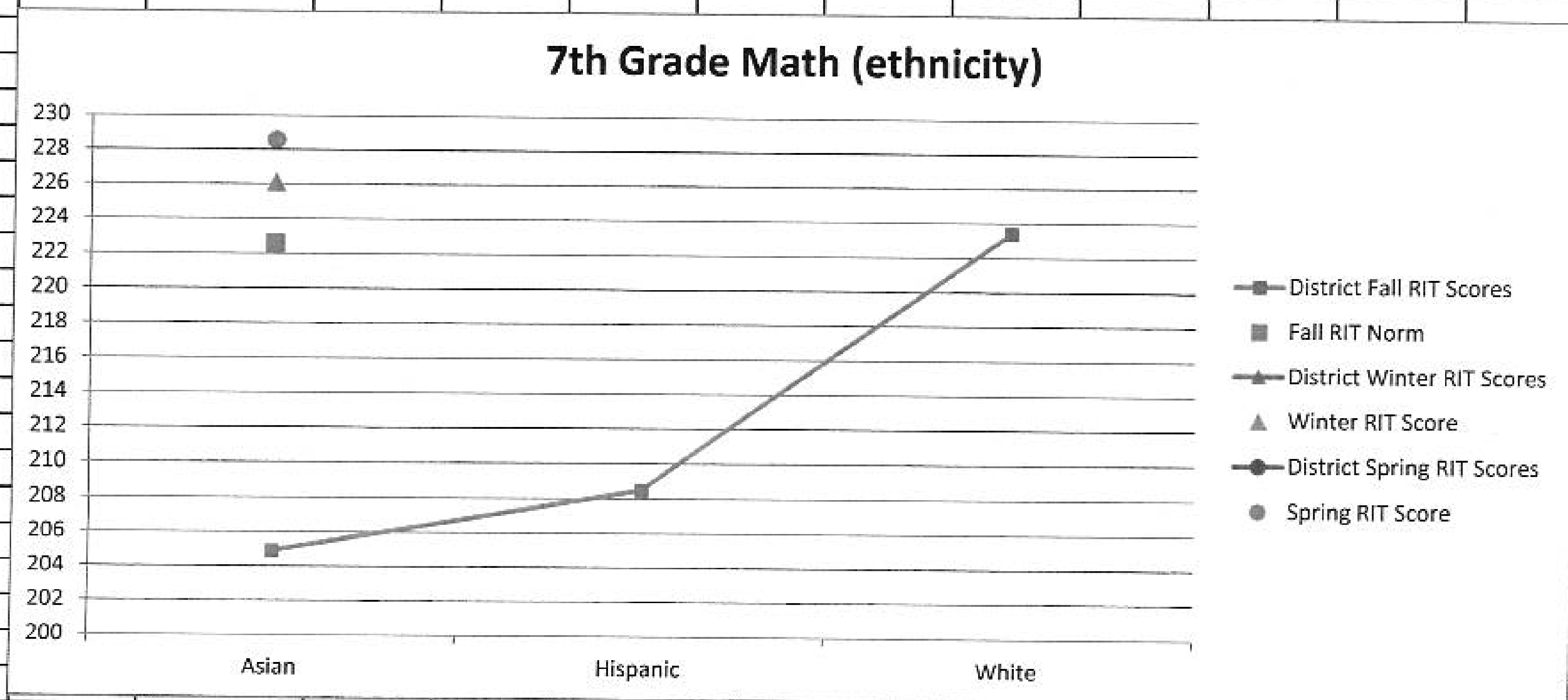
Gr 6th							
Math	RIT Value	Fall--217.6		Winter--222.1		Spring--225.3	
Ethnicity	Student Count Fall	Mean RIT fall	Student Count Winter	Mean RIT winter	Student Count Spring	Mean RIT spring	
American I	2	198					
Asian	31	202.3					
Black	3	207.3					
Hispanic	32	205					
Multi-ethn	NA	NA					
White	77	214					



Gr 7			
Math RIT Value--	Fall--222.6	Winter--226.1	Spring--228.6
Male	216.8		
Female	216.3		



Gr 7th						
Math	RIT Value	Fall--222.6		Winter--226.1		Spring--228.6
Ethnicity	Student Count Fall	Mean RIT fall	Student Count Winter	Mean RIT winter	Student Count Spring	Mean RIT spring
American I	4	215.8				
Asian	39	204.9				
Black	3	236				
Hispanic	33	208.5				
Multi-ethn	1	207				
White	99	223.4				



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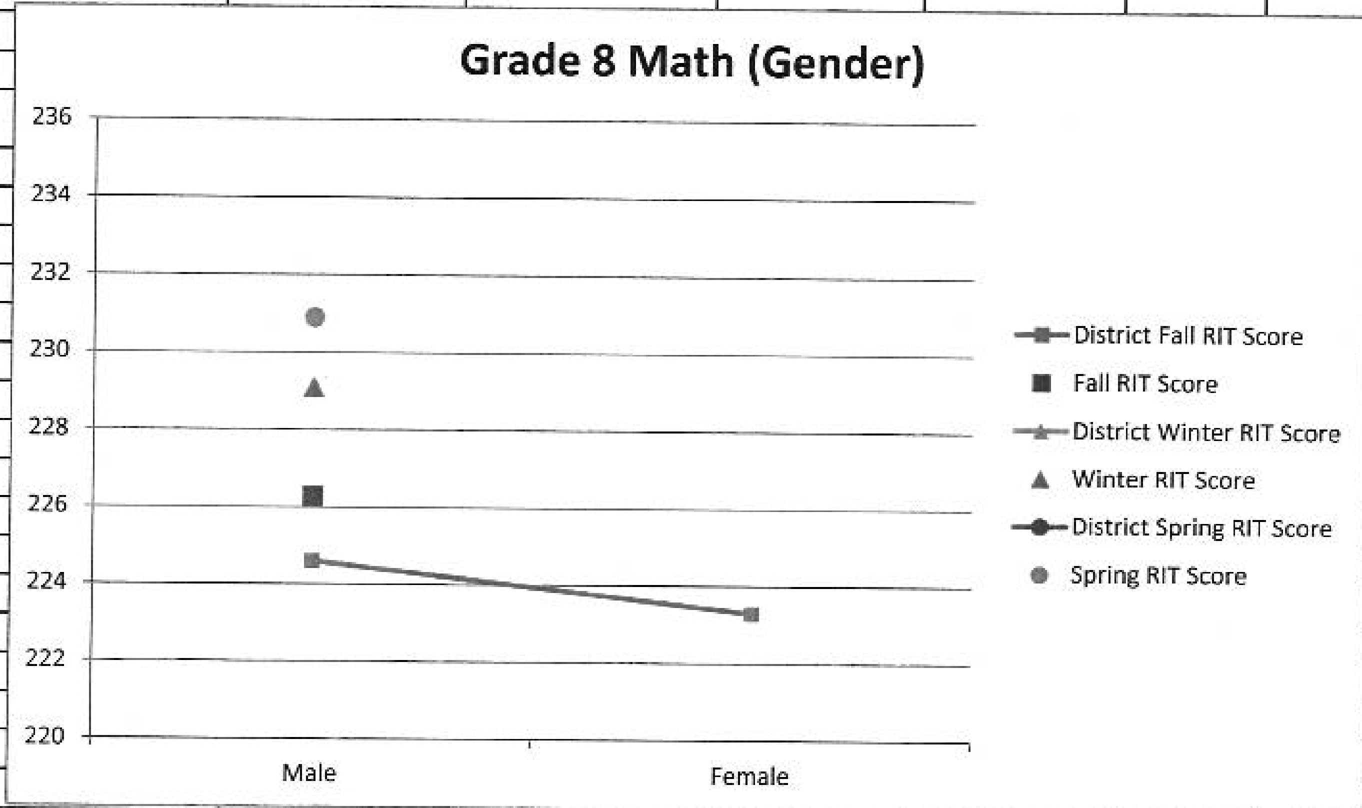
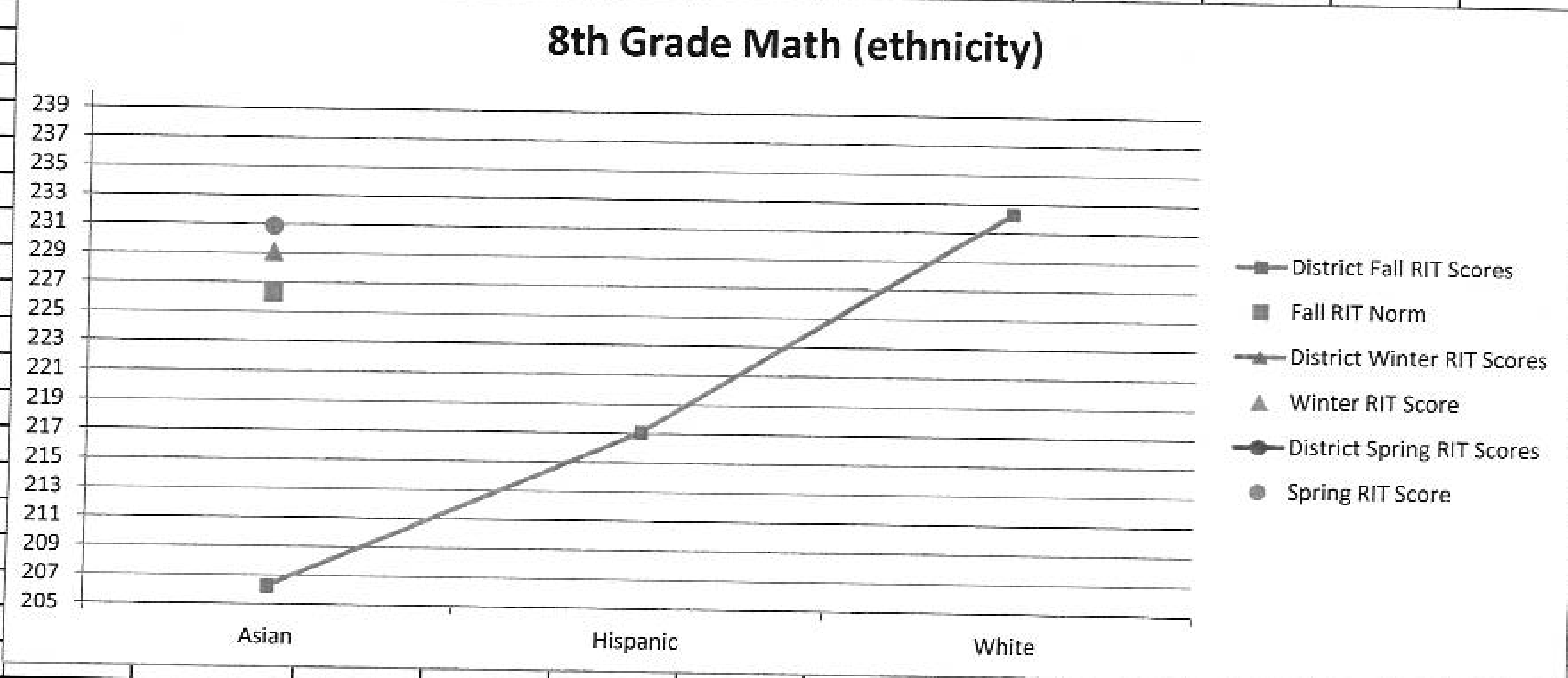
Gr 8			
Math RIT Value--	Fall--226.3	Winter--229.1	Spring--230.9
Male	224.6		
Female	223.3		



Gr 8th							
Math	RIT Value	Fall--226.3		Winter--229.1		Spring--230.9	
Ethnicity	Student Count Fall	Mean RIT fall	Student Count Winter	Mean RIT winter	Student Count Spring	Mean RIT spring	
American I	4	229.3					
Asian	47	206.3					
Black	5	225					
Hispanic	21	217.1					
Multi-ethn	NA	NA					
White	115	232.3					



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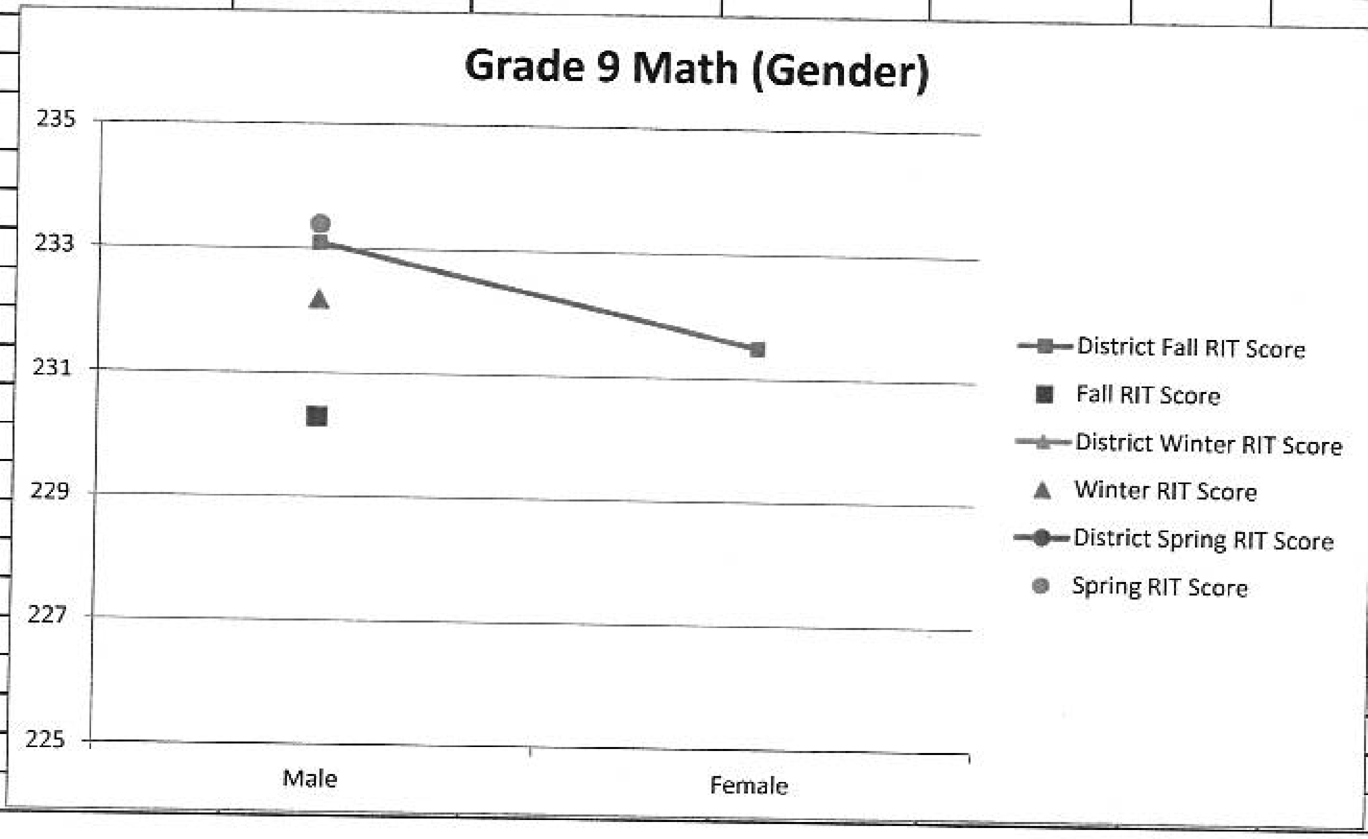
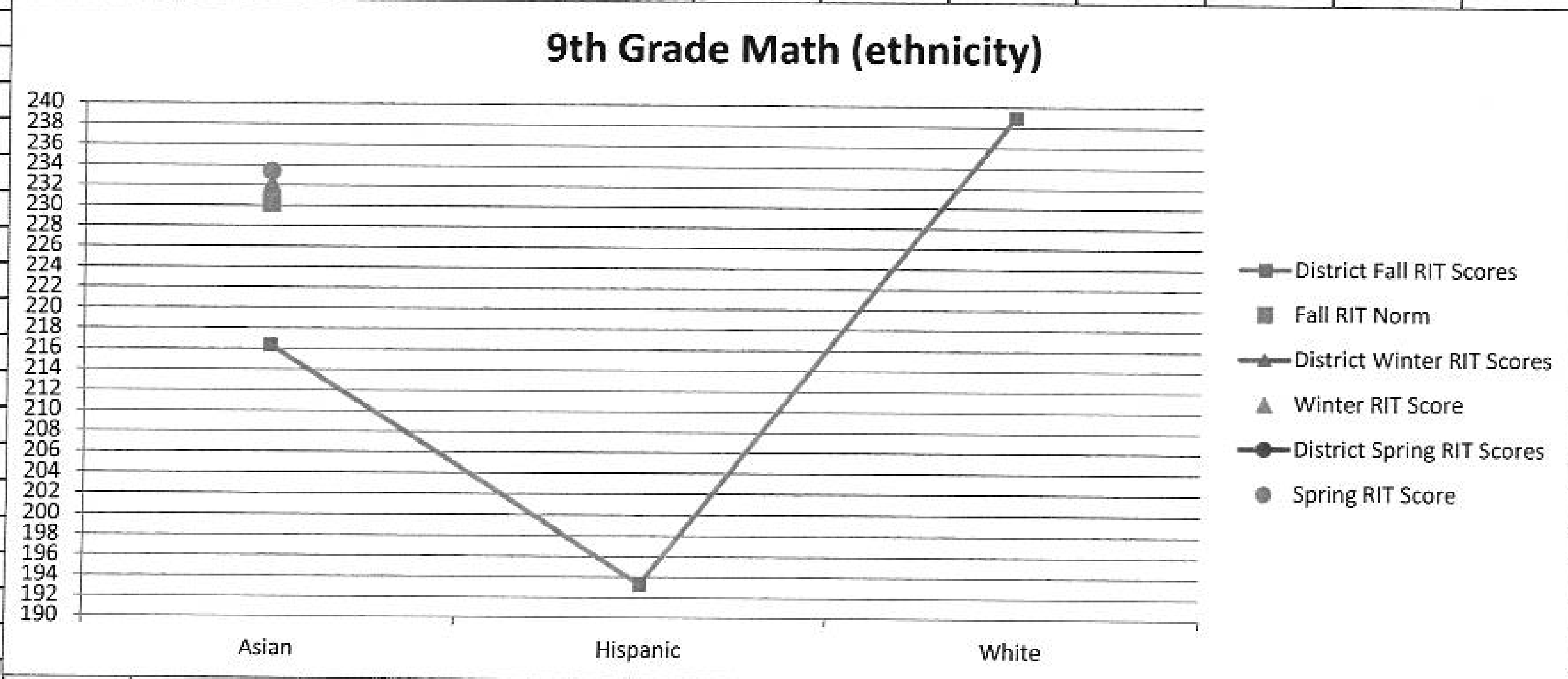
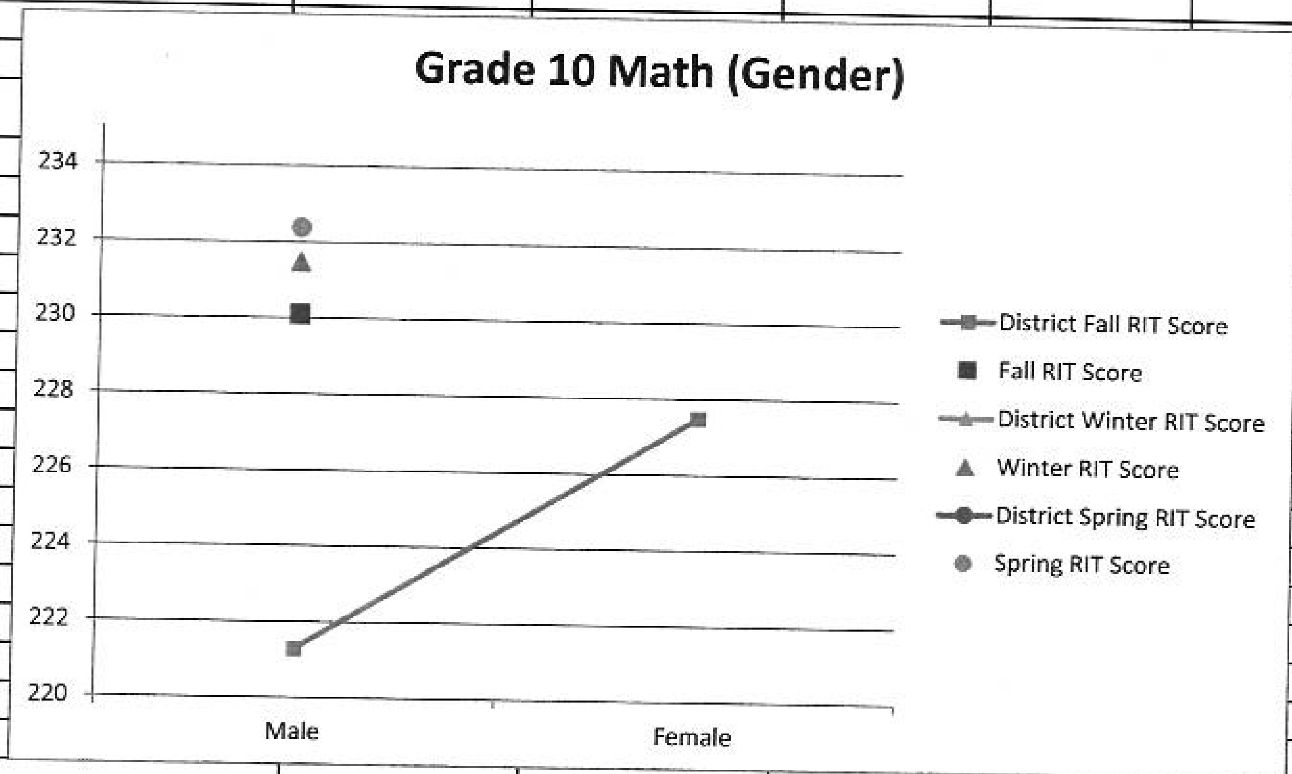
Gr 9			
Math RIT Value--	Fall--230.3	Winter--232.2	Spring--233.4
Male	233.1		
Female	231.5		



Gr 9th							
Math	RIT Value	Fall--230.3		Winter--232.2		Spring--233.4	
Ethnicity	Student Count Fall	Mean RIT fall	Student Count Winter	Mean RIT winter	Student Count Spring	Mean RIT spring	
American I	1	240					
Asian	34	216.4					
Black	3	232					
Hispanic	17	193.3					
Multi-ethn	NA	NA					
White	108	239					

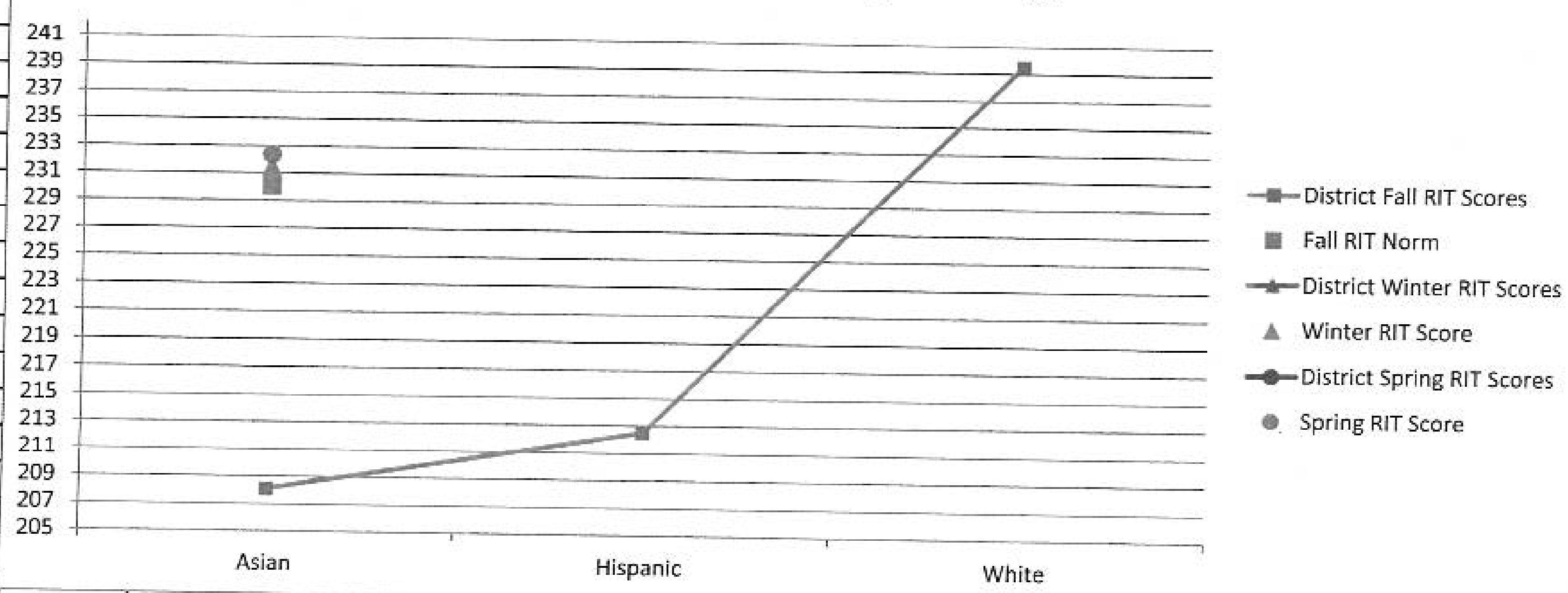


Gr 10			
Math RIT Value--	Fall--230.1	Winter--231.5	Spring--232.4
Male	221.3		
Female	227.5		

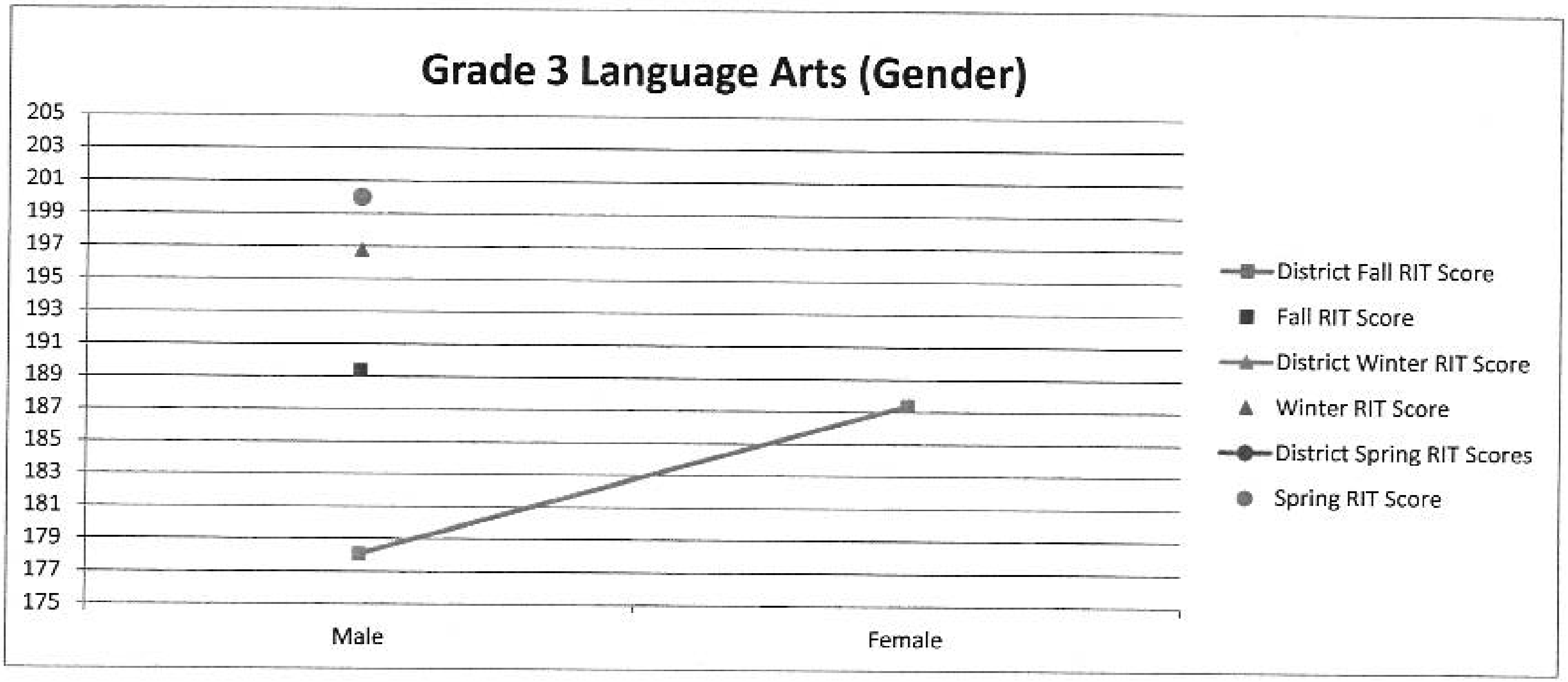


Gr 10th							
Math	RIT Value	Fall--230.1		Winter--231.5		Spring--232.4	
Ethnicity	Student Count Fall	Mean RIT fall	Student Count Winter	Mean RIT winter	Student Count Spring	Mean RIT spring	
American I	3	211.7					
Asian	51	208.1					
Black	3	211.3					
Hispanic	42	212.5					
Multi-ethn	NA	NA					
White	89	239.5					

10th Grade Math (ethnicity)

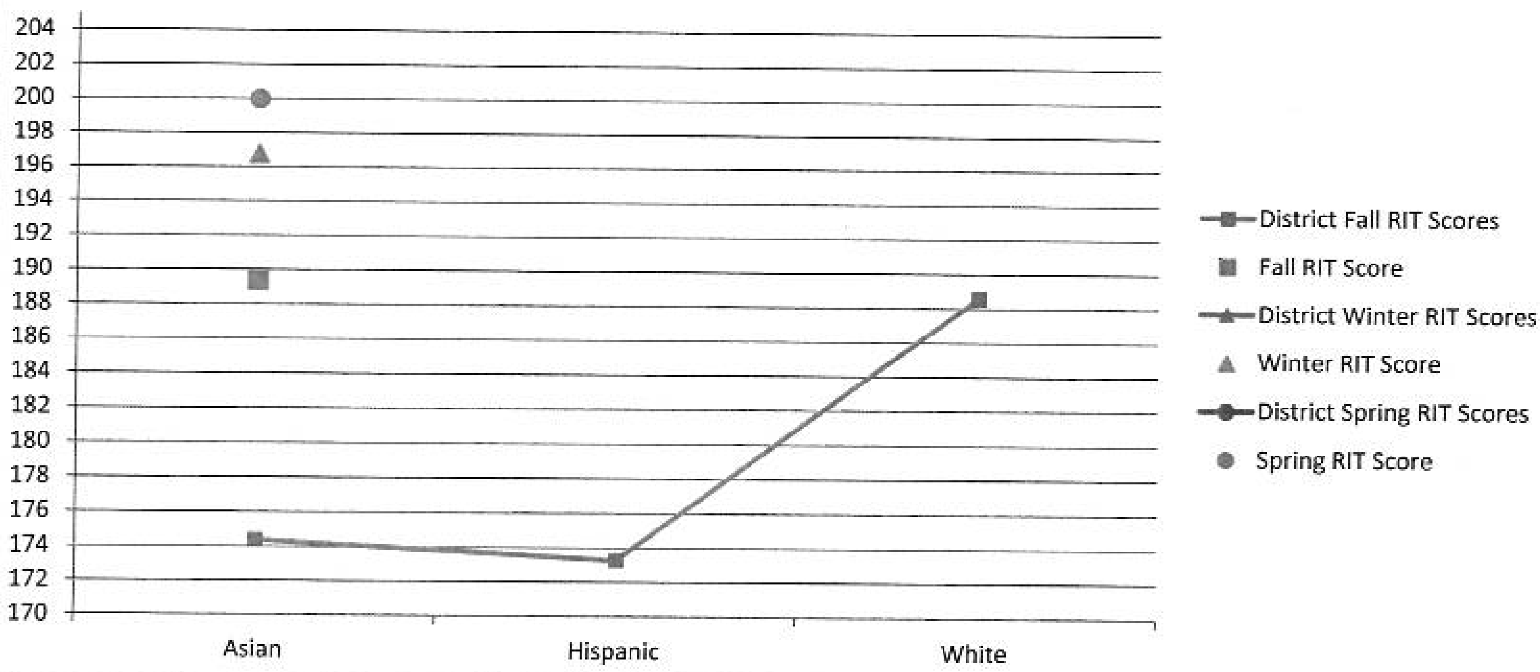


Language Arts				
Gr 3				
Gender	Mean RIT Fall--189.4	Mean RIT Winter--196.8	Mean RIT Spring--200	
Male	178.1			
Female	187.4			

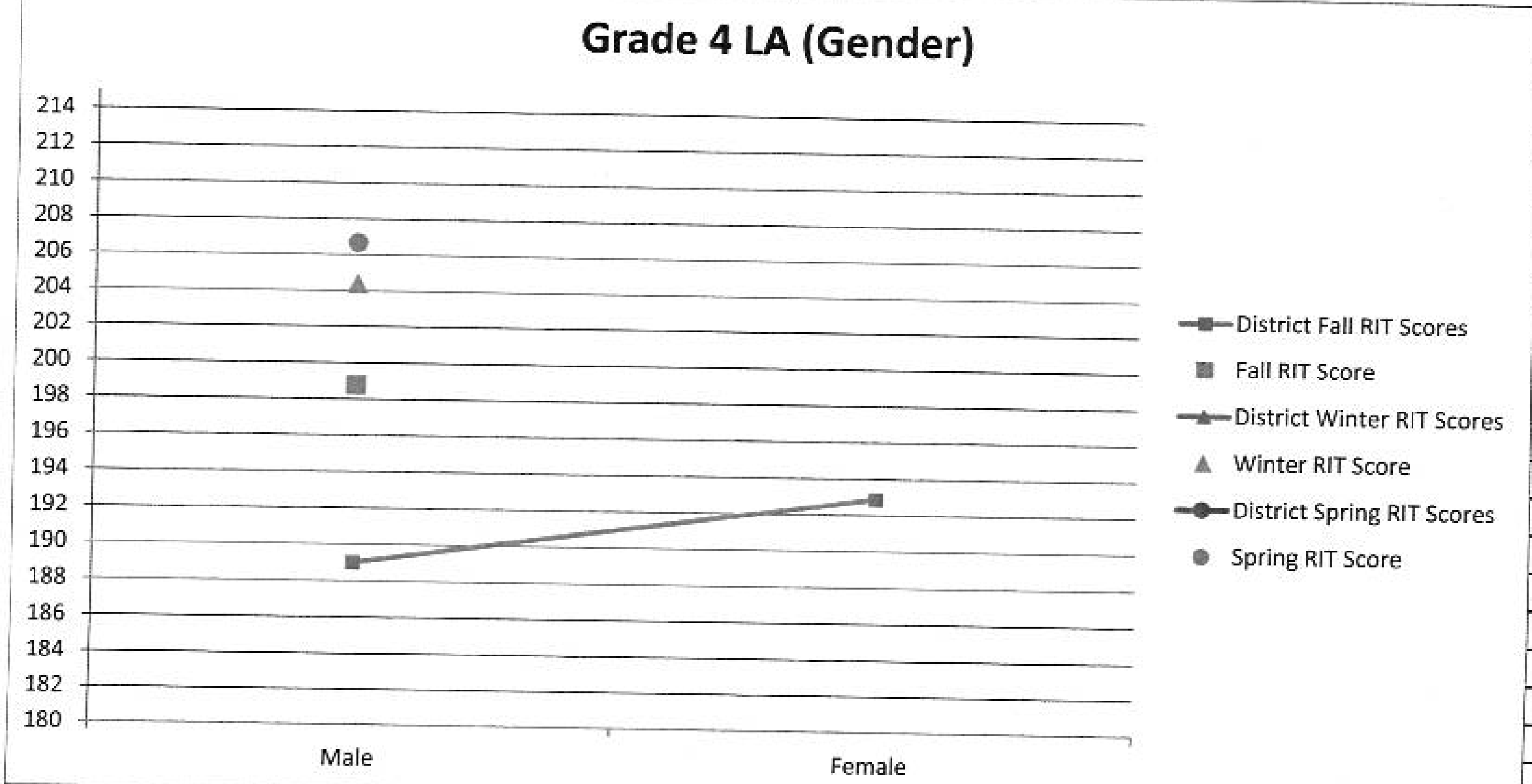


Language Arts				
Gr 3				
Ethnicity	Student Count	Mean RIT Fall--189.4	Mean RIT Winter--196.8	Mean RIT Spring--200
American Indian	6	175.3		
Asian	34	174.7		
Black	3	193.3		
Hispanic	35	175.5		
Multi-ethnic	3	191		
White	82	188.3		

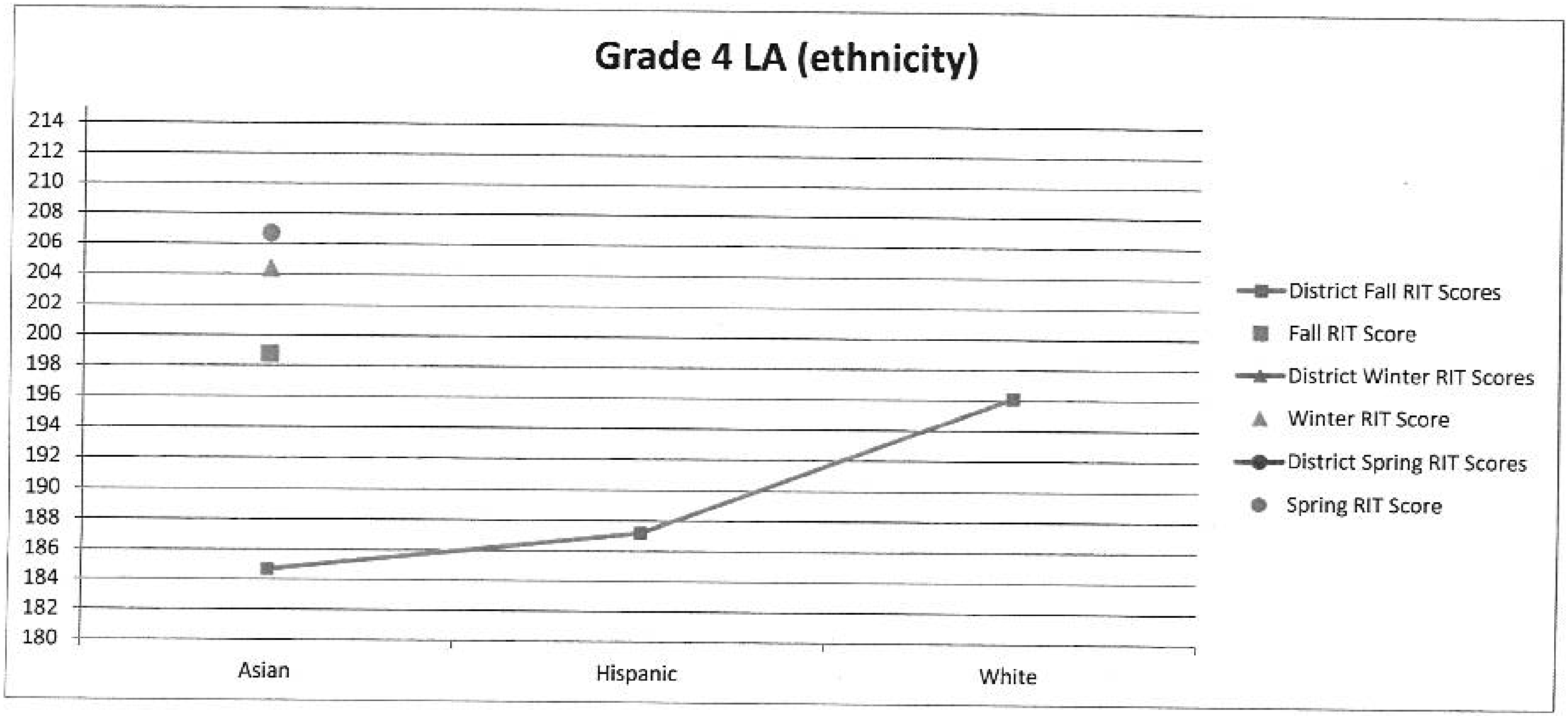
Grade 3 LA (ethnicity)



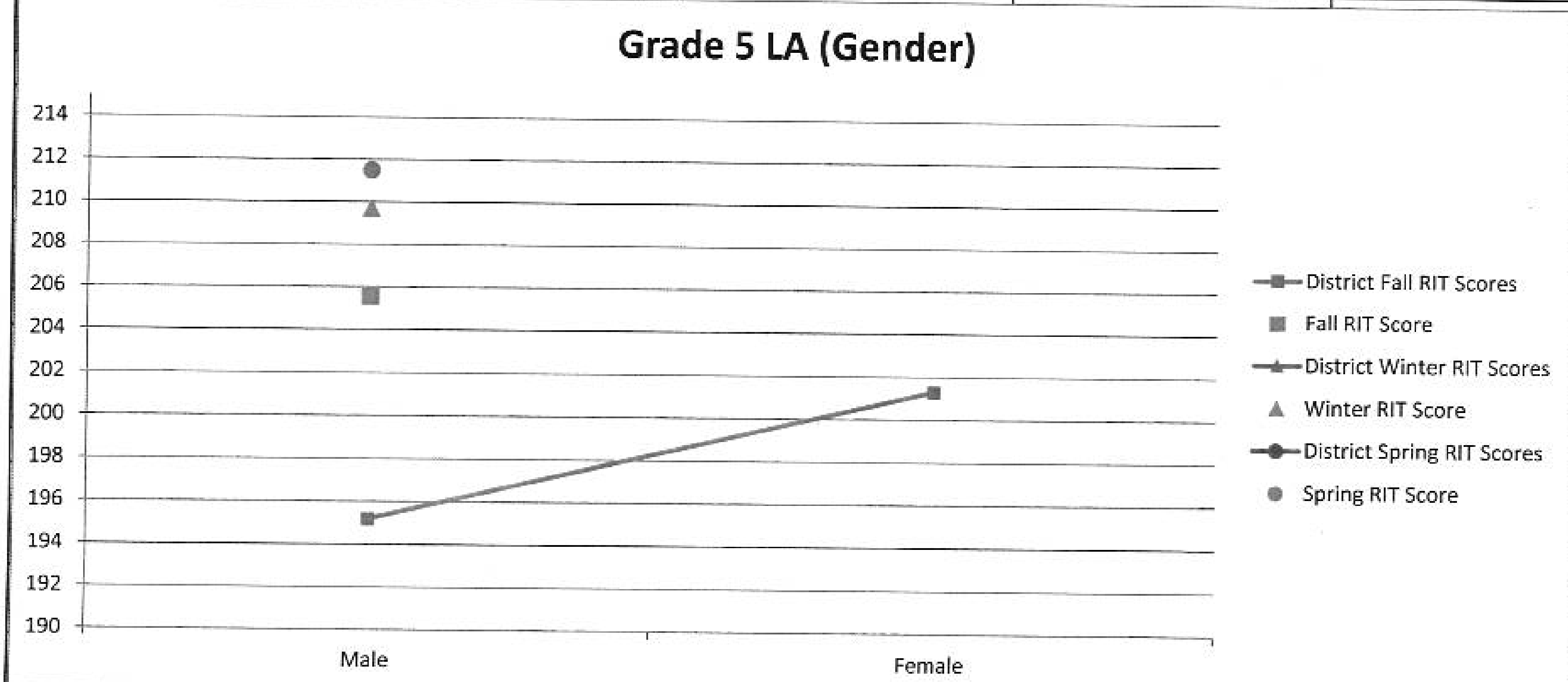
Language Arts			
Gr 4			
Gender	Mean RIT Fall--198.8	Mean RIT Winter--204.4	Mean RIT Spring--206.7
Male	189		
Female	192.9		



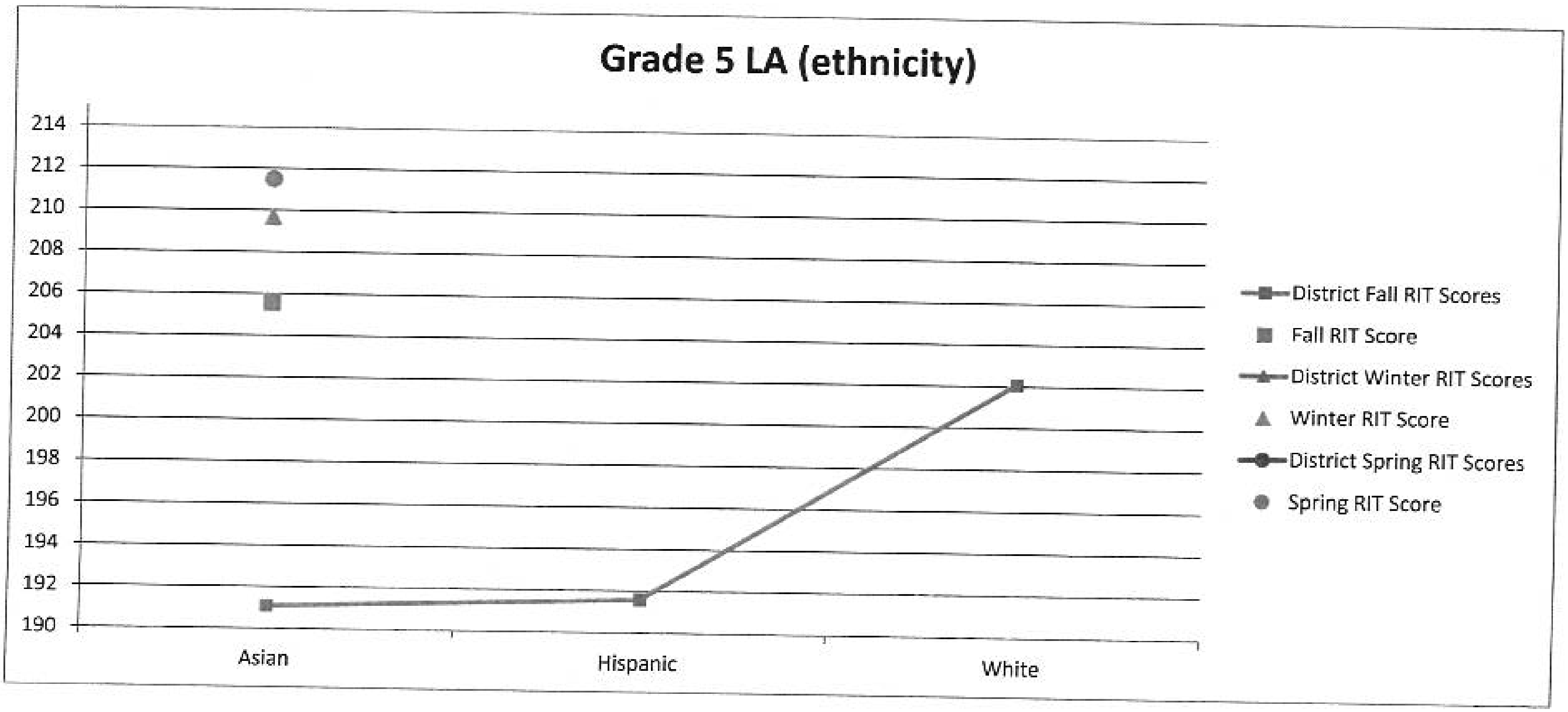
Language Arts					
Gr 4					
Ethnicity	Student Count	Mean RIT Fall--198.8	Mean RIT Winter--204.4	Mean RIT Spring--206.7	
American Indian	4	182.8			
Asian	47	184.7			
Black	4	201.8			
Hispanic	39	187.2			
Multi-ethnic	3	197.3			
White	81	196.1			



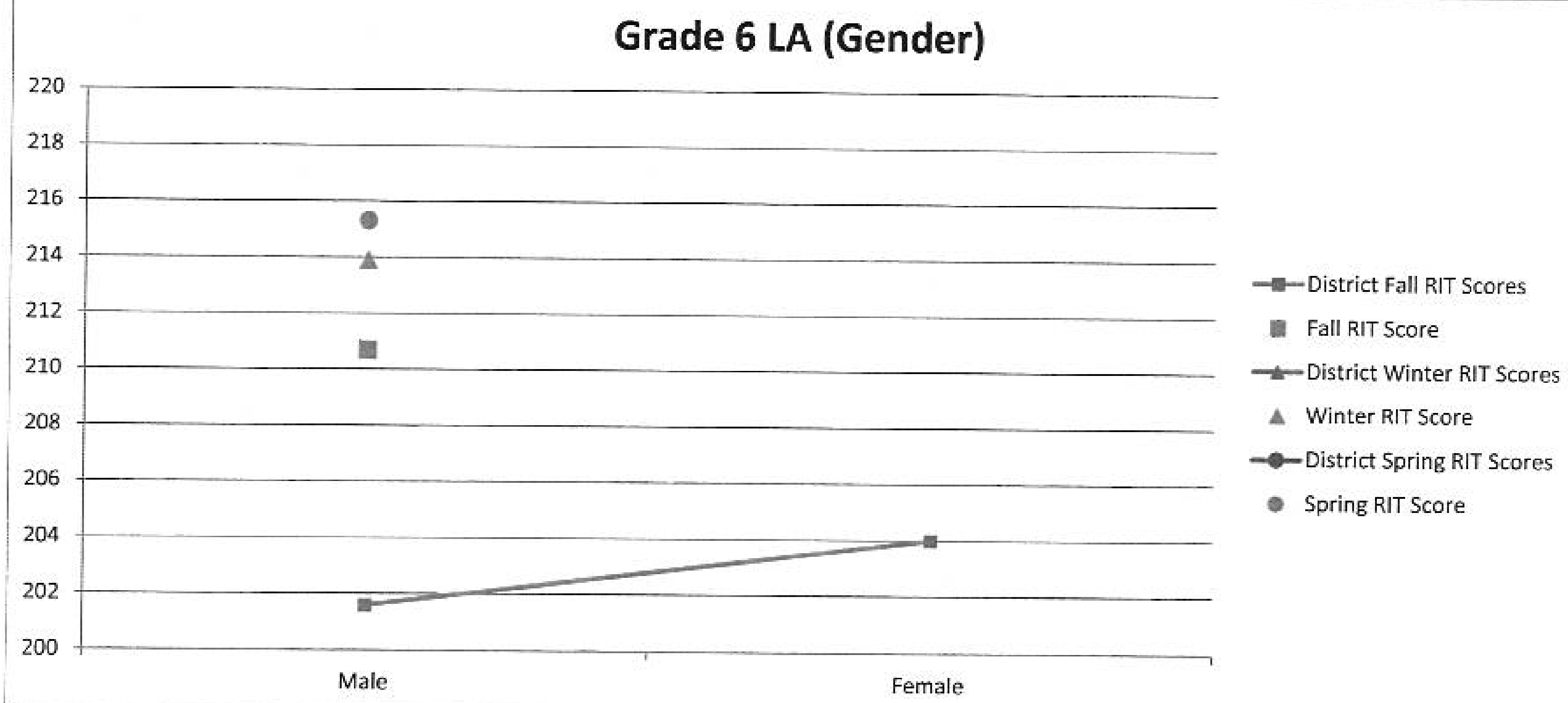
Language Arts				
Gr 5				
Gender	**Mean RIT Fall--205.6**	**Mean RIT Winter--209.7**	**Mean RIT Spring--211.5**	
Male	195.2			
Female	201.3			



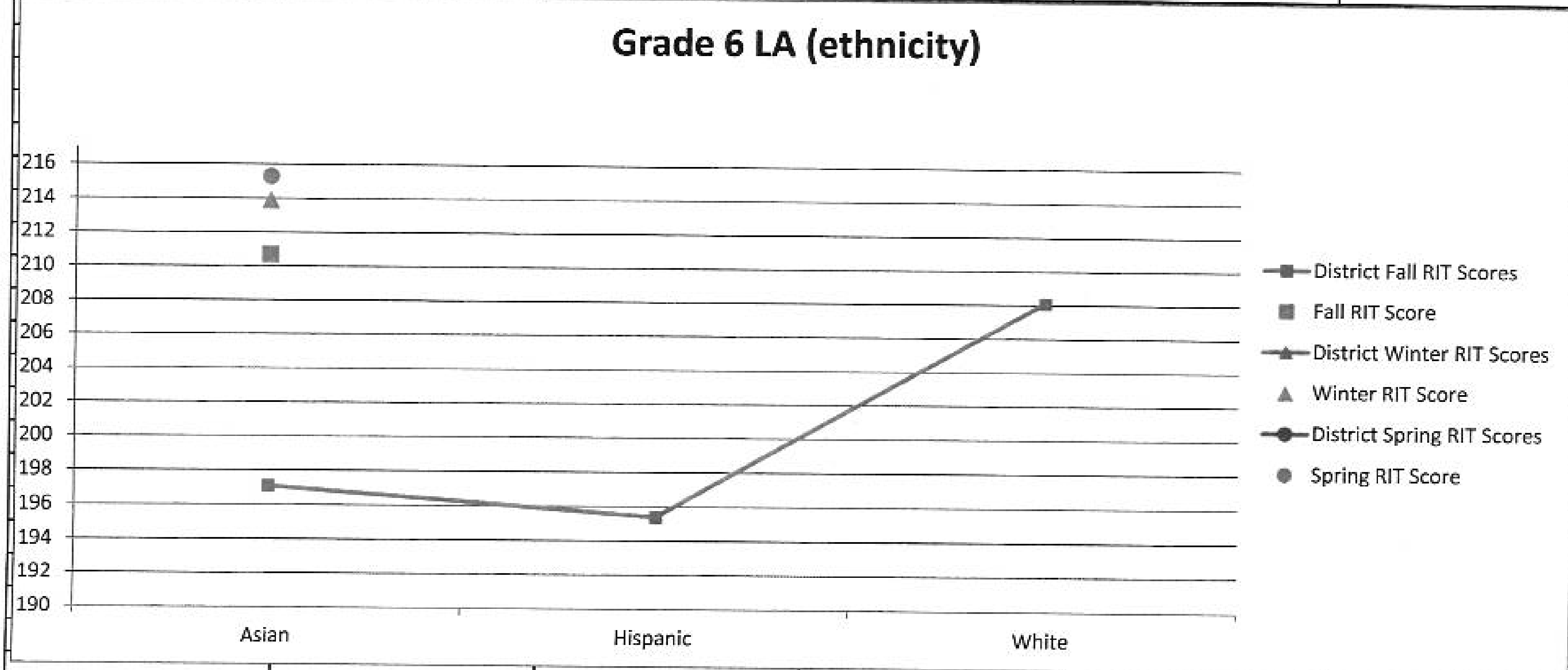
Language Arts					
Gr 5					
Ethnicity	Student Count	Mean RIT Fall--205.6	Mean RIT Winter--209.7	Mean RIT Spring--211.5	
American Indian	3	206			
Asian	35	191.1			
Black	2	194			
Hispanic	27	191.6			
Multi-ethnic	2	206.5			
Native Hawaiian	1	192			
White	98	202.1			



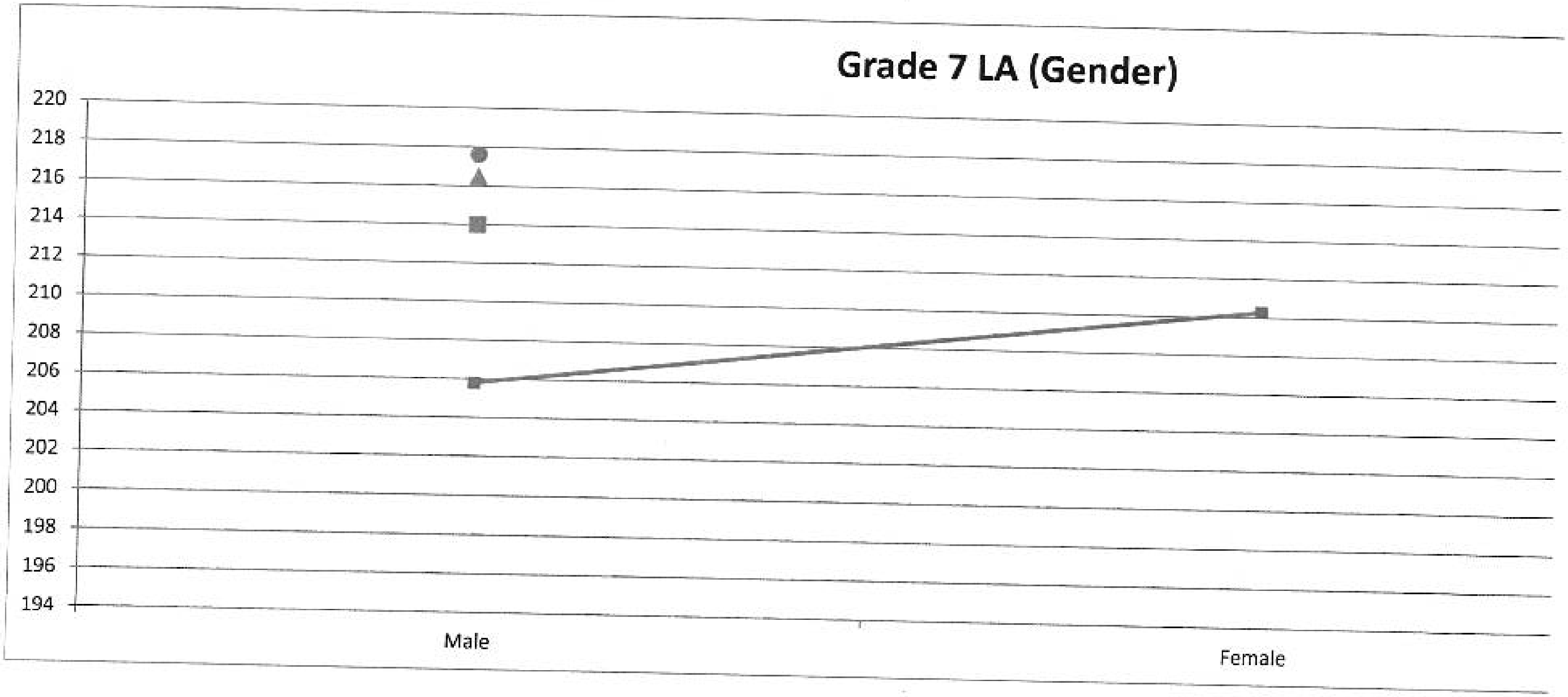
Language Arts				
Gr 6				
Gender	**Mean RIT Fall--210.7**	**Mean RIT Winter--213.9**	**Mean RIT Spring--215.3**	
Male	201.6			
Female	204			



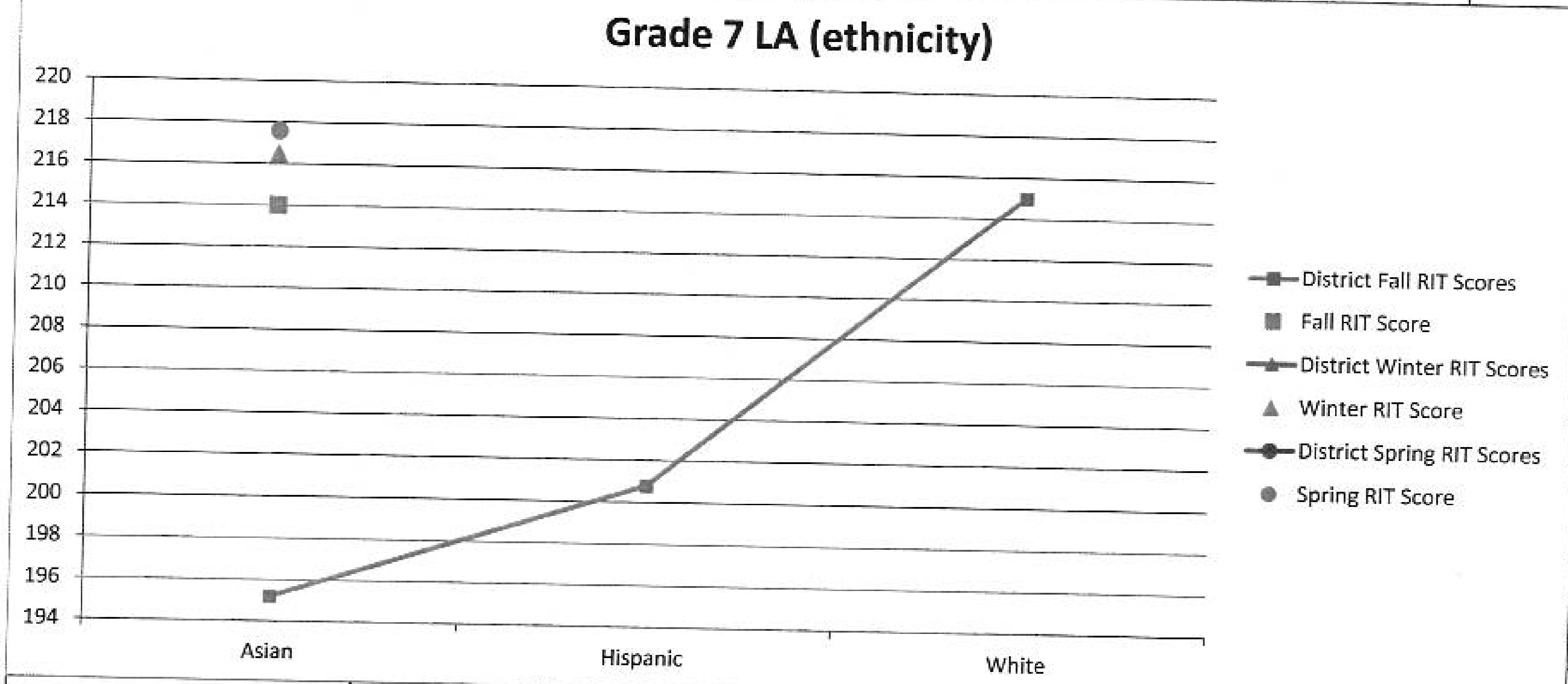
Language Arts					
Gr 6					
Ethnicity	Student Count	Mean RIT Fall--210.7	Mean RIT Winter--213.9	Mean RIT Spring--215.3	
American Indian	2	200			
Asian	31	197.1			
Black	3	208			
Hispanic	31	195.4			
Multi-ethnic	NA	NA			
White	77	208.1			



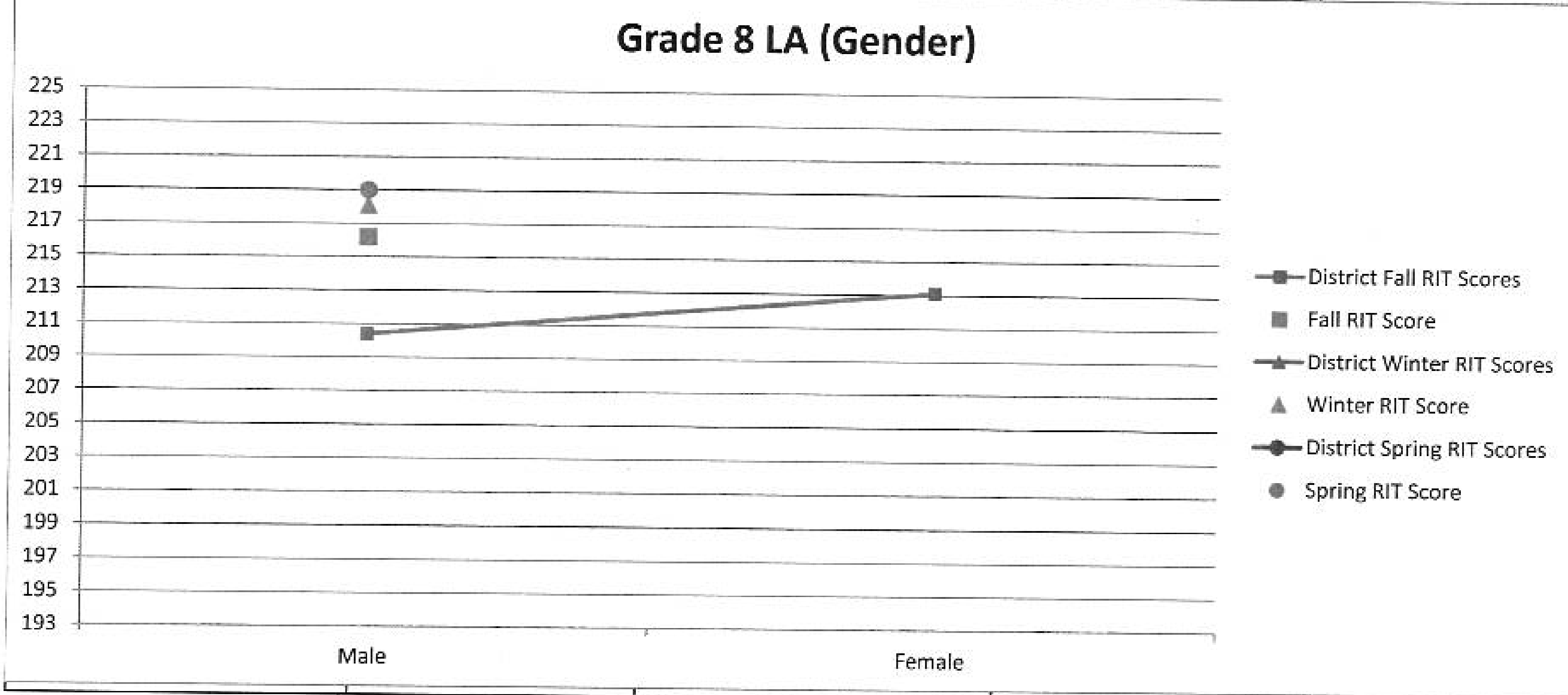
Language Arts					
Gr 7					
Gender	**Mean RIT Fall--214**	**Mean RIT Winter--216.5**	**Mean RIT Spring--217.6**		
Male	205.8				
Female	210.3				



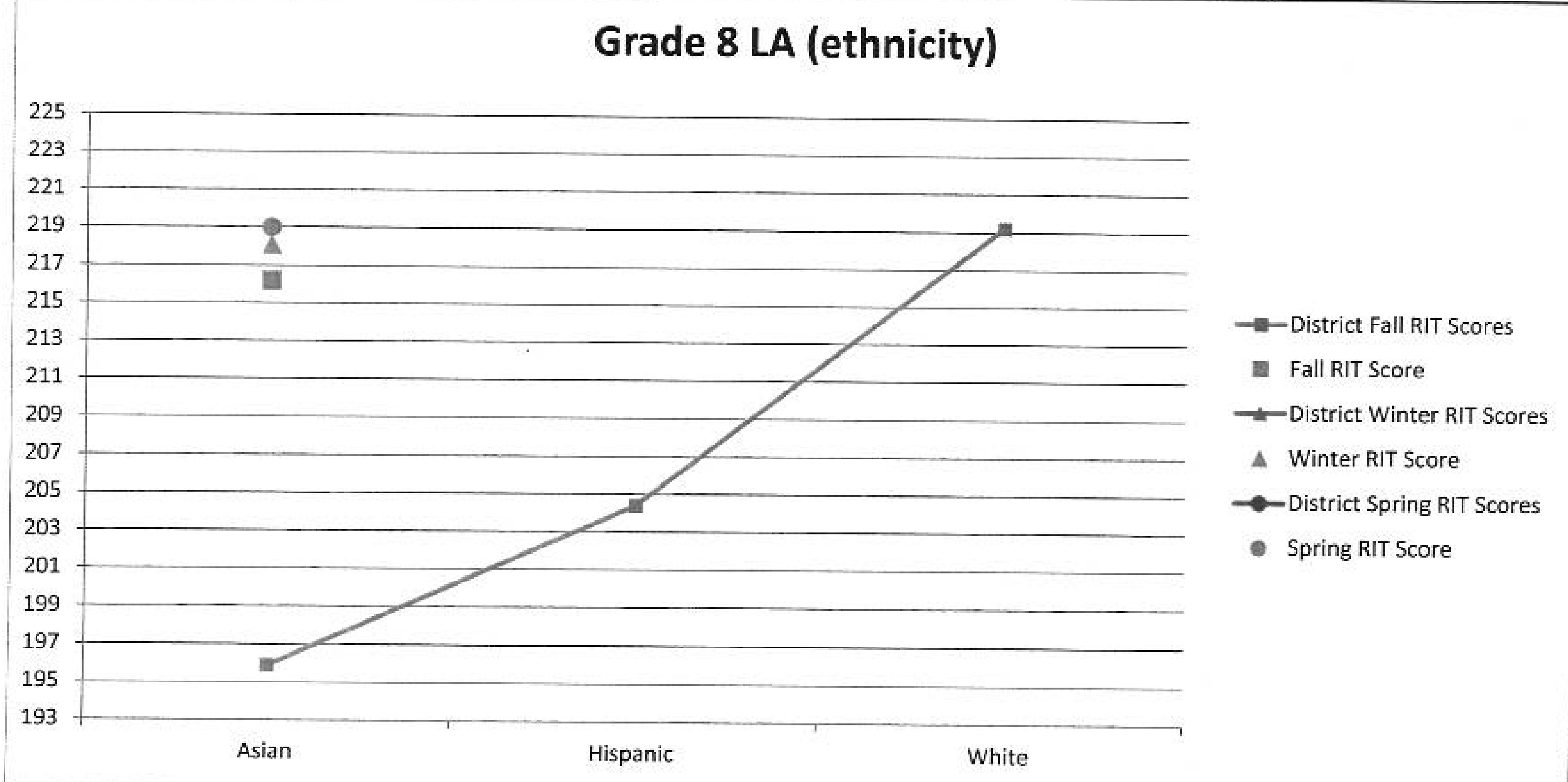
Language Arts					
Gr 7					
Ethnicity	Student Count	Mean RIT Fall--214	Mean RIT Winter--216.5	Mean RIT Spring--217.6	
American Indian	4	207.8			
Asian	39	195.2			
Black	3	225.3			
Hispanic	33	200.8			
Multi-ethnic	1	210			
White	99	215			



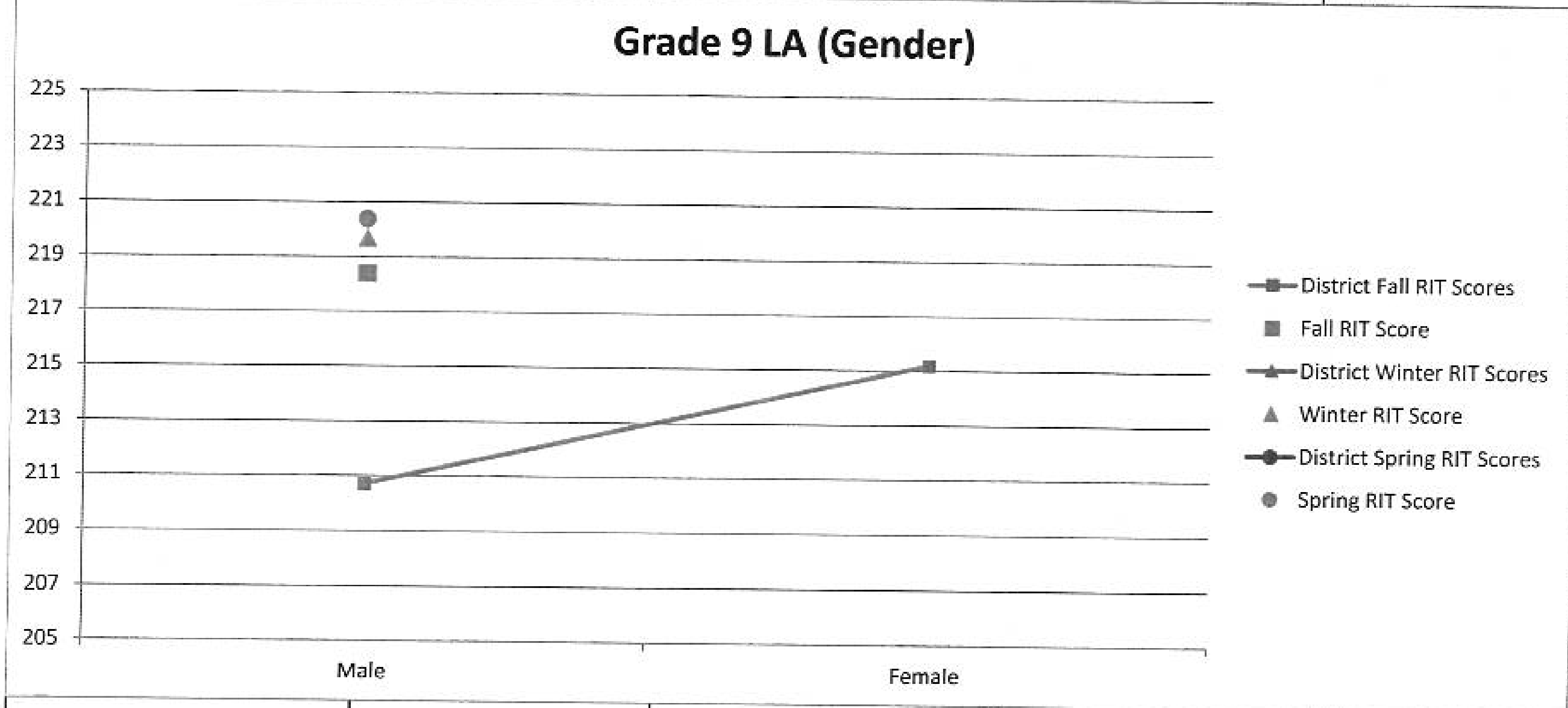
Language Arts				
Gr 8				
Gender	Mean RIT Fall--216.2	Mean RIT Winter--218.1	Mean RIT Spring--219	
Male	210.4			
Female	213.1			



Language Arts				
Gr 8				
Ethnicity	**Student Count**	**Mean RIT Fall--216.2**	**Mean RIT Winter--218.1**	**Mean RIT Spring--219**
American Indian	4	214.8		
Asian	48	195.9		
Black	5	219.4		
Hispanic	22	204.4		
Multi-ethnic	NA	NA		
White	114	219.2		

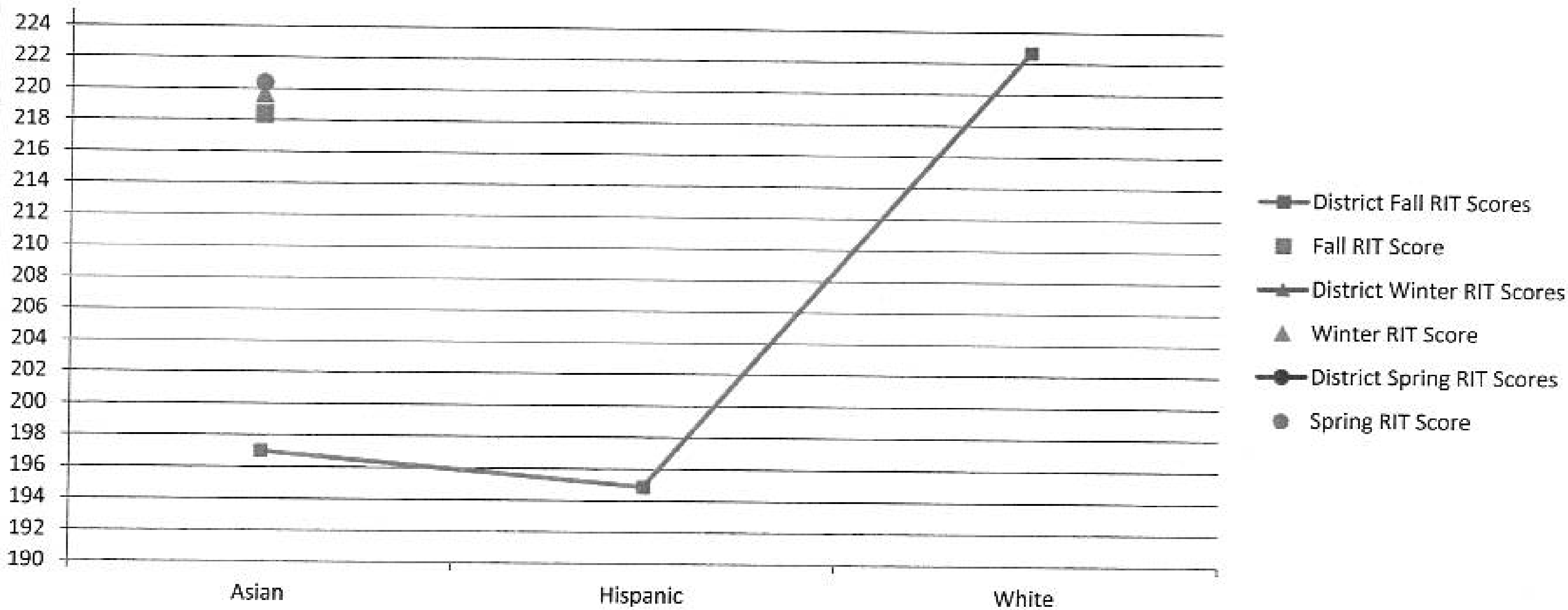


Language Arts				
Gr 9				
Gender	**Mean RIT Fall--218.4**	**Mean RIT Winter--219.7**	**Mean RIT Spring--220.4**	
Male	210.7			
Female	215.2			

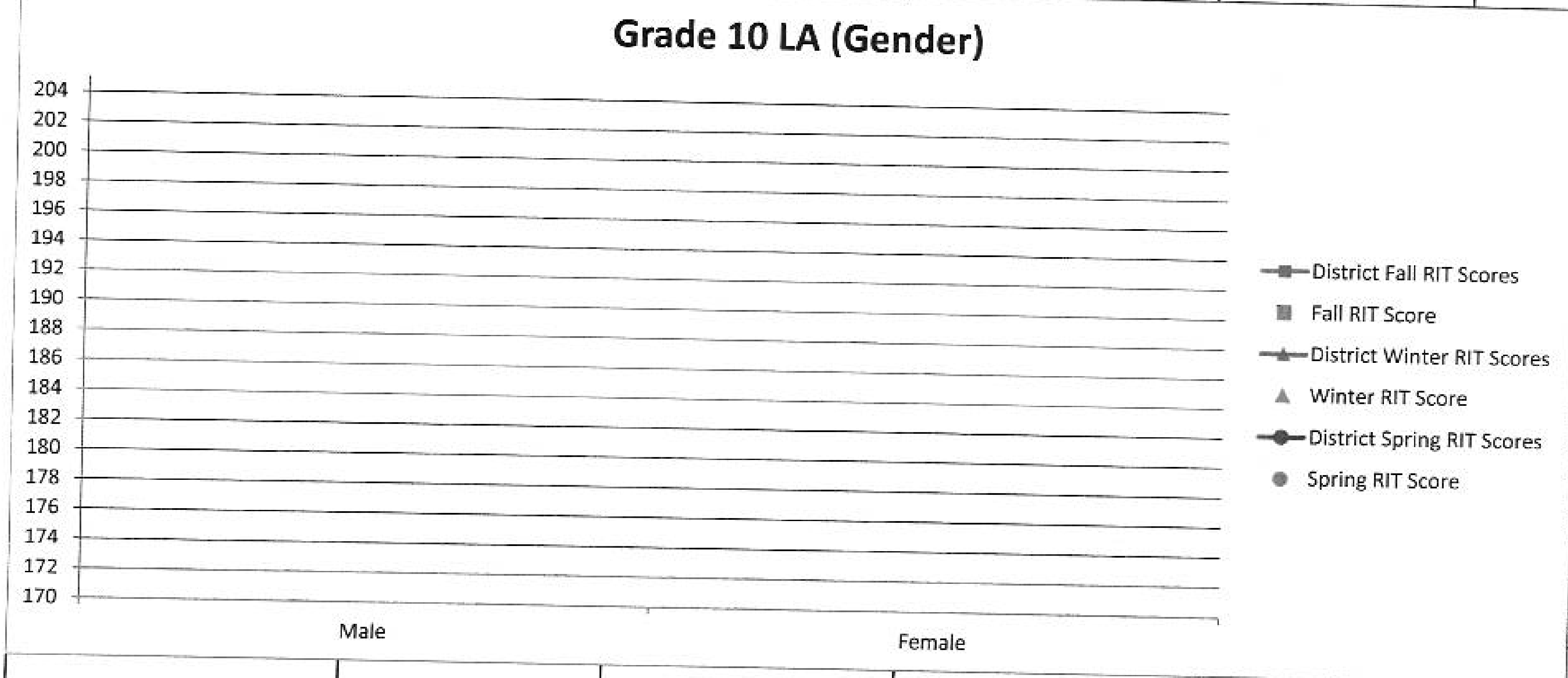


Language Arts					
Gr 9					
Ethnicity	Student Count	Mean RIT Fall--218.4	Mean RIT Winter--219.7	Mean RIT Spring--220.4	
American Indian	1	215			
Asian	38	197			
Black	2	221			
Hispanic	27	194.9			
Multi-ethnic	NA	NA			
White	108	222.7			

Grade 9 LA (ethnicity)

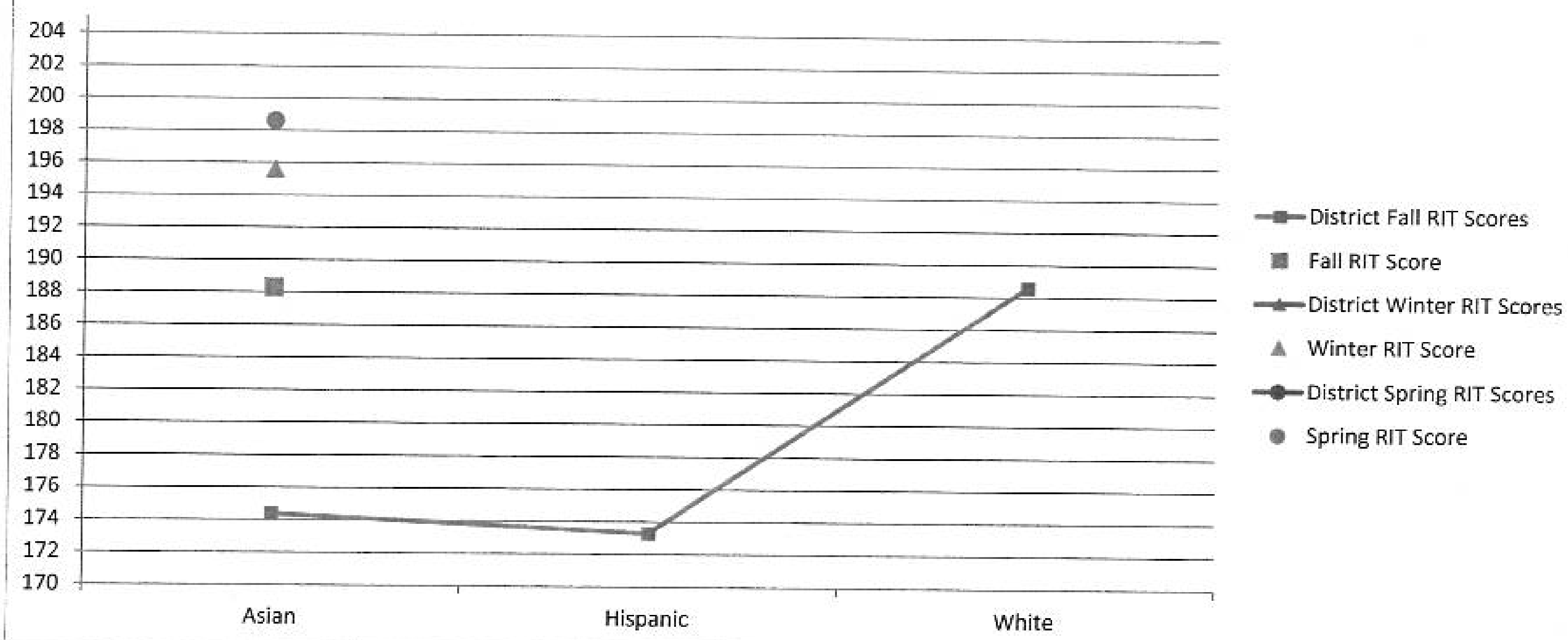


Language Arts					
Gr 10					
Gender	**Mean RIT Fall--218.9**	**Mean RIT Winter--219.7**	**Mean RIT Spring--220.1**		
Male	205.5				
Female	213.2				

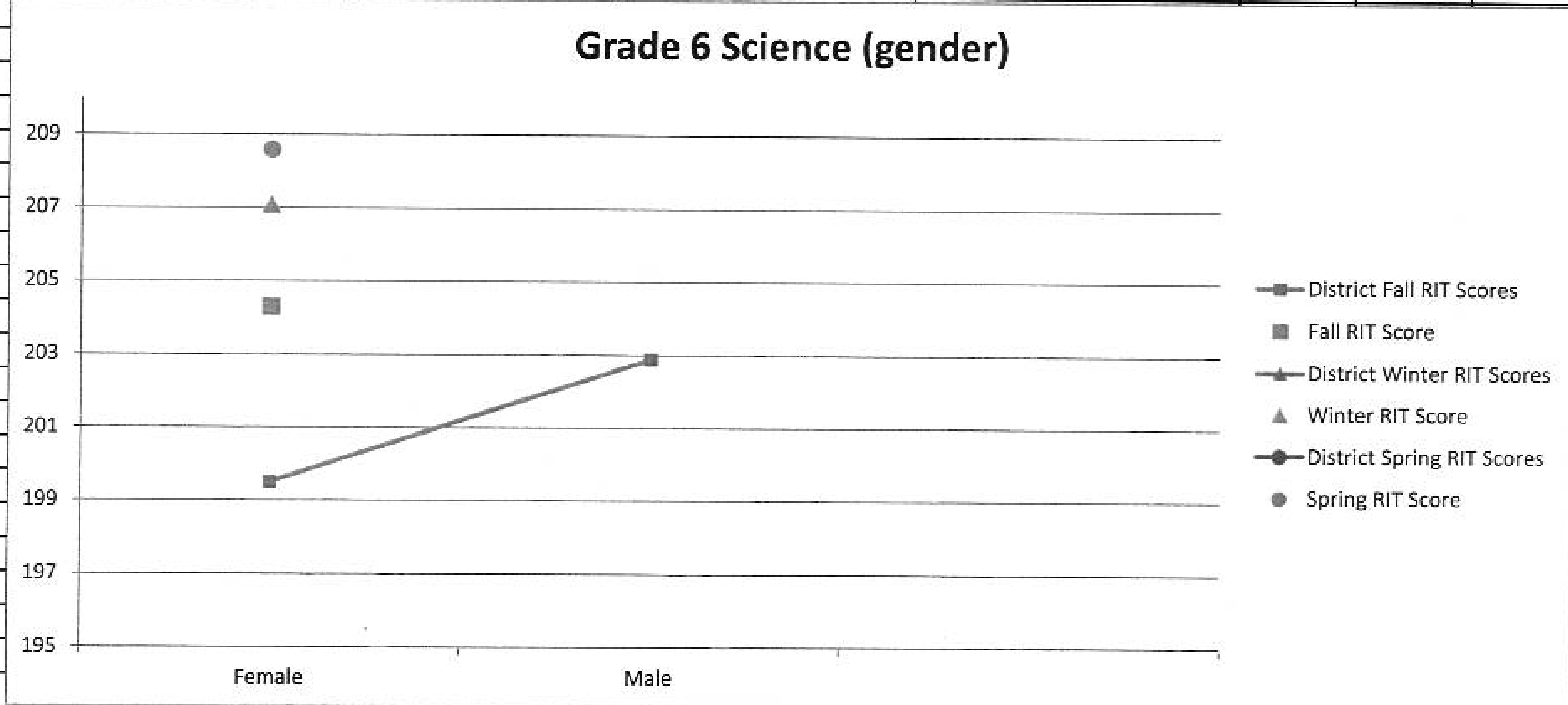


Language Arts					
Gr 10					
Ethnicity	Student Count	Mean RIT Fall--218.9	Mean RIT Winter--219.7	Mean RIT Spring--220.1	
American Indian	3	208			
Asian	51	193.5			
Black	3	199			
Hispanic	45	199.2			
Multi-ethnic	NA	NA			
White	90	222.6			

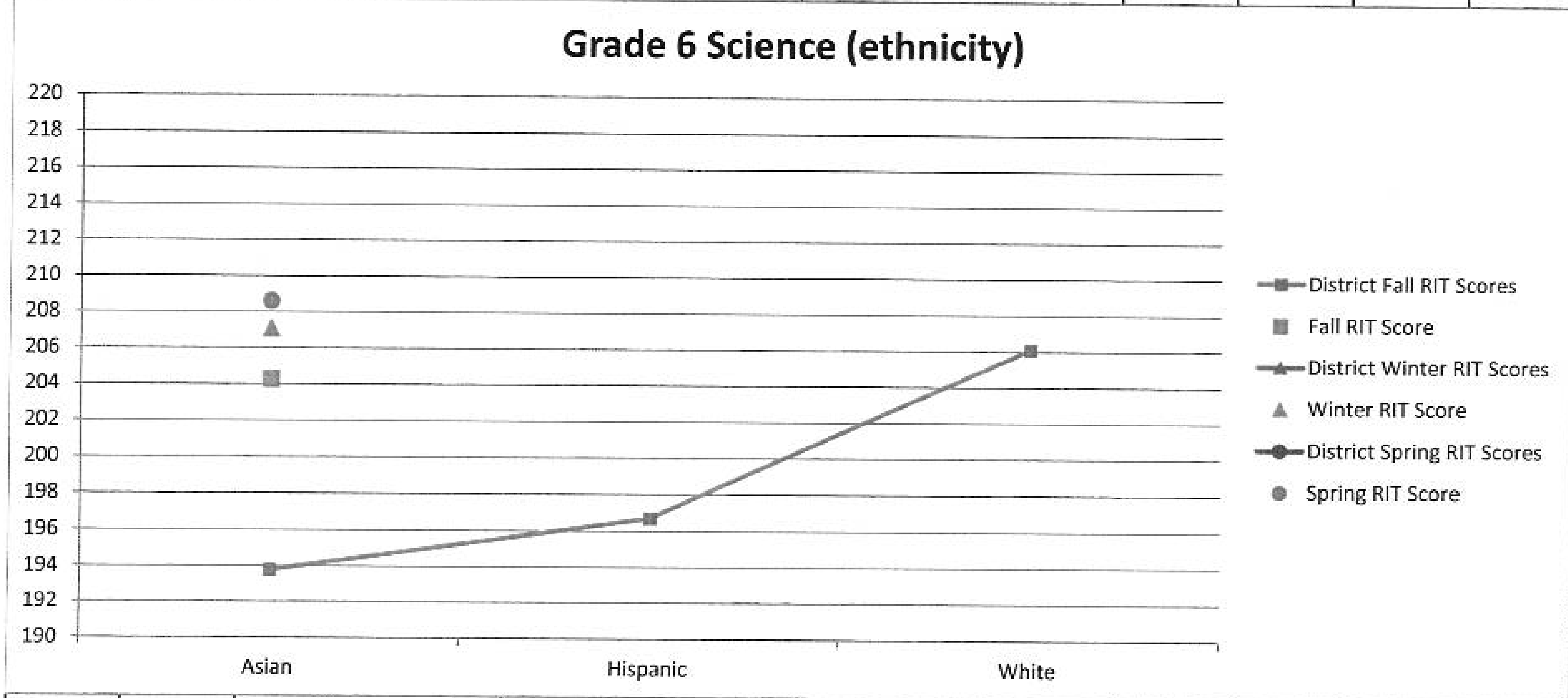
Grade 10 LA (ethnicity)



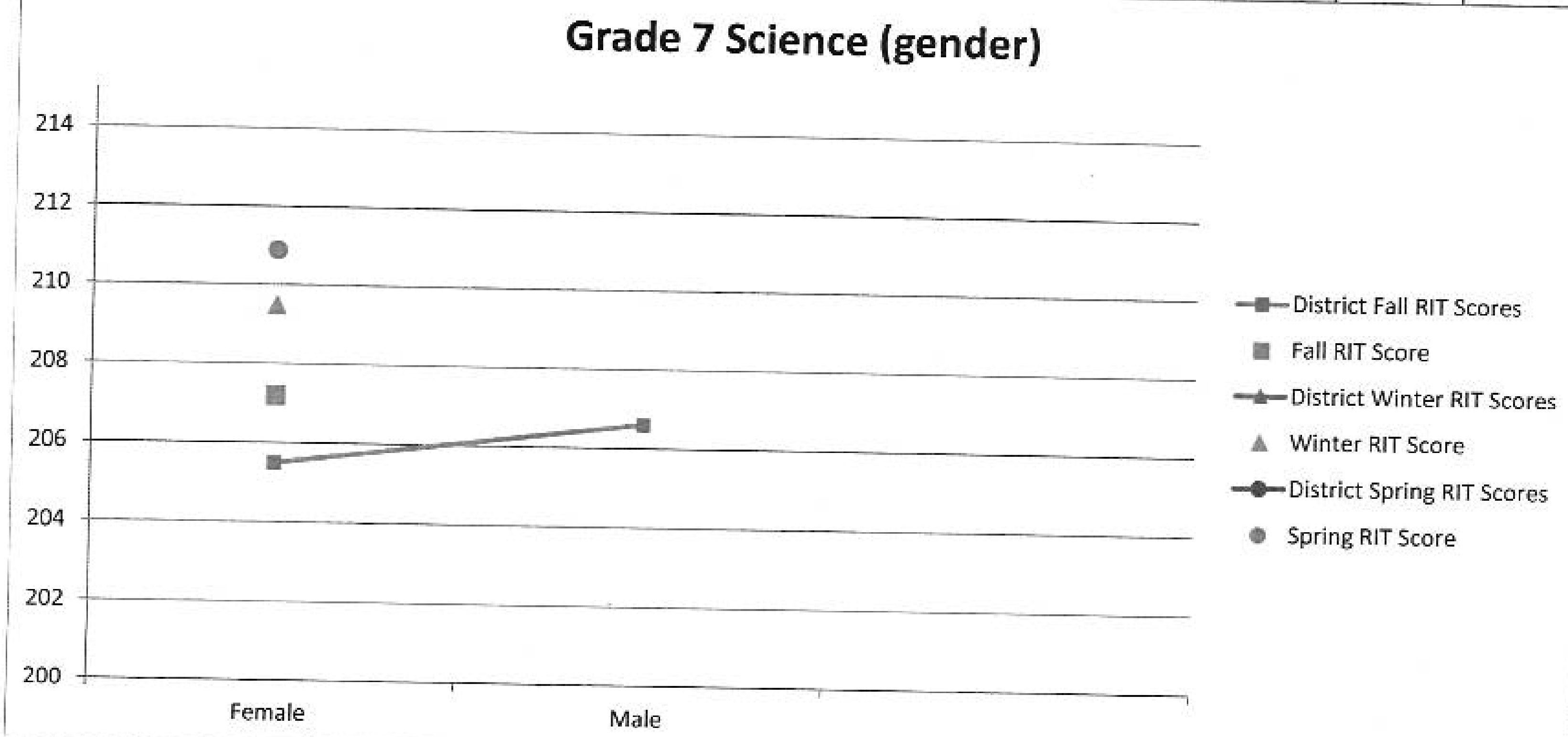
Science				
Grade 6				
Gender	Student Count	Mean RIT Fall--204.3	Mean RIT Winter--207.1	Mean RIT Spring--208.6
Female	76	199.5		
Male	68	202.9		



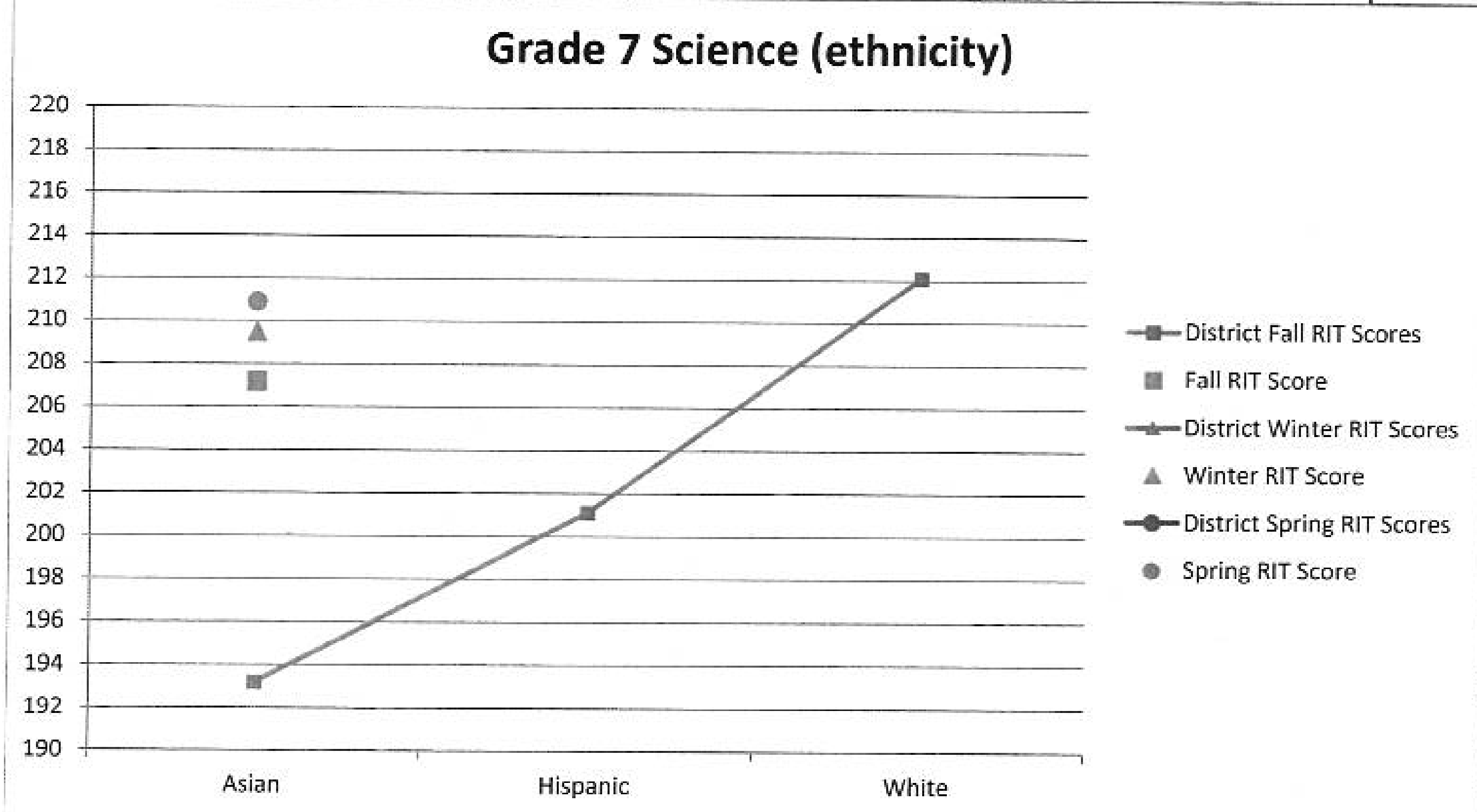
Science				
Grade 6				
Ethnicity	Student C	Mean RIT Fall--204.3	Mean RIT Winter--207.1	Mean RIT Spring--208.6
American	2	197.5		
Asian	31	193.8		
Black	3	197.7		
Hispanic	31	196.7		
Multi-ethr	NA	NA		
White	77	206.1		



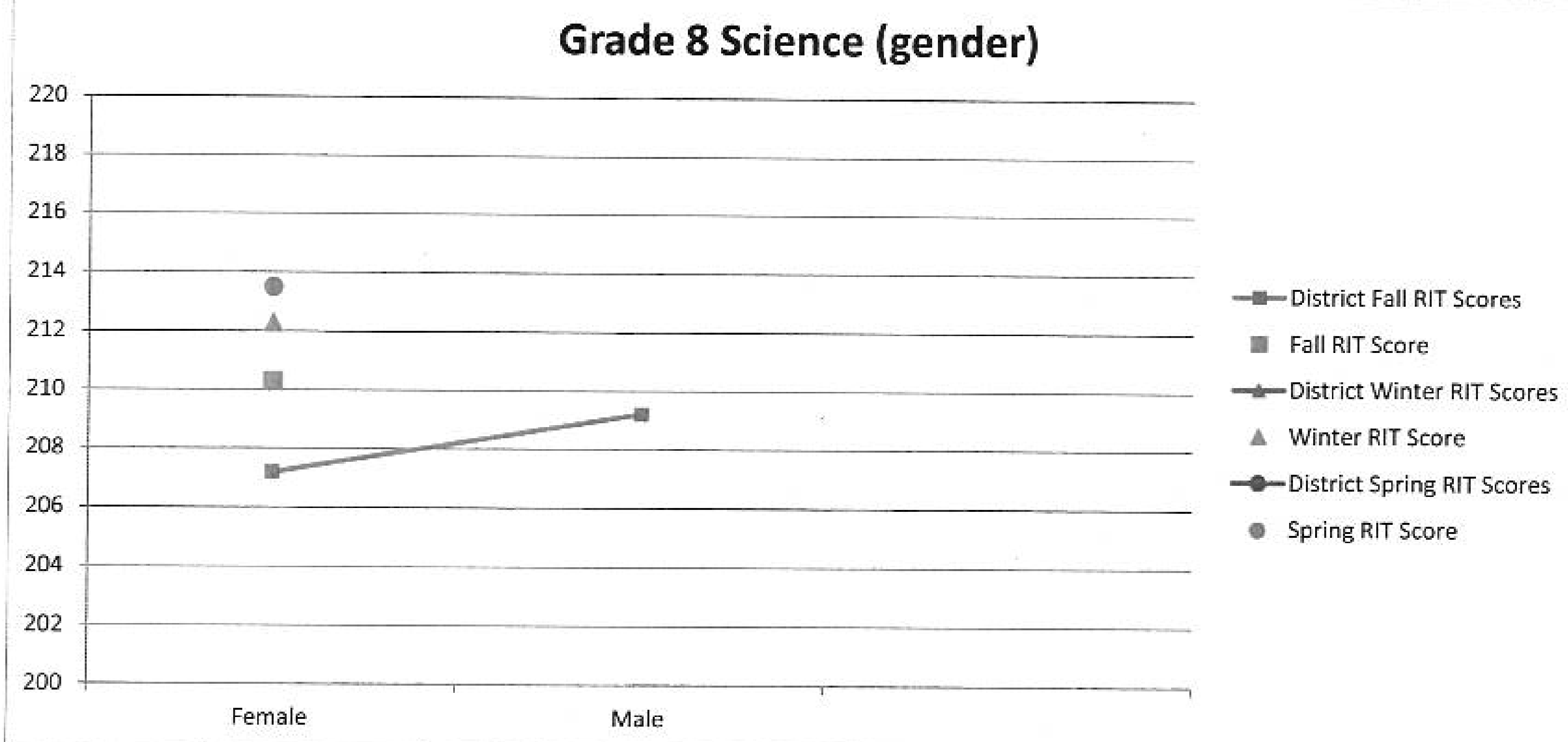
Science				
Grade 7				
Gender	Student Count	Mean RIT Fall--207.2	Mean RIT Winter--209.5	Mean RIT Spring--210.9
Female	91	205.5		
Male	89	206.6		



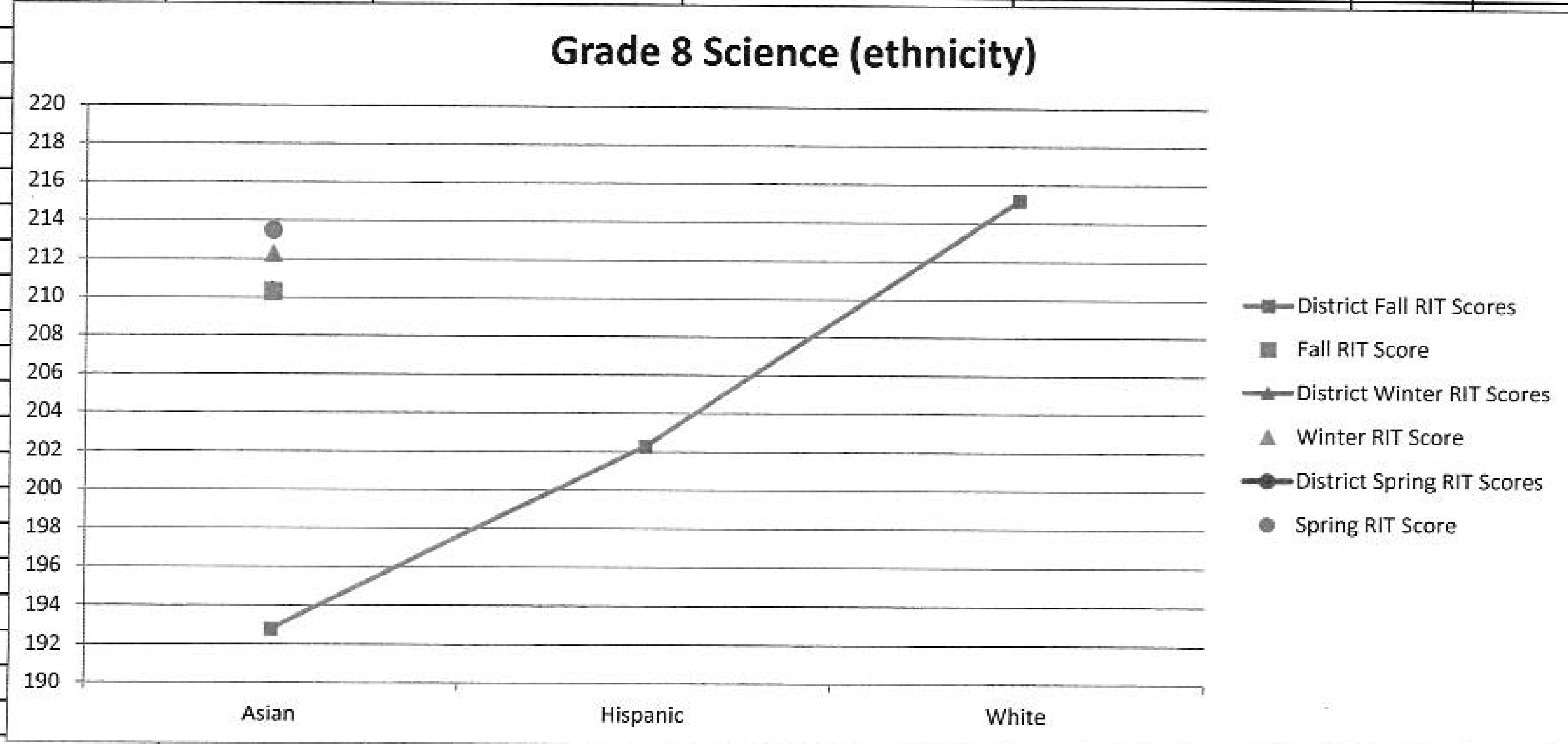
Science					
Grade 7					
Ethnicity	Student Count	Mean RIT Fall--207.2	Mean RIT Winter--209.5	Mean RIT Spring--210.9	
American	4	204			
Asian	39	193.2			
Black	3	228			
Hispanic	33	201.1			
Multi-ethr	1	201			
White	100	212.1			



Science					
Grade 8					
Gender	Student Count	Mean RIT Fall--210.3	Mean RIT Winter--212.3	Mean RIT Spring--213.5	
Female	88	207.2			
Male	102	209.2			



Science				
Grade 8				
Ethnicity	Student Count	Mean RIT Fall--210.3	Mean RIT Winter--212.3	Mean RIT Spring--213.5
American Indian	4	213.3		
Asian	46	192.8		
Black	5	214.2		
Hispanic	21	202.3		
Multi-ethnic	NA	NA		
White	114	215.2		



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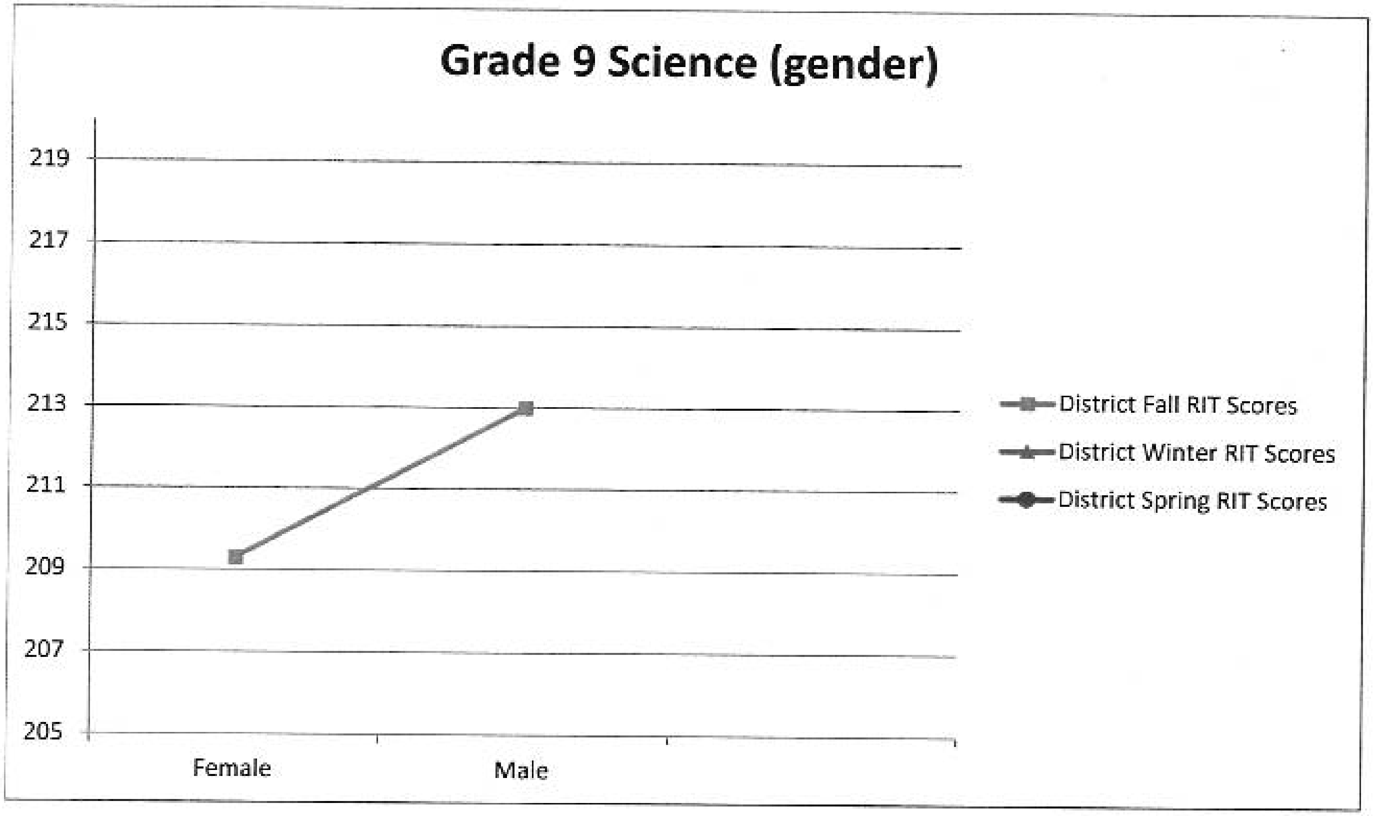
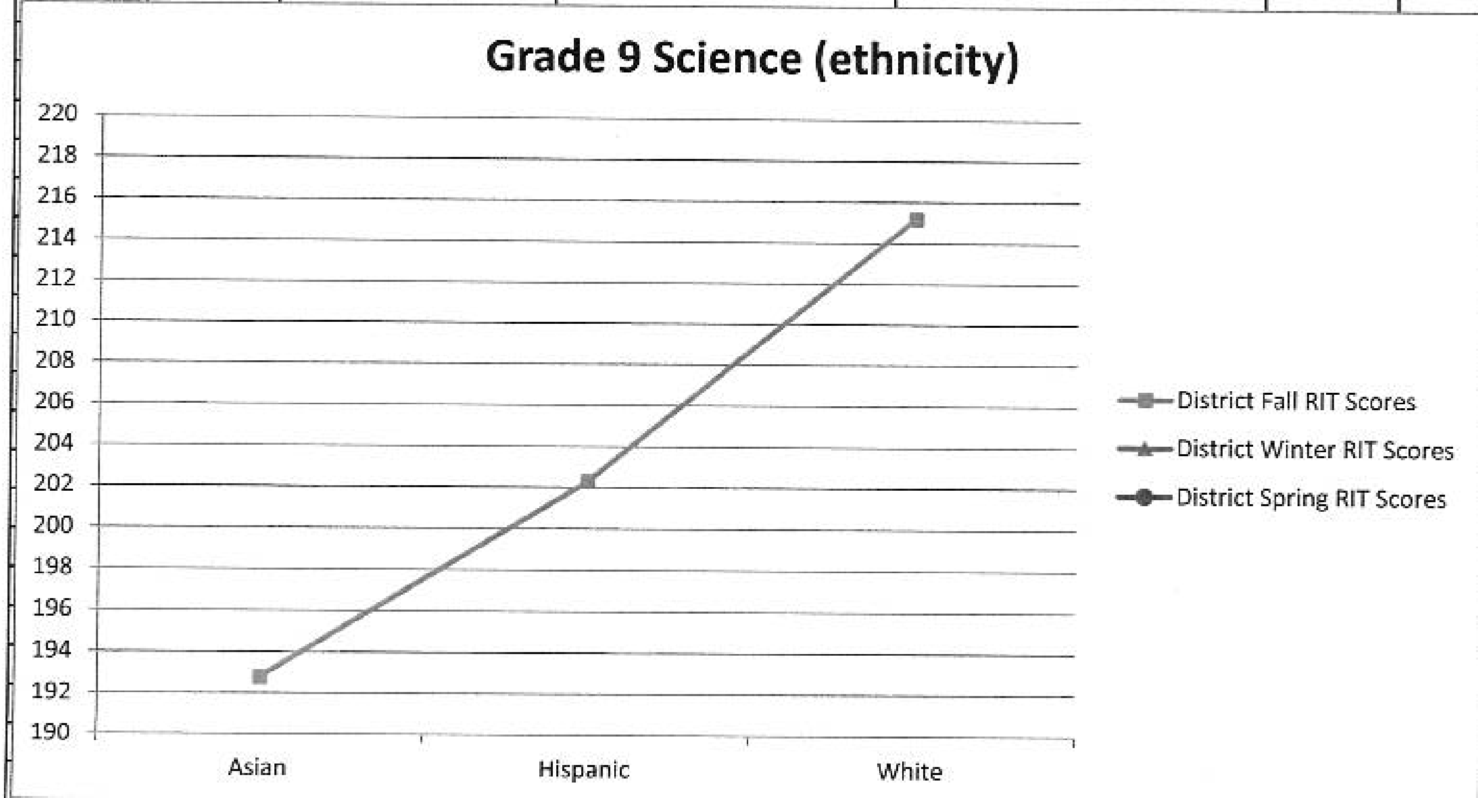
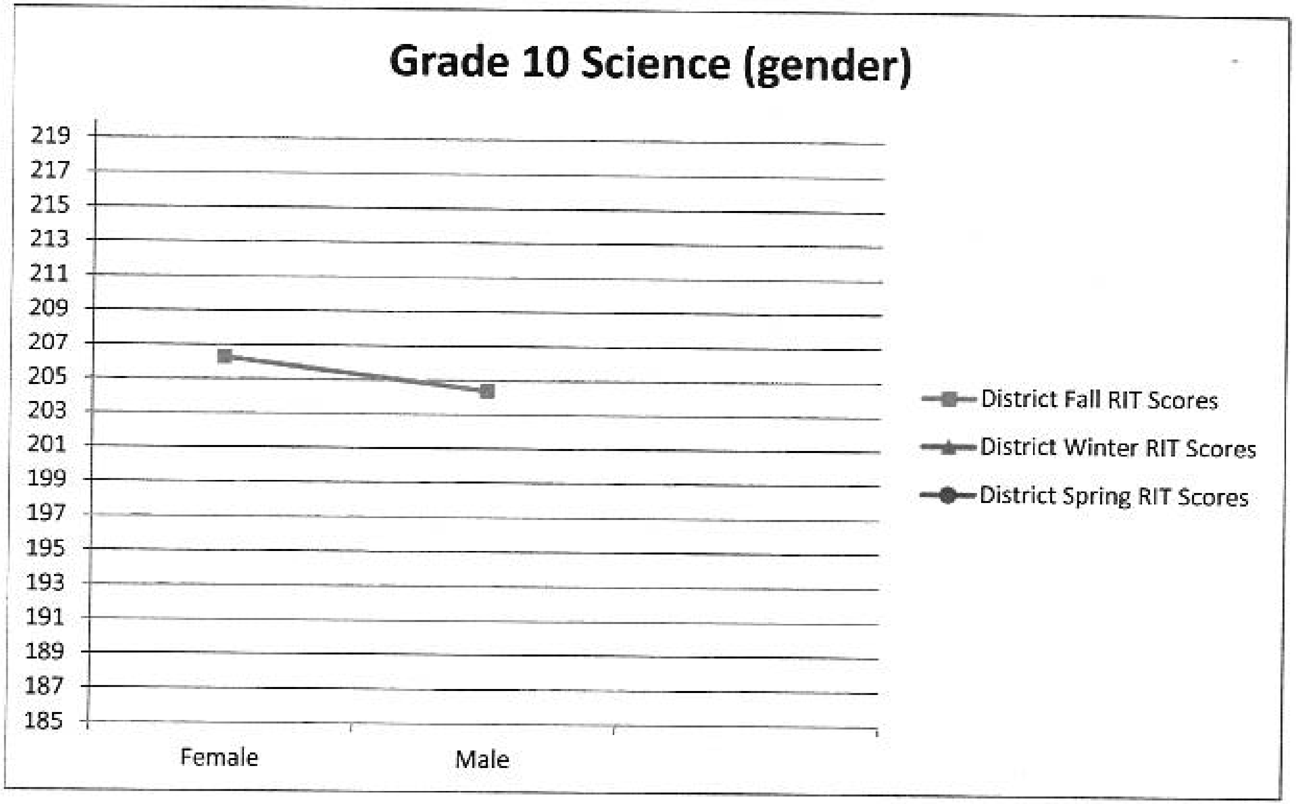
Science				
Grade 9				
Gender	Student Count	Mean RIT Fall--	Mean RIT Winter--	Mean RIT Spring--
Female	76	209.3		
Male	87	213		



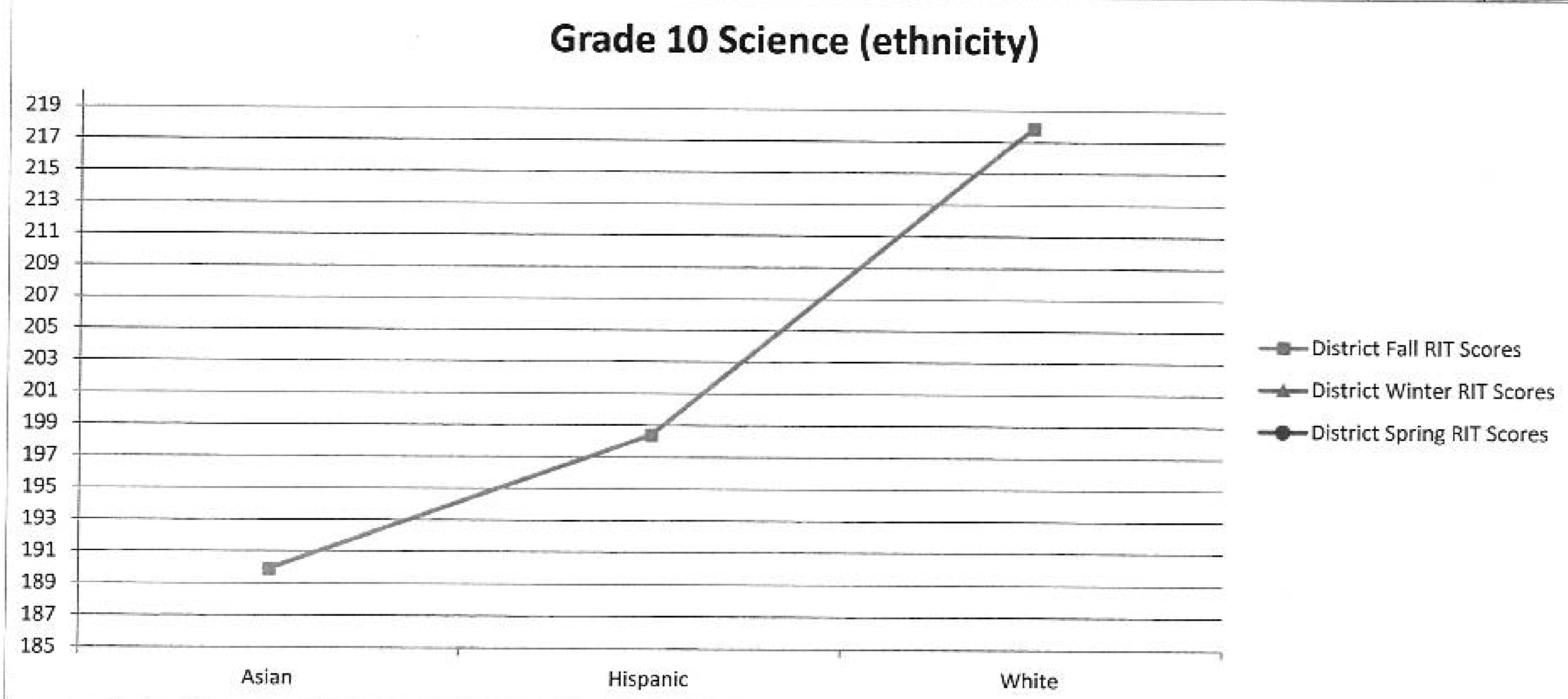
Science						
Grade 9						
Ethnicity	Student C	Mean RIT Fall--	Mean RIT Winter--	Mean RIT Spring--		
American	1	226				
Asian	34	196.7				
Black	3	210.3				
Hispanic	17	207.8				
Multi-ethr	NA	NA				
White	108	216.2				



Science				
Grade 10				
Gender	Student Count	Mean RIT Fall--	Mean RIT Winter--	Mean RIT Spring--
Female	82	206.3		
Male	109	204.4		



Science				
Grade 10				
Ethnicity	Student Count	Mean RIT Fall--	Mean RIT Winter--	Mean RIT Spring--
American	3	203		
Asian	52	189.9		
Black	3	197.3		
Hispanic	44	198.4		
Multi-ethr	NA	na		
White	89	217.9		

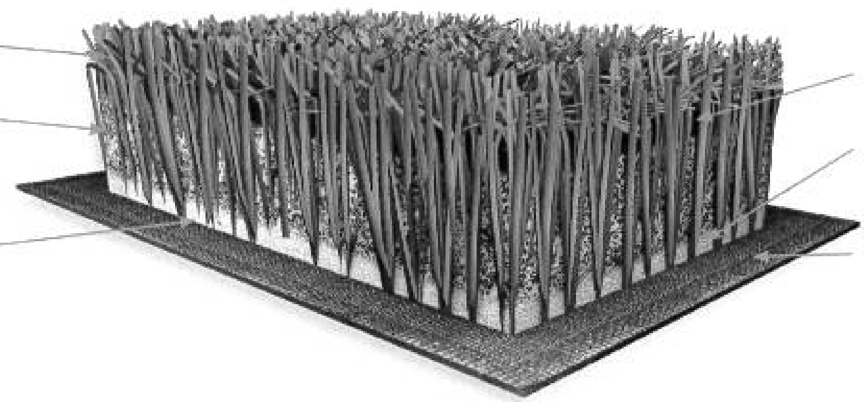


Why FieldTurf's **heavyweight infill system** is the right system for your program.

On natural grass, athletes cut, plant and release in the earth. Not on the blades of grass. On FieldTurf's artificial turf it's exactly the same. Our infill is the "artificial" earth, with the same bio-mechanical properties as natural grass. Just like on natural grass, athletes play in our infill. Not on the turf fibers. That's why FieldTurf performs like well manicured natural grass and lasts so long.

The Engineered System

The size, shape and composition of each component in FieldTurf's elite system has been engineered for Performance, Safety and Durability. The infill weight, fiber rows and void (free space) in our patented, 3 layered system replicates the best natural grass.



Cryogenic Rubber

FieldTurf uses only the cleanest, cryogenically processed rubber. Properly sized for long-term performance, these carefully selected rounded particles stay in suspension in the infill system and prevent migration and compaction over time. Unlike ambient rubber which is jagged and shredded, smooth cryogenic rubber does not attract air bubbles making it less likely to float to the sidelines in heavy rain.

Highest Quality Materials

FieldTurf uses only the highest quality materials: rounded cryogenic rubber; the cleanest silica sand; fibers from our state of the art manufacturing process; and our unique porous and patented coated backing system. Every component of the FieldTurf system is engineered to work together to deliver safe, long lasting, high performance sports fields.

Physical Property	Ambient Ground	Cryogenic Ground
Specific gravity	1.06	1.67
Particle shape	Irregular	Regular
Fiber content	0.5%	nil
Steel content	0.1%	nil

Real-Life Safety Data

Artificial turf safety is all about infill. Not fiber. An athlete wants a heavy infill below him - not a heavy carpet. The safety of our 9.2 lb per sq. ft. heavyweight infill has been proven in long term, peer reviewed studies.

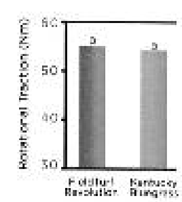
- 44% Fewer Concussions
- 33.4% Lower ACL Trauma
- 26.6% Fewer Severe Injuries
- 33.4% Fewer Ligament Tears

Source: **American Journal of Sports Medicine**
HIGH SCHOOL FOOTBALL SAFETY STUDY
FIELDTURF VS NATURAL GRASS
A 5-YEAR PROSPECTIVE STUDY

Grass-Like Traction

FieldTurf's heavyweight infill system has been tested and shown to provide the same level of traction as Kentucky Bluegrass.

Comparison of Rotational Traction of Athletic Footwear on Varying Playing Surfaces - Penn State University's Center for Sports Surface Research / 2013



Proven Long Term Gmax

Whether it's a professional, college or local high school program, the elite infill system provides maximum safety for athletes of all ages and skill sets.

Field	University of Iowa - Kinnick Stadium	Piner High School
Location	Iowa City, IA	Santa Rosa, CA
Field Age	5	6
Gmax	145.4	152

There's a lot more info than we could possibly fit on this page. Please contact us and we'll send you the complete studies - *long term scientific data proving FieldTurf's right for you.*

TOP 10 REASONS

WHY FIELDTURF IS THE RIGHT CHOICE

FieldTurf®
A Tarkett Sports Company

THE ULTIMATE
SURFACE EXPERIENCE

FieldTurf® THE WORLD LEADER IN ARTIFICIAL TURF

TOP 10 REASONS

Since the very beginning, we have developed a reputation for setting quality and innovation standards that continue to revolutionize the artificial turf industry. Our competitors will try to convince you that their products are better with features that are not proven to yield the same long-term performance results that are associated with the FieldTurf system.

Here are the Top 10 Reasons why FieldTurf continues to be the #1 choice at all levels of sport.

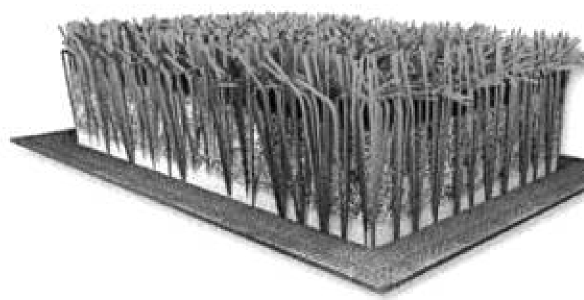
1 PATENTED INFILL – *for the highest performance*

On natural grass, athletes cut, plant and release in the earth. Not on the blades of grass. **On FieldTurf's** artificial turf it's exactly **the same. Our infill is the** "artificial" earth, **with the same** bio-mechanical properties **as natural grass. Just like** on natural grass, **athletes cut, plant and release** in our infill. Not on **the turf fibers. That's why FieldTurf** performs like natural **grass and lasts so long.**

A typical full-sized FieldTurf field contains 736,000 lbs of infill. That is 496,000 lbs more infill mass than a typical all-rubber field. Testing proves that, unlike FieldTurf's infill system, particles in lightweight infill systems tend to easily migrate in the rain, creating divots and changes in the infill levels. This infill variation significantly impacts the safety of the turf system.

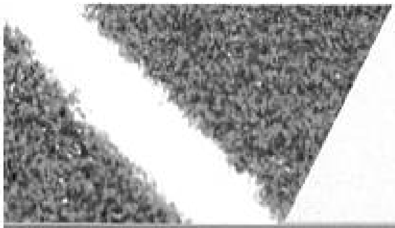
The FieldTurf Patented Infill System:

- The bottom layer is comprised of clean, washed silica sand to stabilize and support the entire system.
- Numerous passes of a mix of similarly sized rubber and silica sand are then layered into the system. The rubber and sand particles are a similar size to stay in suspension.
- Larger-sized cryogenic rubber top layer ensures that the rubber remains on top, providing a safe, forgiving surface.
- Total infill exceeds 9 pounds per square foot on a typical sports field. The FieldTurf infill mix allows for optimal safety and playability.



Silica Sand

Cryogenic Rubber



2 PROVEN SAFETY
– for the health of your athletes

Our focus on safety has led to numerous injury reducing innovations and improvements. The main reason that FieldTurf continues to outperform all other turf systems in reducing injury, is our patented sand/rubber layered infill system.

The findings of long-term testing programs show that FieldTurf is safer than any other synthetic turf system and equal to – if not better than – natural grass in most critical areas of player safety. No other company can make this claim.

A three-year study of competitive high school football found that as the artificial infill surface weight decreased, the incidence of game-related high school football trauma significantly increased across numerous playing conditions.

Some of the key differences found are as follows (p/sq.ft = pounds per square foot):

Concussion Injuries Combined
- 15.7% lower incidence of injury between FieldTurf >9 p/sq.ft and 3-5.9 p/sq.ft of infill weight

Total Injuries
- 13.4% lower incidence of injury between FieldTurf >9 p/sq.ft and 3-5.9 p/sq.ft of infill weight

Severe Injuries
- 13.3% lower incidence of injury between FieldTurf >9 p/sq.ft and 3-5.9 p/sq.ft of infill weight

College Football Safety Study Results:
Incidence, Mechanisms, and Severity of Game-Related College Football Injuries on FieldTurf Versus Natural Grass (A 3-Year Prospective Study)

Michael C. Meyers, PhD, FACSM
From the Department of Health and Human Development, Montana State University, Bozeman, Montana.

- 12% Fewer Concussions
- 40% Fewer ACL Injuries
- 20.6% Fewer Severe Injuries
- 31.4% Fewer Ligament Tears

Source: The American Journal of Sports Medicine, Vol. 38, No. 4, 2010

High School Football Safety Study Results
Incidence, Causes, and Severity of High School Football Injuries on FieldTurf Versus Natural Grass (A 5-Year Prospective Study)

Michael C. Meyers, PhD, FACSM, and Bill S. Barnhill, MD
From the Human Performance Research Center, West Texas A&M University, Canyon, Texas, and Panhandle Sports Medicine Associates, Amarillo, Texas.

- 44% Fewer Concussions
- 33.4% Fewer ACL Injuries
- 26.6% Fewer Severe Injuries
- 33.4 % Fewer Ligament Tears

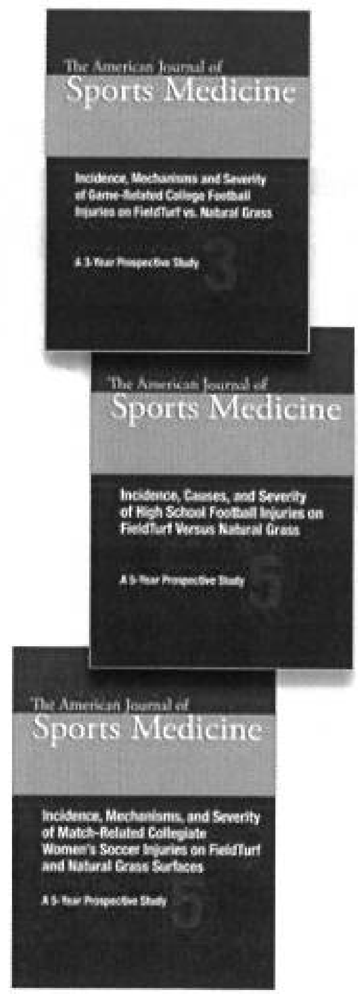
Source: The American Journal of Sports Medicine, Vol. 32, No. 7, 2004

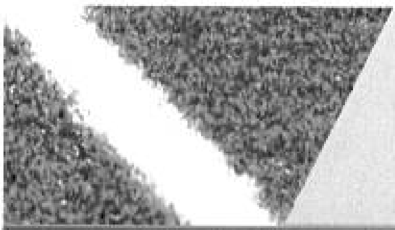
Women's College Soccer Study Results:
Incidence, Mechanisms, and Severity of Match-Related Collegiate Women's Soccer Injuries on FieldTurf and Natural Grass Surfaces
(A 5-Year Prospective Study)

Michael C. Meyers, PhD, FACSM

- 22% Fewer Total Injuries
- 7% Fewer Substantial Injuries
- 2% Fewer Severe Injuries
- 12% Fewer Concussions
- 18% Lower ACL and Associated Tissue Trauma Combined

Source: The American Journal of Sports Medicine, Vol 41, No. 10, 2013



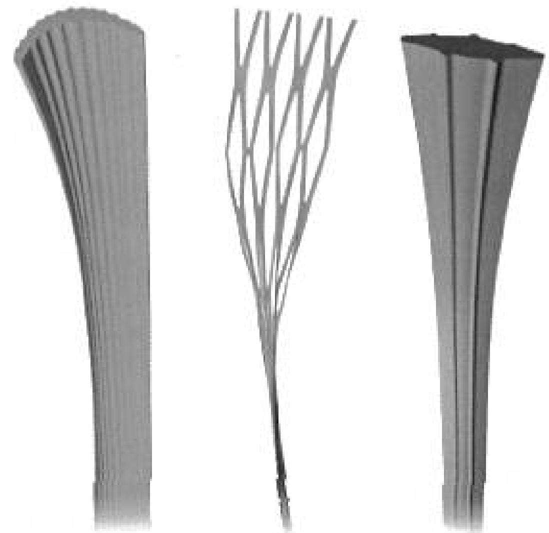


3 FIBER INNOVATION
– for optimal playability

Our fibers are produced at our very own facility in Germany. This state-of-the art facility was opened in 2010 and as a result, has turned FieldTurf into one of the most vertically integrated companies in the world. The quality control process at the facility includes stringent testing of the yarn properties (tensile strength, uniformity, color verification).

Our sports turf systems are constructed with meticulous fiber design, aiming to serve the needs of different customers.

No matter which fiber system you choose, FieldTurf's products are all high quality and can serve any preference.

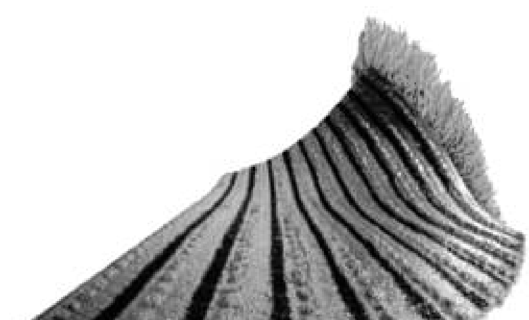


4 SURELOCK COATING
– for maximum drainage

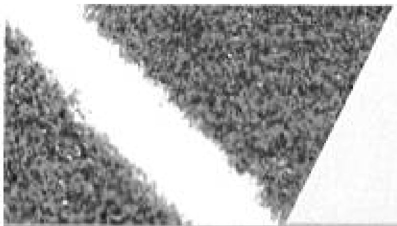
FieldTurf's patented backing offers drainage performance unequaled by any artificial turf product in the industry. A FieldTurf field is designed for all-weather playability.

Unlike the rest of the industry, the innovators at FieldTurf came up with a superior drainage solution for its Elite system. It's called SureLock coating. This patented system coats only the rows of fiber, leaving the rest of the carpet untouched and naturally porous.

Strong Fiber + SureLock Coating = Solid Tuft Bind



Our patented SureLock coating system leaves the backing 40% porous for unmatched drainage and contributes to the highest performing tuft bind in the industry. Other products can randomly achieve good tuft bind but no one else can do it with the same level of consistency as FieldTurf.



5 MULTI-SPORT SOLUTIONS

– for all sports and all levels

FieldTurf has long been the #1 choice for all sports and all levels. FieldTurf's safety, performance and durability levels are far superior to any other system. As the world's largest synthetic turf company, you will find FieldTurf in many major stadiums. There are no differences between a field installed at a high profile venue and one installed in a small town. For every professional or college field we build, we install the same quality field at 150 high schools and municipalities.

FieldTurf is extremely proud of the following accomplishments in the world of sports:

- 21 of 32 NFL teams have chosen to play / practice on FieldTurf
- 100+ NCAA football programs have FieldTurf
- 30+ NCAA baseball programs choose FieldTurf
- 30+ NCAA soccer programs have opted for FieldTurf
- 15 Pro soccer teams play / practice on FieldTurf
- **1000s** of high school and municipal sports installations
- Over **7000** fields installed

6 SINGLE SOURCE RESPONSIBILITY

– for customer security and satisfaction

FieldTurf has brought "single source responsibility" and quality to the forefront with its own manufacturing plants and quality control standards. Integrated, vertical manufacturing has paved the road toward true innovation and customer security, with fiber manufacturing, tufting, coating and testing all done in-house in FieldTurf plants. Installation is done by trained and certified FieldTurf installers.

FieldTurf is the only artificial turf company on the market to meet the most rigorous and comprehensive quality control standards:

- Ownership and management of ISO certified manufacturing plants
- In-house fiber manufacturing
- In-house coating of all turf products
- In-house testing of each turf roll and its tuft bind
- Testing of infill and the verification of its grade
- Installation by FieldTurf certified installation crews

7 INSURED WARRANTY
– for complete peace of mind

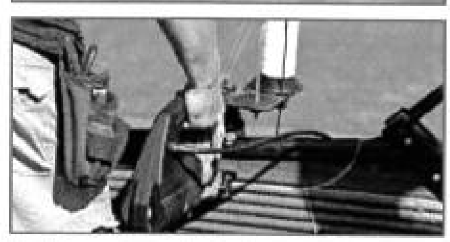
FieldTurf was the first company in the industry to offer a third-party insured warranty. And while you'll probably never need to use it, you can rest easy knowing that you're protected by the industry's best warranty in the unlikely event something goes wrong with your artificial turf system.

It's peace of mind that sets FieldTurf apart.

- Yearly Aggregate Claim Limit of $32,000,000
- Per Claim Limit of $32,000,000
- All fields are automatically covered upon issuance of the Warranty Certificate
- No deductible
- Prepaid for 8 Years

Through Tarkett, in operation since 1872, FieldTurf enjoys the strongest equity base in the entire industry. FieldTurf's Bonding Capacity of over $75,000,000 is proof of the financial strength of a company with over 130 years of experience in the surfacing business.

8 INSTALLATION METHOD
– for a stronger field

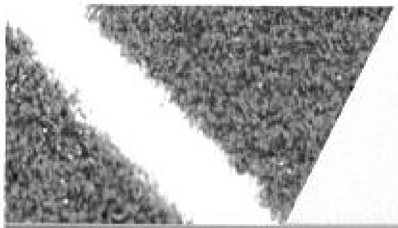


FieldTurf does not cut corners when it comes to the installation of artificial turf fields.

In order to lower their prices, many competing companies will cut corners on important installation procedures. This severely compromises the durability of the entire field.

It is critical to demand proper installation standards:

- Sewn Seams = No Trip Hazards
- Meticulous Fiber Shearing = No Cuts
- Precision Infill Layering = A Safe Surface
- Experienced Installation Crews = Quality Assurance

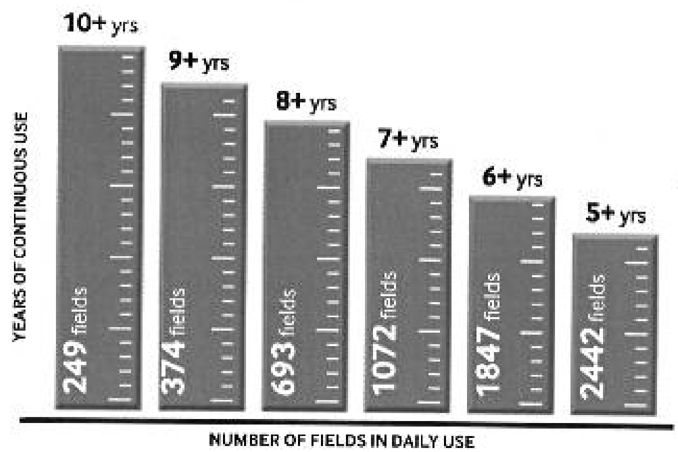


9 PROVEN DURABILITY
– for a better investment

Since its inception, FieldTurf has proven to be the most durable and longest-lasting synthetic turf system in the marketplace having installed more fields that are currently 8 years or older than all other competitor installations combined.

The FieldTurf system is not just marketing spin. It has been carefully engineered by athletes, for athletes to not only perform at the highest of levels but to do so for longer than any other turf product.

FieldTurf Fields Perform - Year After Year



10 FIRST-CLASS SERVICE
– for your FieldTurf experience

FieldTurf does not sever its customer relations once the contract has been signed. We take the time to follow up with each and every one of our customers in order to ensure complete and consistent customer satisfaction. Our professional customer service agents are always ready to assist with any issues relating to your FieldTurf field. Whether your request is placed by phone or through email, our customer service department guarantees fast and effective solutions for all your field care needs.

Customer satisfaction remains FieldTurf's number one priority.

Every FieldTurf employee is graded on his/her performance in relation to our customers and it is a central point of focus for the development of FieldTurf as a company. We have implemented company-wide measures to guarantee complete customer satisfaction.

TOP 10 REASONS

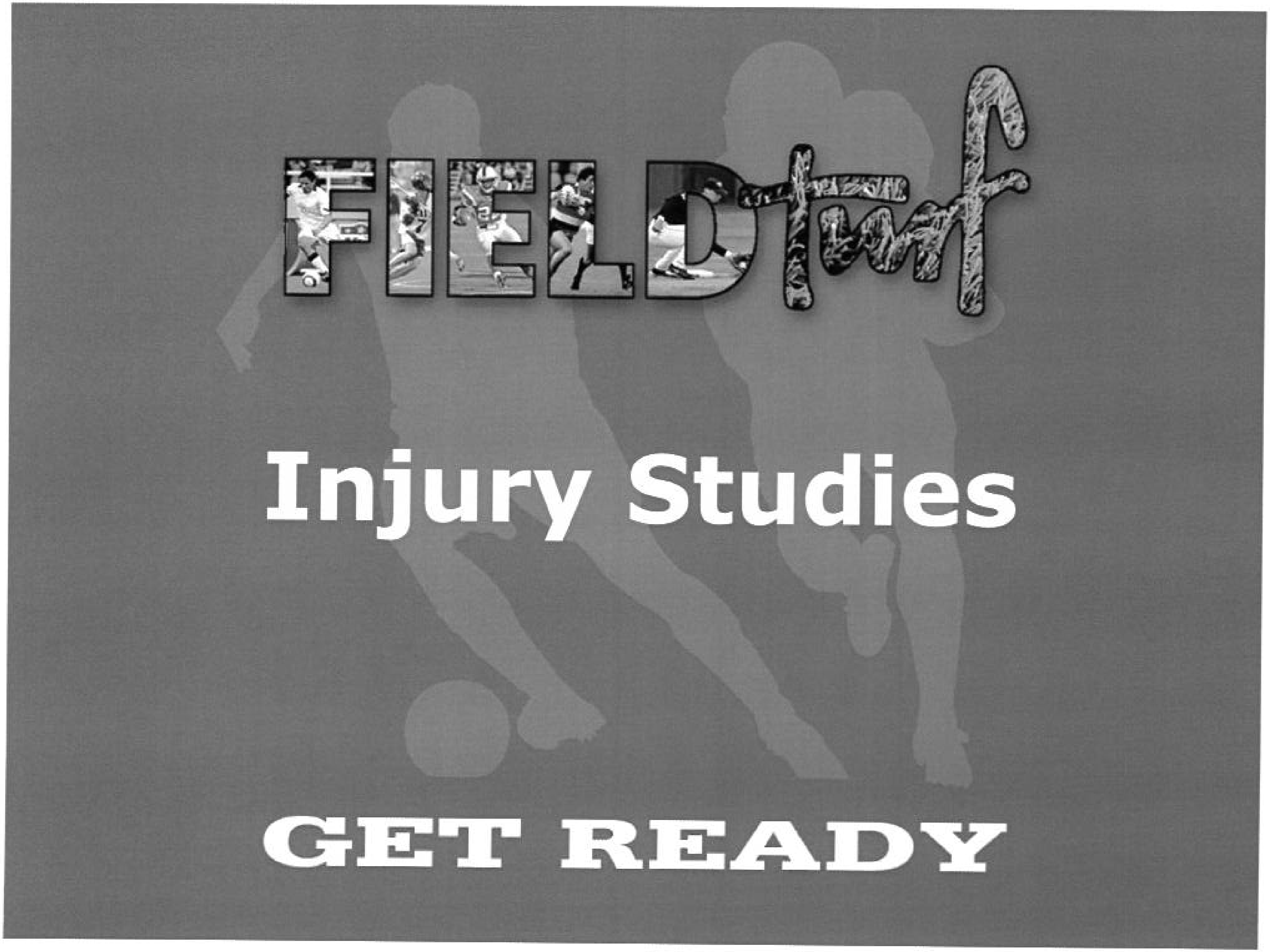
WHY FIELDTURF IS THE RIGHT CHOICE

Information

(800) 724-2969
info@fieldturf.com
www.fieldturf.com

FieldTurf®
A Tarkett Sports Company

THE ULTIMATE
SURFACE EXPERIENCE


FIELDturf
Injury Studies
GET READY

INCIDENCE, MECHANISMS, AND SEVERITY OF MATCH-RELATED COLLEGE MEN AND WOMEN'S SOCCER INJURIES ON FIELDTURF VERSUS NATURAL GRASS

A Two Year Prospective Study

Michael C. Meyers, PhD, FACSM

Department of Health and Human Development
Montana State University, Bozeman, MT 59717
Meyers Group, Inc., Bozeman, MT 59718

MONTANA STATE UNIVERSITY

Methods – Men's Soccer

- Total of 5 NCAA Division-1A universities
- Total of 169 matches
  - 69 FieldTurf (41.1%)
  - 99 Natural Grass (58.9%)
- Two-year period of competitive seasons and post-season matches from 2007-2008
- Various stadiums
  - Big East, Ivy League, Missouri Valley
- School selection based on:
  - Availability of surfaces
  - Uniformity of sport-skill
  - Full-time ATC staff

Methods

Two-sided, injury surveillance form consisting of:

- Date of injury
- Athlete weight
- School
- Type of playing surface
- Surface quality and age
- Temperature/humidity
- Year/skill level of athlete
- Where injury occurred
- Weather/field conditions
- Injury category
- Time period of injury
- Injury classification
- Injury time loss
- Position played at injury
- Injury situation
- Injury mechanism
- Injury site location
- Principle body part
- Primary type of injury
- Grade of injury
- External bleeding
- Injury due to illegal action
- Surgical intervention
- Specific musculoskeletal joint or organ location of injury

Statistical Analyses

- Data were grouped by:
  - Injury category
  - Time of injury
  - Injury classification
  - Injury time loss
  - Position played at time of injury
  - Injury mechanism
  - Injury situation
  - Injury site location
  - Primary type of injury
  - Grade of injury
  - Anatomic location of injury
  - Type of tissue injured
  - Head diagnosis
  - Knee diagnosis
  - Shoulder diagnosis
  - Environmental factors
  - Specific lower extremity joint and muscle trauma
- Tabular-frequency distributions (SPSS)
- Injury Rates and 95% Confidence Intervals
- Multivariate analyses (MANOVAs, Wilks' Lambda criterion)
- Post hoc analyses (ANOVAs, Tukey HSD)

Incidence of Match-Related College Men's Soccer Injuries between FieldTurf and Natural Grass

Matches Evaluated				
Number of team-matches	69		99	
Team-matches (%)	41.1		58.9	
All Injuries[a]				
Number of injuries	59		125	
Injuries (%)	32.1		67.9	
Injuries per 10 team-matches	8.6	7.5-9.2	12.6	11.5-13.6
Minor Injuries[b]				
Number of injuries	47		112	
Injuries (%)	79.7		89.6	
Injuries per 10 team-matches	6.8	5.6-7.8	11.3	10.4-12.1
Substantial Injuries				
Number of injuries	8		11	
Injuries (%)	13.6		8.8	
Injuries per 10 team-matches	1.2	0.6-2.1	1.1	0.6-1.9
Severe Injuries				
Number of injuries	4		2	
Injuries (%)	6.8		1.6	
Injuries per 10 team-matches	0.6	0.2-1.4	0.2	0.1-0.7

[a] $P < 0.05$; [b] $P < 0.05$

Methods – Women's Soccer

- Total of 7 NCAA Division-1A universities
- Total of 205 matches
  - 85 FieldTurf (41.5%)
  - 120 Natural Grass (58.5%)
- Two-year period of competitive seasons and post-season matches from 2007-2008
- Various stadiums
  - Big East, Big Sky, Missouri Valley, WAC
- School selection based on:
  - Availability of surfaces
  - Uniformity of sport-skill
  - Full-time ATC staff

Incidence of Match-Related College Women's Soccer Injuries between FieldTurf and Natural Grass

Matches Evaluated				
Number of team-matches	85		120	
Team-matches (%)	41.5		58.5	
All Injuries				
Number of injuries	50		92	
Injuries (%)	35.2		64.8	
Injuries per 10 team-matches	5.9	4.8-6.9	7.7	6.8-8.3
Minor Injuries				
Number of injuries	44		78	
Injuries (%)	88.0		84.8	
Injuries per 10 team-matches	5.2	4.1-6.2	6.5	5.6-7.3
Substantial Injuries				
Number of injuries	5		8	
Injuries (%)	10.0		8.7	
Injuries per 10 team-matches	0.6	0.3-1.3	0.7	0.3-1.3
Severe Injuries				
Number of injuries	1		6	
Injuries (%)	2.0		6.5	
Injuries per 10 team-matches	0.1	0.0-0.6	0.5	0.2-1.0

Summary

FieldTurf to natural grass over a two-year period of competitive collegiate soccer play, there are no significant differences in:

- Substantial or severe injury
- Injury time loss
- Position played at time of injury
- Injury mechanism
- Injury situation
- Field location
- Grade of injury
- Anatomical location of injury
- Type of tissue injured
- Lower extremity joint and muscle trauma
- Player classification
- Player weight
- Head trauma
- Knee trauma
- Shoulder trauma

INCIDENCE, MECHANISMS, AND SEVERITY OF GAME-RELATED COLLEGE FOOTBALL INJURIES ON FIELDTURF VERSUS NATURAL GRASS

A Three Year Prospective Study

Michael C. Meyers, PhD, FACSM

Department of Health and Human Development
Montana State University, Bozeman, MT 59717
Meyers Group, Inc., Bozeman, MT 59718

MONTANA STATE UNIVERSITY

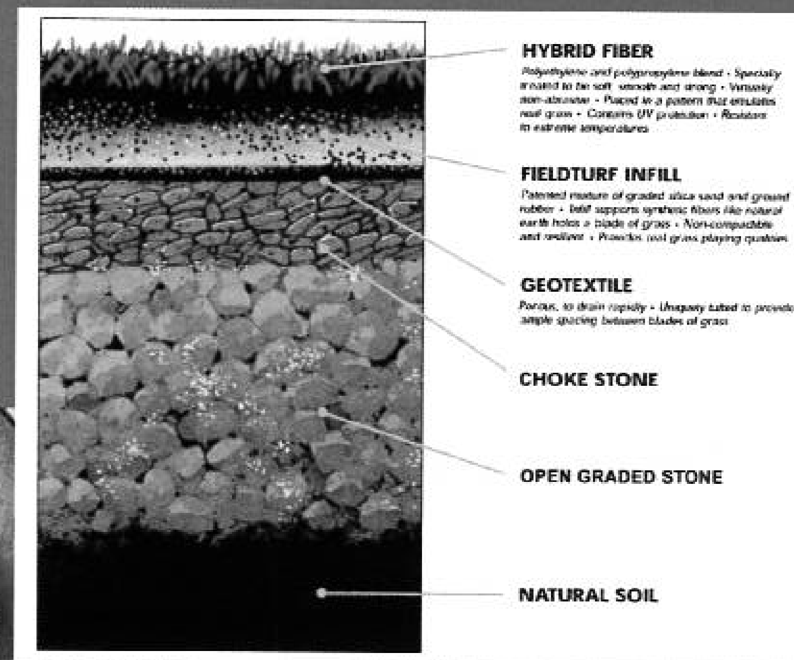
Background

- Over the past decades, numerous studies attributed a greater risk and incidence of articular and concussive trauma to playing on an artificial surface when compared to natural grass

Adkison et al., 1974; Guskiewicz et al., 2000; Jamison & Lee, 1989; Levy & Skovron, 1990; Naunheim et al., 2002; Rodeo et al., 1990; Skovron et al., 1990

Background

- A new generation of synthetic surface known as FieldTurf, comprised of a polyethylene fiber blend stabilized with a silica sand and cryogenically ground rubber infill, was developed in an attempt to duplicate the playing characteristics of natural grass



Recent Research

Incidence, Causes, and Severity of High School Football Injuries on FieldTurf Versus Natural Grass

A 5-Year Prospective Study

Michael C. Meyers,*† PhD, FACSM, and Bill S. Barnhill,‡ MD
From the †Human Performance Research Center, West Texas A&M and ‡Panhandle Sports Medicine Associates, Amarillo, Texas

Background: Numerous injuries have been attributed to playing on artificial turf. Recently, the playing characteristics of natural grass. No long-term study has been conducted comp ball injuries between the 2 playing surfaces.

Hypothesis: High school athletes would not experience any difference in the incidence, injuries between FieldTurf and natural grass.

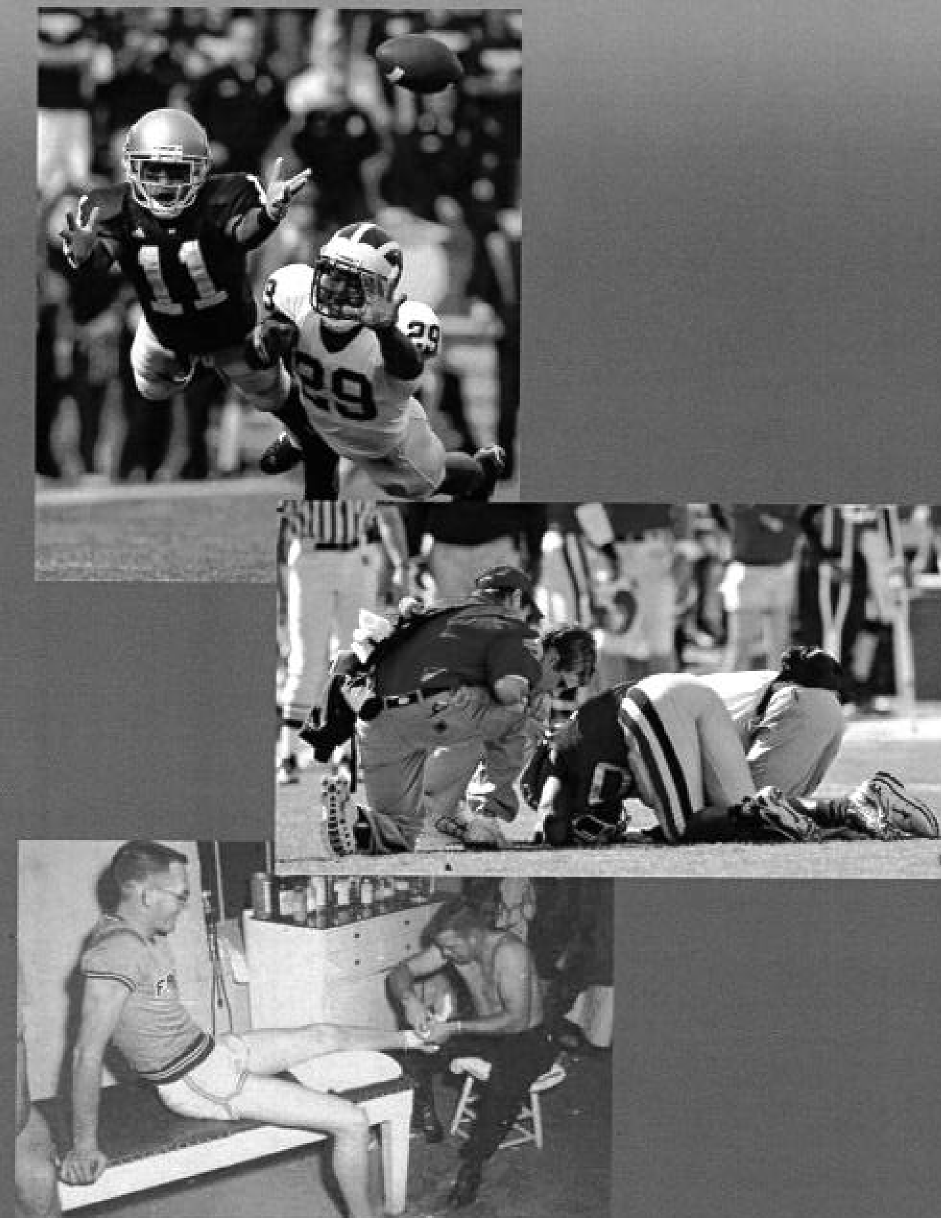
Study Design: Prospective cohort study.

Methods: A total of 8 high schools were evaluated over 5 competitive seasons for injury incidence, injury category, time of injury,

Higher incidences of 0-day time loss injuries, noncontact injuries, surface/epidermal injuries, muscle-related trauma, and injuries during higher temperatures were reported on FieldTurf. Higher incidences of 1- to 2-day time loss injuries, 22+ days time loss injuries, head and neural trauma, and ligament injuries were reported on natural grass.

Rationale

- Although FieldTurf has been recommended as a viable option to natural grass in the prevention of injuries at the high school level of play, research into the incidence of college football injuries occurring on FieldTurf vs natural grass, during actual game conditions over several seasons of competition, had not been published in the scientific literature



Meyers & Barnhill, 2004

Purpose

- To quantify the incidence, mechanisms, and severity of game-related college injuries on FieldTurf versus natural grass

- It was hypothesized that college athletes would not experience any difference in the incidence, mechanisms, and severity of game-related trauma between FieldTurf and natural grass

Methods

- Prospective cohort study
- Total of 24 NCAA Division-1A universities
- Total of 465 games
  - 230 FieldTurf (49.5%)
  - 235 Natural Grass (50.5%)
- Three-year period of competitive seasons and bowl games from 2006-2008
- Various stadiums
  - ACC, Big 12, Big East, Conference USA, Mountain West, WAC, Pac-10
- School selection based on:
  - Availability of surfaces
  - Uniformity of sport-skill
  - Full-time ATC staff

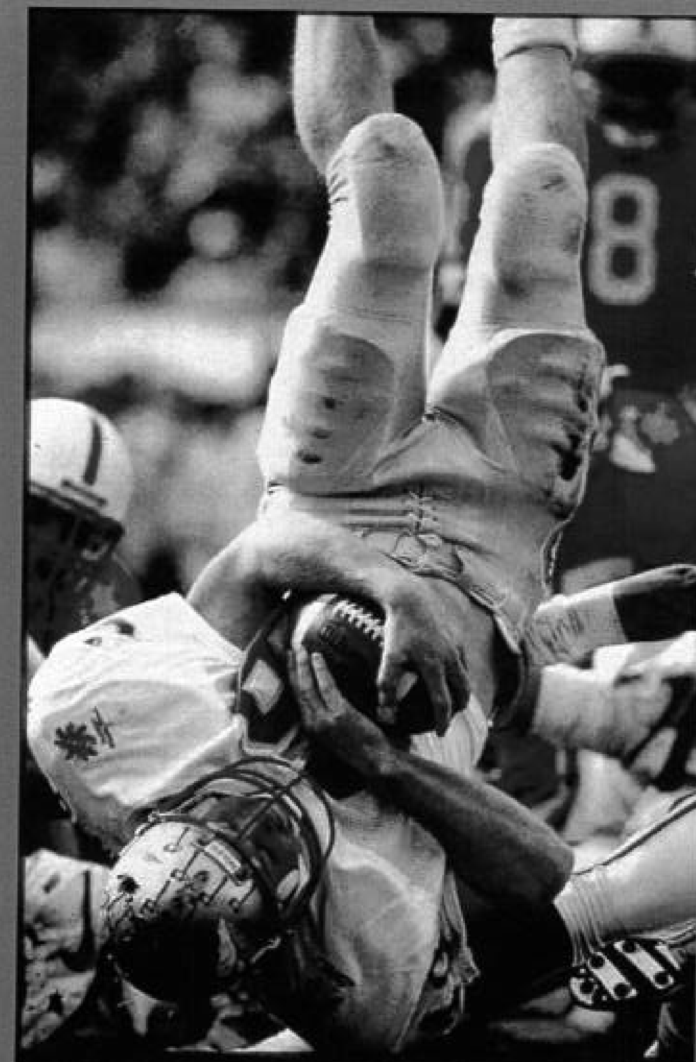
Methods

Two-sided, injury surveillance form consisting of:

- Date of injury
- Athlete weight
- School
- Type of playing surface
- Surface quality and age
- Temperature/humidity
- Year/skill level of athlete
- Where injury occurred
- Weather/field conditions
- Injury category
- Time period of injury
- Injury classification
- Injury time loss
- Position played at injury
- Injury situation
- Injury mechanism
- Injury site location
- Principle body part
- Primary type of injury
- Grade of injury
- External bleeding
- Injury due to illegal action
- Surgical intervention
- Specific musculoskeletal joint or organ location of injury

Definitions

- Although any definition of injury and level of trauma lacks universal agreement and has its shortcomings, definition of injury was based on a combination of:
  - Functional outcome
  - Observation
  - Treatment



DeLee & Farney, 1992; Hagel et al., 2003; Meyers & Barnhill, 2004; Noyes et al., 1988; Prager et al., 1989; Thompson et al.,1987

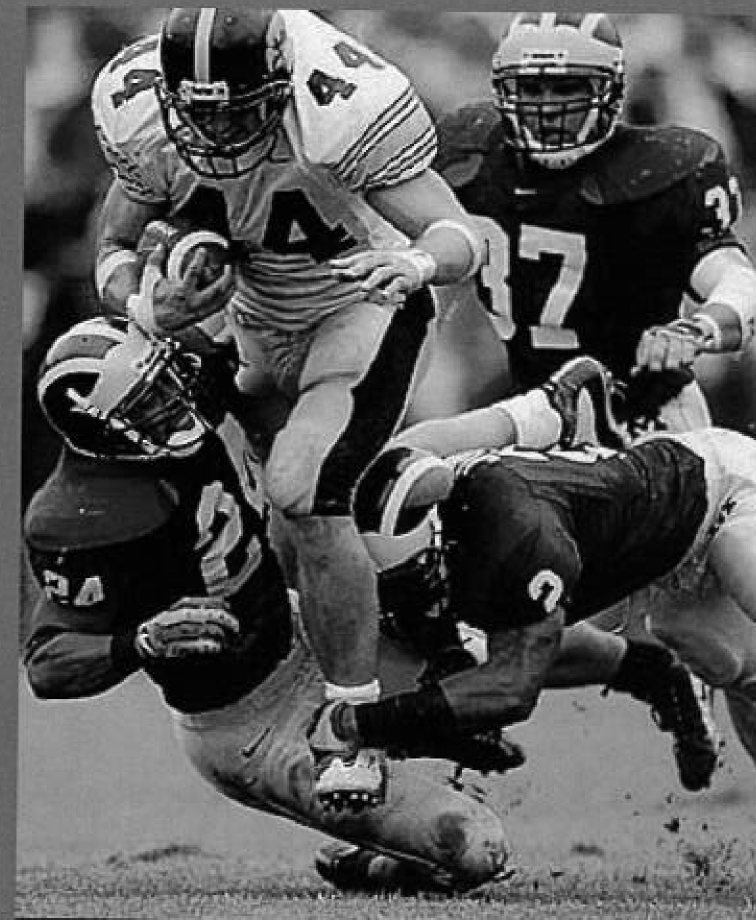
Definitions

- A reportable injury was defined as any game-related football trauma that resulted in:
  - An athlete missing all or part of a game
  - Time away from competition
  - Any injury reported or treated by ATC or physician
  - All cranial/cervical trauma reported

Meyers & Barnhill, 2004; Meyers, in press 2009

Definitions

- Injury Time Loss
  - Minor: 0-6 days time loss
  - Substantial: 7-21 days of time loss resulting in the athlete unable to return to play at the same high school competitive level
  - Severe: trauma that required 22 or more days of time loss



DeLee & Farney, 1992; Meyers & Barnhill, 2004; Thompson et al., 1987

Statistical Analyses

- Data were grouped by:
  - Injury category
  - Time of injury
  - Injury classification
  - Injury time loss
  - Position played at time of injury
  - Injury mechanism
  - Injury situation
  - Injury site location
  - Primary type of injury
  - Grade of injury
  - Anatomic location of injury
  - Type of tissue injured
  - Head diagnosis
  - Knee diagnosis
  - Shoulder diagnosis
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  - Specific lower extremity joint and muscle trauma
- Tabular-frequency distributions (SPSS)
- Injury Rates and 95% Confidence Intervals
- Multivariate analyses (MANOVAs, Wilks' Lambda criterion)
- Post hoc analyses (ANOVAs, Tukey HSD)

Results

- MANOVAs
  - Injury incidence rate ($F_{3,2249} = 3.468$; $P = 0.016$)
  - Injury category ($F_{5,2247} = 0.494$; $P = 0.781$)
  - Time of injury ($F_{5,2247} = 0.833$; $P = 0.526$)
  - Injury time loss ($F_{5,2247} = 2.480$; $P = 0.030$)
  - Position played ($F_{2,2250} = 0.300$; $P = 0.741$)
  - Skill position ($F_{9,2243} = 0.538$; $P = 0.848$)
  - Injury mechanism ($F_{12,2240} = 1.091$; $P = 0.363$)
  - Injury situation ($F_{14,2238} = 2.170$; $P = 0.007$)
  - Primary type of injury ($F_{14,2238} = 1.771$; $P = 0.042$)
  - Injury grade ($F_{2,2250} = 12.337$; $P = 0.0001$)
  - Anatomical location ($F_{3,2249} = 1.675$; $P = 0.170$)
  - Type of tissue ($F_{5,2247} = 0.559$; $P = 0.732$)
  - Field Conditions ($F_{2,2249} = 5.450$; $P = 0.001$)
  - Temperature Conditions ($F_{1,2251} = 82.360$; $P = 0.0001$)

Incidence of Game-Related College Football Injuries between FieldTurf and Natural Grass

	FieldTurf	95% CI	Natural Grass	95% CI
Games Evaluated				
Number of team-games	230		235	
Team-games (%)	49.5		50.5	
All Injuries[a]				
Number of injuries	1,050		1,203	
Injuries (%)	46.6		53.4	
Injuries per 10 team-games	45.7	44.2-46.3	51.2	49.8-51.7
Minor Injuries[b]				
Number of injuries	875		938	
Injuries (%)	83.3		78.0	
Injuries per 10 team-games	38.0	36.9-38.5	39.9	39.1-40.0
Substantial Injuries[c]				
Number of injuries	114		169	
Injuries (%)	10.9		14.0	
Injuries per 10 team-games	5.0	4.3-5.6	7.2	6.6-7.7
Severe Injuries[d]				
Number of injuries	61		96	
Injuries (%)	5.8		8.0	
Injuries per 10 team-games	2.7	2.1-3.3	4.1	3.5-4.7

[a] $P = 0.016$; [b] $P = 0.0001$; [c] $P = 0.020$; [d] $P = 0.049$

Frequency and Rate of Game-Related College Football Injuries Between FieldTurf and Natural Grass By Injury Category and Time of Injury

	FieldTurf			Natural Grass		
	# of Injuries	IIR	95% CI	# of Injuries	IIR	95% CI
Injury Category						
Player-to-player collision	570	24.8	23.7 – 25.4	660	28.0	27.1 – 28.5
Player-to-turf collision	102	4.4	3.8 – 5.1	108	4.6	4.0 – 5.2
Shoe surface-contact	229	10.1	9.8 – 10.0	276	11.7	11.1 – 12.3
Shoe surface-noncontact	35	1.5	1.1 – 2.0	41	1.7	1.3 – 2.3
Muscle-tendon overload	114	5.0	4.3 – 5.6	118	5.0	4.4 – 5.7
Time of Injury						
Pregame	5	0.2	0.1 – 0.5	4	0.2	0.1 – 0.4
First quarter	161	7.0	6.4 – 7.6	182	7.7	7.2 – 8.2
Second quarter	297	12.9	12.2 – 13.5	371	15.8	14.9 – 16.4
Third quarter	303	13.2	12.4 – 13.8	359	15.3	14.4 – 15.9
Fourth quarter	282	12.3	11.6 – 12.8	284	12.3	11.6 – 12.9
Overtime	2	0.1	0.0 – 0.3	3	0.1	0.1 – 0.4

IIR, Injury incidence rate (number of injuries ÷ total number of injuries) x 10

Frequency and Rate of Game-Related College Football Injuries Between FieldTurf and Natural Grass By Injury Time Loss and Position Played

	FieldTurf			Natural Grass		
	# of Injuries	IIR	95% CI	# of Injuries	IIR	95% CI
Injury Time Loss						
0 days	507	22.0	21.2 – 22.6	526	22.4	21.5 – 23.0
1-2 days	209	9.1	8.6 – 9.4	225	9.6	9.2 – 9.8
3-6 days	159	6.9	6.3 – 7.5	187	8.0	7.4 – 8.4
7-9 days	66	2.9	2.3 – 3.5	108	4.6	4.0 – 5.2[a]
10-21 days	48	2.1	1.6 – 2.7	61	2.6	2.1 – 3.2
22 days or more	61	2.7	2.1 – 3.3	96	4.1	3.5 – 4.7[b]
Position Played at Time of Injury						
Offense	483	21.0	20.3 – 21.5	539	22.9	22.0 – 23.5
Defense	421	18.3	17.6 – 18.7	505	21.5	20.7 – 22.0
Special teams	146	6.3	5.7 – 6.9	159	6.8	6.1 – 7.3

IIR, Injury incidence rate (number of injuries ÷ total number of injuries) x 10; [a]$P = 0.017$; [b]$P = 0.044$

Frequency and Rate of Game-Related College Football Injuries Between FieldTurf and Natural Grass By Injury Mechanism

	FieldTurf			Natural Grass		
	# of Injuries	IIR	95% CI	# of Injuries	IIR	95% CI
Injury Mechanism						
Blocked below waist	76	3.3	2.7 – 3.9	80	3.4	2.8 – 4.0
Blocked above waist	65	2.8	2.3 – 3.4	92	3.9	3.3 – 4.6
Tackling	210	9.1	8.7 – 9.4	261	11.1	10.6 – 11.6
Tackled below waist	99	4.3	3.7 – 5.0	93	4.0	3.4 – 4.6
Tackled above waist	125	5.4	4.8 – 6.1	144	6.1	5.5 – 6.7
Blocking	174	7.6	7.0 – 8.1	183	7.8	7.2 – 8.3
Impact with playing surface	84	3.7	3.1 – 4.3	82	3.5	2.9 – 4.1
Stepped on/fallen on/kicked	85	3.7	3.1 – 4.3	111	4.7	4.1 – 5.4
No contact-rotation/plant	34	1.5	1.1 – 2.0	40	1.7	1.3 – 2.2
Sprinting/running	45	2.0	1.5 – 2.5	41	1.7	1.3 – 2.3
Catching/blocking pass/punt	17	0.7	0.5 – 1.2	25	1.1	0.7 – 1.5
Heat illness	16	0.7	0.4 – 1.1	31	1.3	0.9 – 1.8
Overuse	18	0.8	0.5 – 1.2	14	0.6	0.4 – 1.0

IIR, Injury incidence rate (number of injuries ÷ total number of injuries) x 10

Frequency and Rate of Game-Related College Football Injuries Between FieldTurf and Natural Grass By Injury Situation

	FieldTurf			Natural Grass		
	# of Injuries	IIR	95% CI	# of Injuries	IIR	95% CI
Injury Situation						
Warmup	3	0.1	0.0 – 0.4	7	0.3	0.1 – 0.6
Rushing	365	15.9	15.0 – 16.5	416	17.7	16.9 – 18.2[a]
Passing	40	1.7	1.3 – 2.3	42	1.8	1.4 – 2.3
Pass catching	123	5.3	4.7 – 6.0	138	5.9	5.2 – 6.5
Pass protection	99	4.3	3.7 – 5.0	107	4.6	3.9 – 5.2
Pass rush	115	5.0	4.4 – 5.6	105	4.5	3.8 – 5.1
Pass defense	149	6.5	5.8 – 7.1	213	9.1	8.6 – 9.4[b]
Kickoff return	34	1.5	1.1 – 2.0	39	1.7	1.2 – 2.2
PAT/FG	9	0.4	0.2 – 0.7	5	0.2	0.1 – 0.5
Kickoff	73	3.2	2.6 – 3.8	57	2.4	1.9 – 3.0
Punting	11	0.5	0.3 – 0.8	28	1.2	0.8 – 1.7[c]
Punt return	19	0.8	0.5 – 1.3	27	1.1	0.8 – 1.6
Fumble recovery	7	0.3	0.1 – 0.6	4	0.2	0.1 – 0.4
Piling-on	3	0.1	0.0 – 0.4	15	0.6	0.4 – 1.0[d]

IIR, Injury incidence rate (number of injuries ÷ total number of injuries) x 10; [a]$P = 0.040$; [b]$P = 0.023$ [c]$P = 0.020$; [d]$P = 0.011$

Frequency and Rate of Game-Related College Football Injuries Between FieldTurf and Natural Grass By Primary Type of Injury

	FieldTurf			Natural Grass		
	# of Injuries	IIR	95% CI	# of Injuries	IIR	95% CI
Primary Type of Injury						
Surface/epidermal	10	0.4	0.2 – 0.8	16	0.7	0.4 – 1.1
Contusion	243	10.6	10.1 – 10.9	247	10.5	10.1 – 10.9
Concussion	70	3.0	2.5 – 3.7	90	3.8	3.2 – 4.5
Inflammation	36	1.6	1.2 – 2.1	31	1.3	0.9 – 1.8
Ligament sprain	331	14.4	13.6 – 15.0	385	16.4	15.6 – 17.0[a]
Ligament tear	28	1.2	0.9 – 1.7	55	2.3	1.9 – 2.9
Muscle strain/spasm	142	6.2	5.5 – 6.8	170	7.2	6.6 – 7.8
Muscle tear	3	0.1	0.0 – 0.4	21	0.9	0.6 – 1.3[b]
Tendon strain	24	1.0	0.7 – 1.5	28	1.2	0.8 – 1.7
Hyperextension	16	0.7	0.4 – 1.1	9	0.4	0.2 – 0.7
Neural	56	2.4	1.9 – 3.0	55	2.3	1.8 – 2.9
Subluxation/dislocation	37	1.6	1.2 – 2.1	43	1.8	1.4 – 2.4
Fracture	42	1.8	1.4 – 2.4	42	1.8	1.4 – 2.4

IIR, Injury incidence rate (number of injuries ÷ total number of injuries) x 10; [a]$P = 0.024$; [b]$P = 0.002$

Frequency and Rate of Game-Related College Football Injuries Between FieldTurf and Natural Grass By Grade of Injury and Anatomical Location

	FieldTurf			Natural Grass		
	# of Injuries	IIR	95% CI	# of Injuries	IIR	95% CI
Grade of Injury						
1st degree	812	35.3	34.1 – 35.9	819	34.9	33.6 – 35.5
2nd degree	145	6.3	5.7 – 6.9	235	10.0	9.8 – 10.0[a]
3rd degree	93	4.0	3.4 – 4.7	149	6.3	5.7 – 6.9[b]
Anatomical Location of Injury						
Cranial/cervical	120	5.2	4.6 – 5.9	145	6.2	5.5 – 6.8[a]
Upper extremity	319	13.9	13.1 – 14.5	411	17.5	16.7 – 18.0
Thoracic	73	3.2	2.6 – 3.8	75	3.2	2.6 – 3.8
Lower extremity	538	23.4	22.4 – 24.0	572	24.3	23.3 – 25.0

IIR, Injury incidence rate (number of injuries ÷ total number of injuries) x 10; [a]$P = 0.0001$; [b]$P = 0.007$

Frequency and Rate of Game-Related College Football Injuries Between FieldTurf and Natural Grass By Type of Tissue Injured

	FieldTurf			Natural Grass		
	# of Injuries	IIR	95% CI	# of Injuries	IIR	95% CI
Type of Tissue Injured						
Bone	42	1.8	1.4 – 2.4	42	1.8	1.4 – 2.3
Joint	485	21.1	20.3 – 21.6	555	23.6	22.6 – 24.2
Muscle	385	16.7	15.9 – 17.3	441	18.8	18.1 – 19.1
Neural	126	5.5	4.8 – 6.1	144	6.1	5.5 – 6.7
Other	12	0.5	0.3 – 0.9	21	0.9	0.6 – 1.3

IIR, Injury incidence rate (number of injuries ÷ total number of injuries) x 10

Frequency and Rate of Game-Related College Football Injuries Between FieldTurf and Natural Grass By Head Injuries

	FieldTurf			Natural Grass		
	# of Injuries	IIR	95% CI	# of Injuries	IIR	95% CI
Head Injuries						
1° Cerebral concussion	49	2.1	1.7 – 2.7	60	2.6	2.0 – 3.1
2° Cerebral concussion	20	0.9	0.6 – 1.3	27	1.1	0.8 – 1.6
3° Cerebral concussion		1	0.0	0.0 – 0.2	1	0.0
0.0 – 0.2						
Posttraumatic headache	0	0.0	0.0 – 0.0	2	0.1	0.0 – 0.3
Second impact syndrome	0	0.0	0.0 – 0.0	0	0.0	0.0 – 0.0
Epistaxis	1	0.0	0.0 – 0.2	5	0.2	0.1 – 0.5
Concussion injuries combined	70	3.0	2.5 – 3.7	88	3.7	3.2 – 4.4

IIR, Injury incidence rate (number of injuries ÷ total number of injuries) x 10

Frequency and Rate of Game-Related College Football Injuries Between FieldTurf and Natural Grass By Knee Injuries

	FieldTurf			Natural Grass		
	# of Injuries	IIR	95% CI	# of Injuries	IIR	95% CI
Knee Injuries						
Medial collateral	55	2.4	1.9 – 3.0	58	2.5	2.0 – 3.1
Lateral collateral	5	0.2	0.1 – 0.5	5	0.2	0.1 – 0.5
Anterior cruciate	7	0.3	0.1 – 0.6	17	0.7	0.5 – 1.1
ACL and associated tissue	15	0.7	0.4 – 1.0	13	0.6	0.3 – 0.9
Posterior cruciate	5	0.2	0.1 – 0.5	5	0.2	0.1 – 0.5
PCL and associated tissue	1	0.0	0.0 – 0.2	2	0.1	0.0 – 0.3
Arcuate-popliteal complex	8	0.3	0.2 – 0.7	11	0.5	0.3 – 0.8
Lateral meniscus	6	0.3	0.1 – 0.6	5	0.2	0.1 – 0.5
Medial meniscus	5	0.2	0.0 – 0.5	4	0.2	0.1 – 0.4
Patellar tendon/syndrome	27	1.2	0.8 – 1.7	25	1.1	0.7 – 1.5
ACL injuries combined	22	1.0	0.6 – 1.4	30	1.3	0.9 – 1.8

IIR, Injury incidence rate (number of injuries ÷ total number of injuries) x 10

Frequency and Rate of Game-Related College Football Injuries Between FieldTurf and Natural Grass By Shoulder Injuries

	FieldTurf			Natural Grass		
	# of Injuries	IIR	95% CI	# of Injuries	IIR	95% CI
Shoulder Injuries						
AC separation	60	2.6	2.1 – 3.2	73	3.1	2.5 – 3.7
Rotator cuff tear	2	0.1	0.0 – 0.3	9	0.4	0.2 – 0.7
Dead arm syndrome	41	1.8	1.3 – 2.3	37	1.6	1.2 – 2.1
Impingement syndrome	0	0.0	0.0 – 0.0	1	0.0	0.0 – 0.2
SLAP lesion	5	0.2	0.1 – 0.5	16	0.7	0.4 – 1.1
Hill-Sachs lesion	2	0.1	0.0 – 0.3	5	0.2	0.1 – 0.5
Bankart lesion	2	0.1	0.0 – 0.3	3	0.1	0.0 – 0.4

IIR, Injury incidence rate (number of injuries ÷ total number of injuries) x 10; AC, Acromioclavicular; SLAP, Superior labrum anterior to posterior

Frequency and Rate of Game-Related College Football Injuries Between FieldTurf and Natural Grass By Environmental Factors

	FieldTurf			Natural Grass		
	# of Injuries	IIR	95% CI	# of Injuries	IIR	95% CI
Field Conditions						
No precipitation/dry field	906	39.4	38.4 – 39.6	974	41.4	40.3 – 42.0[a]
Rain	101	4.4	3.8 – 5.0	123	5.2	4.6 – 5.9
Snow	2	0.1	0.0 – 0.3	4	0.2	0.1 – 0.4
Sleet	0	0.0	0.0 – 0.0	0	0.0	0.0 – 0.0
No precipitation/wet field	41	1.8	1.3 – 2.3	102	4.3	3.7 – 5.0[b]
Temperature						
Cold days (≤69°F)	570	24.8	23.7 – 25.4	426	18.1	17.4 – 18.6[b]
Hot days (≥70°F)	480	20.9	20.2 – 21.3	777	33.1	31.9 – 33.7[b]

IIR, Injury incidence rate (number of injuries ÷ total number of injuries) x 10 [a]$P = 0.003$; [b]$P = 0.0001$

Summary

- Although similarities did exist between FieldTurf and natural grass over a three-year period of competitive play, there were significant differences in injury incidence, severity of injury, injury time loss, injury situation, grade of injury, injuries under various field conditions, and temperature between playing surfaces

- No significant difference in head, knee, or shoulder trauma observed between playing surface

- Both surfaces, from a statistical and clinical standpoint, exhibited unique injury etiology that need to be addressed to reduce the number of game-related, college football injuries

Conclusion

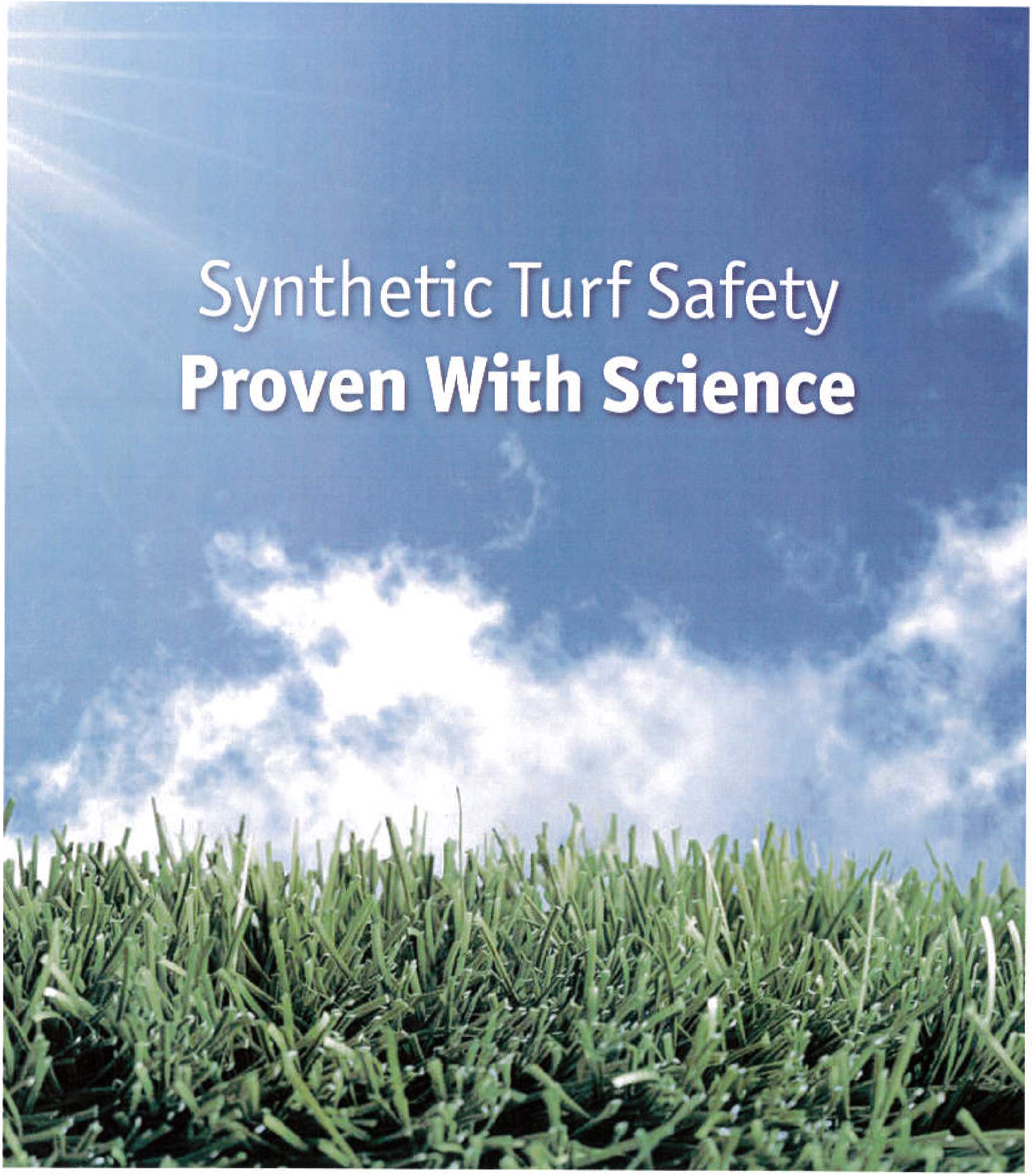
- The hypothesis that college athletes would not experience any difference in the incidence, etiology, and severity of game-related injury between FieldTurf and natural grass was not supported

- FieldTurf is, in many cases, safer than natural grass

- It must be reiterated, however, that findings of this study may only be generalizable to this level of competition

- Since study is still in the early stage, investigation continues

Synthetic Turf Safety
Proven With Science



FieldTurf
A Tarkett Sports Company

THE ULTIMATE
SURFACE EXPERIENCE

Synthetic Turf Safety Proven With Science

The Mother of Invention

The motivation for the invention of FieldTurf was twofold – improve the health and safety of players; and protect the planet.

When FieldTurf was just an idea, athletes were being beat up playing on the dangerous carpet surfaces of that era. Keeping grass fields in good condition required tons of harmful pesticides and chemicals, while irrigation wasted millions of gallons of clean water.

Health and safety was, is and always will be FieldTurf's DNA. Because we don't just make turf. We make a difference.

Over the past decade, our invention has improved player safety, reducing and preventing injuries around the globe. Our turf has eliminated millions of pounds of pesticides and harmful chemicals from the environment and saved billions of gallons of fresh water.

Recent news reports citing a possible link between crumb rubber and cancer have rightfully caused great concern to all. Unfortunately, these reports do not consider the decades of science studying exactly this subject.

Ongoing research continues the efforts to ensure that artificial playing fields reduce health and safety concerns. Not create them.

Before the acceptance of crumb rubber as an approved, safe, infill material for artificial turf, hundreds of studies had been commissioned and executed by health and safety experts worldwide.

The following pages look at some of their findings.

CRUMB RUBBER

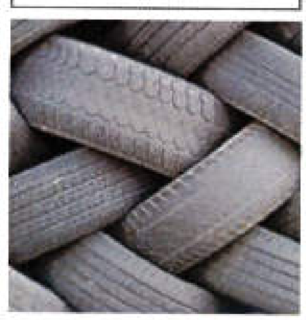
Crumb rubber, made from reclaimed tires, is an important part of the industry's premiere infill option for synthetic turf fields. It has been safely used in many products since being introduced in the early 1990s, and in playgrounds and tracks for much longer. The notoriously resilient SBR rubber material provides enhanced durability and cushioning to prevent injuries and keeps playing surfaces safe. Aside from its use in synthetic turf sports fields, SBR (Styrene-butadiene) rubber, referred to as crumb rubber, is also used in a variety of products from children's rubber toys to surgical gloves to food packaging, and even in chewing gum.

With the growing popularity of synthetic turf, questions have surfaced about the safety of the little black rubber pellets that protect our athletes. Hundreds of studies have been completed to understand any potential risks of artificial turf and its components. Government health ministries and environmental bodies in the U.S. and Europe have commissioned extensive research.

So have world health organizations, leading universities and independent scientific committees. Elected officials have reacted to the concerns of their constituents by commissioning studies to get the facts. The research has been done. The studies exist.

Read what the experts have said in independent testing, studies and reports on the potential health and environmental impact of artificial turf.

'crumb rubber is also used in a variety of products from children's toys to surgical gloves to food packaging, even chewing gum'



INGESTION/ INHALATION

"The SVOCs identified based on library matches of their mass spectra were not present in toxicological databases evaluated and many are ubiquitous parts of consumer products. Similarly, the metal concentrations measured in field samples indicate that the risk would be de minimis among all populations expected to use artificial turf fields"

Brian T. Pavilonis, Clifford P. Weisel, Brian Buckley, and Paul J. Lioy., "Bioaccessibility and Risk Exposure to Metals and SVOC's in Artificial Turf Field Fill Materials and Fibers (2013)"

"The uptake of PAH of football players active on artificial grass fields with rubber crumb infill is minimal. If there is any exposure, then the uptake is very limited and within the range of uptake of PAH from environmental sources and/or diet."

Joost G. M. van Rooij, Frans J. Jongeneelen, "Hydroxypyrene in urine of football players after playing on artificial sports field with tire crumb infill (December 2008)"

"Genotoxicity testing of tire crumb samples following solvent extraction concluded that no DNA or chromosome-damaging chemicals were present. This suggests that ingestion of small amounts of tire crumb by small children will not result in an unacceptable hazard of contracting cancer."

Enviro-Test Laboratories, Alberta Centre for Injury Control and Research, Department of Public Health Sciences, July 2003, 'Toxicological Evaluation for the Hazard Assessment of Tire Crumb for Use in Public Playgrounds'

"Based upon the current evidence, a public health risk appears unlikely. A variety of governmental bodies including Norway, Sweden, New Jersey and California have recently reviewed the health issues; their assessments have not found a public health threat. Sources of exposure unrelated to artificial turf fields are likely more important than the turf fields for many chemicals."

Connecticut Department of Public Health, October 2007, 'Artificial Turf Fields: Health Questions'

'sources of exposure unrelated to artificial turf fields are likely more important than the turf fields'

"Based on the minimal concentrations of chemicals detected, it is considered very unlikely that any significant adverse vapor (inhalation) exposures would occur to humans in close proximity to where crumb rubber is used in outdoor applications."

New Jersey Department of Environmental Protection, Division of Science, Research, and Technology, June 2007, 'Environmental Assessment and Risk Analysis - Preliminary Assessment of the Toxicity from Exposure to Crumb Rubber: its use in Playgrounds and Artificial Turf Playing Fields'

"Two studies, one in California and one at Rutgers University did evaluate the cancer risk if children ingested a mouthable chunk of playground rubber (10 gram), using laboratory extraction methods to estimate the amount of chemicals that might become available in the stomach and absorbed into the body. Both studies found very low cancer risk from this scenario (Cal OEHHA 2007; Pavilonis et al. 2014). Thus, CT DPH finds no scientific support for a finding of elevated cancer risk from inhalation or ingestion of chemicals derived from recycled tires used on artificial turf fields."

State of Connecticut Dept of Health - Brian Toal, Gary Ginsberg - Environmental and Occupational Health Assessment, Jan 2015

DERMAL CONTACT

"Tire crumb does not contain chemicals with high vapour pressures, exposure via inhalation deemed low risk. Oral ingestion deemed low risk because ingestion not likely, furthermore, question of how effective stomach acids and enzymes are at extracting toxic chemicals from tire crumb and transporting them into the blood stream."

D.A. Birkholz, Director, Research & Development, ALS Laboratory Group, Edmonton, Alberta, October 2006, 'Assessing the Health and Environmental Impact from the Use of End-of-Life Tire Rubber Crumb as Artificial Turf in Sports Arenas'

"Based on the available literature on exposure to rubber crumb by swallowing, inhalation and skin contact and our experimental investigations on skin contact we conclude that there is not a significant health risk due to the presence of rubber infill from used car tyres."

INTRON, commissioned by two tyre associations, and supervised by the National Institute for Public Health and the Environment and by the Ministry of Housing, Spatial Planning and the Environment in the Netherlands, April 2008, 'Follow-up study of the environmental aspects of rubber infill'

"Dermal exposure deemed low risk because carrier solvent is needed to extract toxic chemicals from tire crumb and to penetrate protective skin layers"

D.A. Birkholz, Director, Research & Development, ALS Laboratory Group, Edmonton, Alberta, October 2006, 'Assessing the Health and Environmental Impact from the Use of End-of-Life Tire Rubber Crumb as Artificial Turf in Sports Arenas'

"The uptake of PAH by athletes who have contact with crumb rubber synthetic turf is negligible. As far as dermal contact is concerned, the Norwegian Institute of Public Health and Radium Hospital (2006) carried out an extensive analysis of possible health concerns. The study found that there was no evidence to suggest that allergic reactions were caused by exposure to crumb rubber and speculated that latex in car tires was either - less available for uptake or was - deactivated as an allergen."

University of California, Berkeley and the Corporation for Manufacturing Excellence (Manex), February 2010, 'Review of the Impacts of Crumb Rubber in Artificial Turf Applications'

'there is not a significant health risk due to the presence of rubber infill'

AIR QUALITY

"Levels of chemicals in the air at synthetic turf fields do not raise a significant health concern. "

New York State Department of Environmental Conservation & New York State Department of Health, May 2009, 'An Assessment of Chemical Leaching, Releases to Air and Temperature at Crumb-Rubber Infilled Synthetic Fields'

"Twenty air samples were collected above and around two synthetic turf playing surfaces in Connecticut. Ten of the samples were analyzed for volatile nitrosamine content and 10 were analyzed for benzothiazole and 4-(tert-octyl) phenol content. The samples were collected on warm, late summer days during periods of light to calm winds. In one case, the synthetic turf surface had been groomed three days prior to the sampling. The sampling was conducted during periods when the temperature of the crumb rubber in-fill material was elevated due to exposure to the sun. The combination of air temperatures, surface temperatures, wind speed and, the recent maintenance of one of the fields, are believed to be conditions favorable for generating maximum concentrations of the analytes in the air column above and around the playing surfaces. This study determined that under favorable conditions for vapor generation, no detectable concentrations of volatile nitrosamines or 4-(tert-octyl) phenol existed in the air column at a height of four feet above the tested synthetic playing surfaces or in the air either upwind or downwind of the fields."

Milone & MacBroom, engineering, landscape architecture, and environmental science firm based in Connecticut, December 2008, 'Evaluation of the Environmental Effects of Synthetic Turf Athletic Fields'

'larger granules used in artificial turf will have even less potential for emissions.'

"The majority of the studies have been on higher surface area particles and have concluded they are currently acceptable. Therefore the larger granules used in artificial turf will have even less potential for emissions. For example a study undertaken by the Danish Ministry of the Environment concluded that the health risk on children's playgrounds that contained both worn tyres and granulate rubber was insignificant. The available body of research does not substantiate the assumption that cancer resulting from exposure to SBR granulate infills in artificial turf could potentially occur."

Prof. Dr. Jiri Dvorak, FIFA, July 2006, 'An Open Letter concerning the potential cancer risk from certain granulate infills from artificial turf'

"It is unlikely that any losses could occur to air or water in concentrations that would pose serious human or environmental risk. This opinion is supported by the reports and academic studies reviewed, which have shown insignificant environmental effects of such chemicals or release of volatiles and particulates into the atmosphere."

British Standards Institute (BSI), the Sports and Play Construction Association (SAPCA), March 2007, 'Twenty Questions [and Answers] on Rubber Granulate'

AIR QUALITY/ VOCS

"The results of the INERIS Health Risk Evaluation, based on the concentration of the substances and worst-case scenarios, indicate that the VOC and aldehyde emissions from the three types of artificial grass fields studied in small and poorly ventilated indoor gymnasium situations are of no cause for concern for human health, for the workers installing the surfaces as well as for the general public, professional or amateur athletes, adults and children. In conclusion to its study, the INERIS stipulates that the health risks associated with the inhalation of VOC and aldehydes emitted by artificial grass fields in outdoor situations give no cause for concern towards human health."

Aliapur & Ademe (Environmental French Agency), 2007, 'Environmental and Health Evaluation of the Use of Elastomer Granulates (Virgin and from Used Tyres) as Filling in Third-Generation Artificial Turf'

"We found there to be very little exposure of any substances, carcinogenic or not, in the vapors and dust that these fields generate under active use, summer conditions. Background levels of chemicals in urban and suburban air from heating sources and automobile traffic are much more significant sources of airborne carcinogens."

State of Connecticut Dept of Health - Brian Toal, Gary Ginsberg - Environmental and Occupational Health Assessment, Jan 2015

'indoor gymnasium situations are of no cause for concern for human health'

WATER QUALITY

"The artificial (FieldTurf) field at Tabor Academy does not pose a threat to water quality or aquatic life. Water samples taken from the field in 2013 were tested for arsenic, cadmium, chromium, lead, mercury and zinc."

Camp, Dresser, McKee and Smith, Inc, "Tabor Academy – Synthetic Turf Athletic Field Evaluation (March 2014)"

"There is no significant threat from chemicals leaching into surface water and groundwater. While some chemicals can be released from crumb rubber over time, they are in small concentrations and are reduced by absorption, degradation and dilution - resulting in no significant impact on groundwater or surface water."

New York State Department of Environmental Conservation & New York State Department of Health, May 2009, 'An Assessment of Chemical Leaching, Releases to Air and Temperature at Crumb-Rubber Infilled Synthetic Fields'

"The evaluation of the stormwater drainage quality from synthetic turf athletic fields included the collection and analysis of eight water samples over a period of approximately one year from three different fields, the collection and analysis of samples of crumb rubber in-fill from the same three fields plus a sample of raw crumb rubber obtained from the manufacturer, and the evaluation of the effect of the stone base material on the pH of the drainage water. The results of the study indicate that the actual stormwater drainage from the fields allows for the complete survival of the test species called Daphnia pulex. An analysis of the concentration of metals in the actual drainage water indicates that metals do not leach in amounts that would be considered a risk to aquatic life as compared to existing water quality standards. Analysis of the laboratory based leaching potential of metals in accordance with acceptable EPA methods indicates that metals will leach from the crumb rubber but in concentrations that are within ranges that could be expected to leach from native soil."

Milone & MacBroom, engineering, landscape architecture, and environmental science firm based in Connecticut, December 2008, 'Evaluation of the Environmental Effects of Synthetic Turf Athletic Fields'

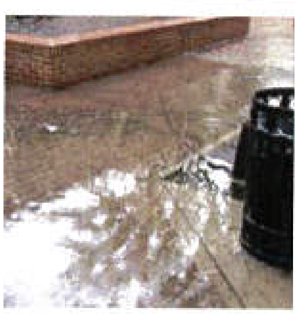
"Given that undiluted runoff is not likely and that three months is an outside estimate of the duration of toxicity, it is doubtful that tire crumb would present a significant risk of contamination in receiving surface waters or groundwater."

Enviro-Test Laboratories, Alberta Centre for Injury Control and Research, Department of Public Health Sciences, July 2003, 'Toxicological Evaluation for the Hazard Assessment of Tire Crumb for Use in Public Playgrounds'

'no basis for health or environmental concern due to leaching of hazardous materials'

"Several recent studies explored this concern in great depth and found no basis for health or environmental concern due to leaching of hazardous materials from synthetic turf installations, similar to the one at Maple Park. REAC believes that there is sufficient evidence to support the conclusion that the field design at Maple Park poses no risk to the local environment in Ridgewood."

Ridgewood Environmental Advisory Committee (REAC) January-October 2009, 'Assessment of Environmental, Health and Human Safety Concerns Related to the Synthetic Turf Surface at Maple Park in Ridgewood, NJ'



PAHS / CANCER RISK

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Joost G. M. van Rooij, Frans J. Jongeneelen, "Hydroxypyrene in urine of football players after playing on artificial sports field with tire crumb infill (December 2008)"

"...risk is well below the di minimis level of 1 x 10-6 (one in one million), generally considered an acceptable cancer risk due to its small magnitude compared to the overall cancer rate"

Office of Environmental Health Hazard Assessment / California Integrated Waste Management Board, "Evaluation of Health Effects of Recycled Waste Tires in Playground and Track Products (January 2007)"

"Genotoxicity testing of tire crumb samples following solvent extraction concluded that no DNA or chromosome-damaging chemicals were present. This suggests that ingestion of small amounts of tire crumb by small children will not result in an unacceptable hazard of contracting cancer."

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"the uptake is within the range of uptake of PAH from other environmental sources or diet"

"The uptake of PAH by athletes who have contact with crumb rubber synthetic turf is negligible."

University of California, Berkeley and the Corporation for Manufacturing Excellence (Manex), "Review of the Impacts of Crumb Rubber in Artificial Turf Applications (February 2010)"

"Based upon the information reviewed on PAH exposure in humans and the results of the PAH air testing performed by J.C. Broderick & Associates, the potential for exposure to PAHs during normal use of the athletic field at Schreiber and Comsewogue appears to be minimal or insignificant."

J.C. Broderick & Associates, commissioned by Schreiber High School and Comsewogue High School (NY), October 2007, 'Ambient Air Sampling for PAH's'

"The studies to date have concluded that PAHs (Polynuclear Aromatic Hydrocarbons) are not released or at most negligibly released from tyre abradate (The University of Dortmund Institute for Environmental Research 1997). Epidemiological studies conducted by the Health Effects Institute, The World Health Organisation and other investigators do not implicate tyre wear particles in ambient air as contributing to human health effects (respiratory and cardiovascular diseases)."

Prof. Dr. Jiri Dvorak, FIFA, July 2006, 'An Open Letter concerning the potential cancer risk from certain granulate infills from artificial turf'

PAHS / CANCER RISK

"The majority of the studies have been on higher surface area particles and have concluded they are currently acceptable. Therefore the larger granules used in artificial turf will have even less potential for emissions. For example a study undertaken by the Danish Ministry of the Environment concluded that the health risk on children's playgrounds that contained both worn tyres and granulate rubber was insignificant. The available body of research does not substantiate the assumption that cancer resulting from exposure to SBR granulate infills in artificial turf could potentially occur."

Prof. Dr. Jiri Dvorak, FIFA, July 2006, 'An Open Letter concerning the potential cancer risk from certain granulate infills from artificial turf'

"No significant differences were found between artificial football fields and urban sites. No differences were found between artificial football fields and "natural" football fields. There would not be any more risk on an artificial turf football field than there would be in the rest of the city."

Università degli Studi di Torino "Artificial Turf Football Fields: Environmental and Mutagenicity Assessment (July 2012)"

"Overall, then, for several reasons, I find no reliable basis for the notion that crumb rubber in-filled synthetic turf fields pose a significant risk of cancer. Several groups of investigators, from academia, government, and consulting firms, have performed environmental monitoring and/or modeling studies of crumb rubber and synthetic turf fields, and have reached the same conclusion."

Laura C. Green, Ph.D., D.A.B.T., Consulting Toxicologist "Assessment of recent media reports of cancer among soccer players using synthetic turf fields (March 2014)"

"The Connecticut Department of Public Health has evaluated the potential exposures and risks from athletic use of artificial turf fields. Our study of 5 fields in Connecticut in 2010-2011 was a comprehensive investigation of releases from the fields during active play. This study was conducted as a joint project with the CT DEEP and the University of CT Health Center and was peer-reviewed by the Connecticut Academy of Science and Engineering. Our study did not find a large amount of vapor or particle release from the fields confirming prior reports from Europe and the US."

"We put these exposures into a public health context by performing a risk assessment. Our risk assessment did not find elevated cancer risk."

State of Connecticut Dept of Health - Brian Toal, Gary Ginsberg - Environmental and Occupational Health Assessment, Jan 2015

Noted toxicologist Laura C. Green, Ph.d., recent addressed the recently reported "Yale Study" from Connecticut non-profit group Environment and Human Health, Inc (EHHI).

"For many reasons, the EHHI/Yale study does not demonstrate that rubber mulch or crumb rubber pose a significant risk of cancer (or other diseases)."

"First, the study has not been published (or released in any complete form) nor, to my knowledge, has it been peer reviewed. In fact, contrary to the press release, the study does not appear to have been written up in even an unpublished manuscript. At my request, Nancy Alderman of EHH was kind enough to supply me with a summary of some of the methods and a spreadsheet of the results to date: I have attached these materials to this memorandum."

PAHS / CANCER RISK

"Second, as far as I can tell, the summary results presented are entirely non-quantitative: there is no indication of the concentrations of any of the detected chemicals, let alone is there any attempt to assess levels of exposure or doses potentially received by children or others playing on or near rubber mulch or crumb rubber. Accordingly, there is no way to judge the degree to which any such exposures might be risky. Since all of us eat, drink, and otherwise contact at least trace levels of many carcinogens daily, it is crucial to be quantitative when assessing cancer-risks (and then acting upon those assessments). Absent at least semi-quantitative estimates of risk, informed judgments simply cannot be made."

"Third, to the summary of the study-methods, the chemicals were detected in methylene chloride extracts of a mixture of ground and ungrounded crumb rubber or rubber mulch — but methylene chloride extraction is not a relevant or reliable means of assessing how rubber mulch in playgrounds might become solubilized or otherwise release chemicals that could then be absorbed across a child's skin, for example, or across a child's digestive tract (were he or she to ingest some rubber). For purposes of human health risk assessment, instead of using a non-biological solvent such as methylene chloride, one should use simulated sweat or simulated gastric fluid, as used in the published, peer--reviewed study by Pavilonis et al., 2014, for example, cited above."

"Fourth, EHHI reports that eight of the chemicals detected in the methylene chloride extracts of at least one of the nine samples of mulch are "probable carcinogens" (there were another five samples of "infill" that are not considered here) — but none of these eight chemicals is so categorized by authoritative bodies, such as the International Agency for Research on Cancer (IARC), the U.S. National Toxicology Program (NTP), or the U.S. Environmental Protection Agency (EPA). Moreover, not one of the putative "probable carcinogens" is consistently detected in the samples of mulch."

"For example, EHHI lists pyrene (detected in seven of the nine samples) as a carcinogen, but no rodent bioassays of pyrene are in fact positive; and, per U.S. EPA, "Overall, the database for pyrene is substantial, and the weight of evidence suggests that this PAH is not carcinogenic" (EPA--635--R--08--012A). Not surprisingly, then, neither IARC nor NTP lists pyrene as either known or a probable human carcinogen (See Here). Similarly, EHHI lists heptadecane (detected in one of the samples) as a carcinogen, but no rodent bioassays indicate that heptadecane is carcinogenic, and it is not listed as a carcinogen by either IARC or NTP. EHHI lists phthalamide as a carcinogen, but the NTP bioassays for phthalamide yielded negative results in male and female rats and mice, and it is not listed as a carcinogen by either IARC or NTP."

"And EHHI lists 9,10--dimethylanthracene, fluoranthene, phenanthrene, 4--(1,1,3,3--tetramethylbutyl)--phenol, and 1--methylpyrene as carcinogens; but, again not one of these five chemicals is listed as a carcinogen by either IARC or NTP."

"Finally, I would note that the chemicals butadiene and benzene were not detected in this EHHI/Yale study. Recall that these two chemicals are indeed established causes of cancer in humans, and that EHHI had hypothesized that both are present — and presumably bioavailable — at significant concentrations in crumb rubber and rubber mulch. I would add that the elevated temperatures used to dry and to analyze the samples would likely have obscured the presence of either compound, but it remains the case that the causal hypothesis raised by EHHI has yet to be supported by actual data or other reliable evidence."

Laura C. Green, Ph.D., D.A.B.T., Consulting Toxicologist
June 29, 2015

MRSA/STAPH

The spread of MRSA has prompted parents and other concerned citizens to rightfully question why their children are getting sick. Recent research has proven that synthetic turf does not play a role in promoting MRSA/staph and the concerns are often brought on by companies or lobbyists with a vested interest in anti-microbial products.

Research at Penn State confirms that Staph is not an issue on turf and that natural grass harbors more bacteria.

http://plantscience.psu.edu/research/centers/ssrc/research/synthetic-turf-research-penn-state

> In conclusion, there are generally lower numbers of total microbes present in the infill or fibers of the synthetic turf systems tested compared to natural turfgrass rootzones and Staphylococcus aureus bacterium were not found on any of the playing surfaces. Staphylococcus aureus bacterium were found on towels and other devices used by athletes.
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> Under non-extreme temperature and very limited light conditions present during the indoor portion of this study, S. aureus survived on both synthetic and natural turfgrass for multiple days. However, the bacteria do not appear to thrive under these conditions as the numbers of surviving bacteria decrease significantly with time.

http://plantscience.psu.edu/research/centers/ssrc/documents/human-health-issues-on-synthetic-turf-in-the-usa.pdf

> Based on the findings of the S. aureus survey, concern that infilled synthetic turf harbours and provides a breeding ground for S. aureus bacteria is unwarranted within the context of this study. S. aureus bacteria were found on a number of surfaces that athletes commonly come into contact with, such as towels and blocking pads; however, the tested synthetic turf did not contain any S. aureus. It is important to note that synthetic turf is more abrasive than natural turf grass and, as a result, breaks in the skin are more common, creating a pathway for infection when in contact with an infected surface.

The "Recommended Practices for the Maintenance of Infill Surfaces for NFL Games" states that "Clubs should not use antimicrobial agents on infill turf surfaces. The medical and scientific communities have not documented any benefit of using such agents on infill turf surfaces and there may be potential disbenefit to doing so."

RP 4: Anti-Bacterial Agents Recommendation recap:

> The Centers for Disease Control and Prevention (CDC) does not recognize infill turf as a significant source of MRSA infections. [See Appendix E] As the CDC has stated "[t]here is a lack of evidence that large-scale use (e.g., spraying or fogging rooms or surfaces) of disinfectants will prevent MRSA infections more effectively than a more targeted approach of cleaning frequently-touched surfaces." [See Appendix E] This RP should not be interpreted as preventing the use of cleansing agents such as detergents and soaps to clean infill turf surfaces provided that such cleaning is performed in accordance with the recommendations of the applicable turf and cleaning agent manufacturers.

MRSA/STAPH

References on the Use of Anti-Bacterial Agents:

Aureden, K. and S. Garber. 2003. Methicillin-Resistant Staphylococcus aureus Infections Among Competitive Sports Participants --- Colorado, Indiana, Pennsylvania, and Los Angeles County, 2000– 2003. MMWR 52(33);793-795. http://www.apic.org/AM/Template.cfm?Section=Reports1&Template=/CM/ContentDisplay.cfm&ContentFileID=4262

Begier et al. 2004. A High-Morbidity Outbreak of Methicillin-Resistant Staphylococcus aureus among Players on a College Football Team, Facilitated by Cosmetic Body Shaving and Turf Burns. Clin Inf Dis;39:1446–53.

Kazakova et al. 2005. A Clone of Methicillin-Resistant Staphylococcus aureus among Professional Football Players. N Engl J Med;352:468-75.

McNitt, A.S. 2005. Synthetic turf in the USA - Trends and issues. Int. Turfgrass Soc. Res. J. 10:27-33.

McNitt, A.S., D.M. Petrunak, and T.J. Serensits. 2008. A Survey for the Presence of Staphylococcus aureus in the Infill Media of Synthetic Turf. Acta Horticulture. 783:567-572. http://cropsoil.psu.edu/ssrc/research/microbial

"Outbreaks of antibiotic-resistant strains of staph last year gained significant media attention, resulting in the temporary closing of school buildings and athletic facilities. Our research found that infilled synthetic turf systems do not harbor significant populations of staph bacteria to warrant concern."

Dr. Andrew McNitt, Associate Professor of Soil Science at Penn State University, June 2007, 'A Survey of Microbial Populations in Infilled Synthetic Turf Fields'

The California EPA's Office of Environmental Health Hazard Assessment conducted a review of available literature entitled, Chemicals and Particulates in the Air Above the New Generation of Artificial Turf Playing Fields, and Artificial Turf as a Risk Factor for Infection by Methicillin-Resistant Staphylococcus Aureus (MRSA). The review concluded that "there is a negligible human health risk from inhaling the air above synthetic turf and it is unlikely that the new generation of artificial turf is itself a source of MRSA."

California EPA Office of Environmental Health Hazard Assessment, July 2009, 'Chemicals and Particulates in the Air Above the New Generation of Artificial Turf Playing Fields, and Artificial Turf as a Risk Factor for Infection by Methicillin-Resistant Staphylococcus Aureus (MRSA)'

"This confirms what we thought all along," Cole said. "The speed with which we obtained the results is a testament to how clean things are there."

Allegheny County Health Department, October 2007

"There is no data to suggest that turf will ever spread MRSA. We sampled the turf for the Rams' investigation and didn't find it. We actually observed the game. We mapped where the contact on the turf occurred. We sampled those areas where the players were tackled. And then we sampled areas where there wasn't any direct contact to the turf. We didn't find any Staph or MRSA."

Jeff Hageman, Centers for Disease Control, May 2006

MRSA/STAPH

"In the outbreaks of MRSA, the environment has not played a significant role in the transmission of MRSA. MRSA is transmitted most frequently by direct skin-to-skin contact. You can protect yourself from infections by practicing good hygiene (e.g., keeping your hands clean by washing with soap and water or using an alcohol-based hand rub and showering after working out); covering any open skin area such as abrasions or cuts with a clean dry bandage; avoiding sharing personal items such as towels or razors; using a barrier (e.g., clothing or a towel) between your skin and shared equipment; and wiping surfaces of equipment before and after use."

Centers for Disease Control, February 2005

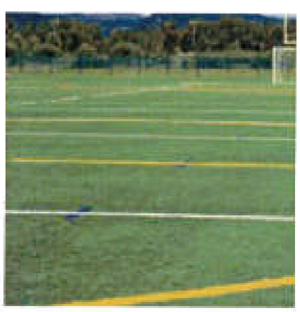
"We have an injury reporting tracking system and it's limited by sample size, but we haven't had any linkage to turf," said the NCAA's David Klossner. "I know there have been some reports in the media. The CDC continues to tell us that the turf is not a harbor for this MRSA/staph infection. And if things are handled appropriately as far as hygiene practices, common sense, and wound cleaning and coverage, then a lot of these things can be prevented."

NCAA Director of Health and Safety, David Klossner, November 2006

"MRSA infection has never been reported in connection with the synthetic surface at Maple Park or similar field designs. Several studies have proven that there is no connection between current generation synthetic surfaces and MRSA infections."

Ridgewood Environmental Advisory Committee (REAC) January-October 2009, 'Assessment of Environmental, Health and Human Safety Concerns Related to the Synthetic Turf Surface at Maple Park in Ridgewood, NJ'

The spread of MRSA has prompted parents and other concerned citizens to rightfully question why their children are getting sick. Recent research has proven that synthetic turf does not play a role in promoting MRSA/staph and the concerns are often brought on by companies or lobbyists with a vested interest in anti-microbial products.



MRSA/STAPH

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'there is no connection between current generation synthetic surfaces and MRSA infections'

The "Recommended Practices for the Maintenance of Infill Surfaces for NFL Games" states that "Clubs should not use antimicrobial agents on infill turf surfaces. The medical and scientific communities have not documented any benefit of using such agents on infill turf surfaces and there may be potential disbenefit to doing so."

HEAT OVERVIEW

In most climates, heat on synthetic turf fields is not an issue. But on a hot summer day, things outside can get hot.

Dr. Andy McNitt, head of the Penn State Center for Sports Surface Research, advises trainers to be aware of the heat when practicing in the summer on clear days. He recommends cutting down on practice times, considering pulling players off fields earlier and taking more breaks to cool down.

Collected data indicated that the air temperature as measured at a distance of two feet above the synthetic turf surface ranged from one to five degrees greater than the observed ambient air temperature, while the temperature at the same height above the natural turf ranged from 3° F lower to 1° F greater than the ambient air temperature. The measured air temperature at a height of five feet above the synthetic turf more closely approximated the ambient air temperature. Measured air temperatures ranged from 2° F lower to 2° F greater than the ambient air temperature.

Time of day (hrs)	Ambient Temperature	Natural Grass		Synthetic Turf	
		Air Temperature 2 feet above surface	Air Temperature 5 feet above surface	Air Temperature 2 feet above surface	Air Temperature 5 feet above surface
	°F	°F	°F	°F	°F
12:00	101	99	101	103	101
12:30	101	99.7	101	104	101
13:00	103	100	103	104	101
13:30	102	101	102	103	101
14:00	101	100	101	103	101
14:30	99	97	99	104	101
15:00	99	100	99	104	101

"The results of the temperature measurements obtained from the fields studied in Connecticut indicate that solar heating of the materials used in the construction of synthetic turf playing surfaces does occur and is most pronounced in the polyethylene and polypropylene fibers used to replicate natural grass, rather than the crumb rubber particles. Rapid cooling of the fibers was noted if the sunlight was interrupted or filtered by clouds. Significant cooling was also noted if water was applied to the synthetic fibers in quantities as low as one ounce per square foot. The elevated temperatures noted for the fibers generally resulted in an air temperature increase of less than five degrees even during periods of calm to low winds."

Milone & MacBroom, engineering, landscape architecture, and environmental science firm based in Connecticut

'measured air temperatures ranged from 2° F lower to 2° F greater than the ambient air temperature'

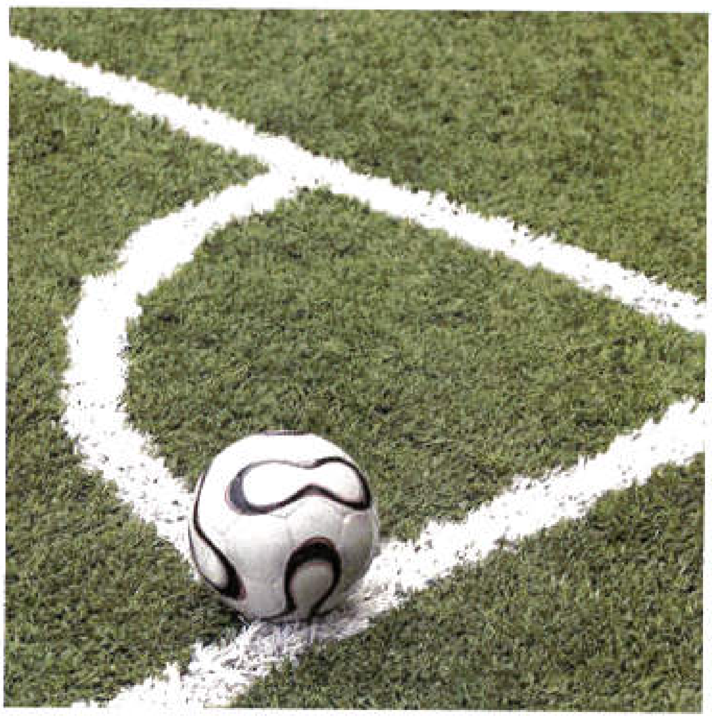
HEAT OVERVIEW

"The study entitled 'Incidence, Mechanisms, and Severity of Game-Related College Football Injuries on FieldTurf versus Natural Grass - A Three Year Prospective Study', shows that there were double the amount of heat-related illnesses on natural grass playing surfaces compared with FieldTurf artificial turf fields."

Michael C. Meyers, PhD, FACSM, Department of Health and Human Development Montana State University

"The ambient air above both surfaces differed by only 3°F at 12" above the surface and approximately 2°F at 39" (the approximate chest height of a typical youth athlete). The differences in the ambient air were undetectable without a thermometer. In both cases, the ambient air temperature above the surfaces was slightly higher than the general air temperature."

Ridgewood Environmental Advisory Committee (REAC) January-October 2009, 'Assessment of Environmental, Health and Human Safety Concerns Related to the Synthetic Turf Surface at Maple Park in Ridgewood, NJ'



'there were double the amount of heat-related illnesses on natural grass playing surfaces compared with FieldTurf artificial turf fields'

LEAD

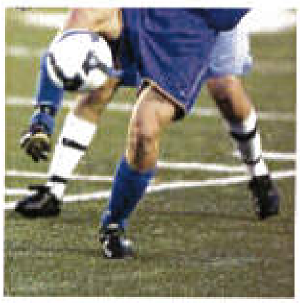
In April 2008, some synthetic turf fields in New Jersey were shut down by the New Jersey Department of Health and Senior Services for elevated levels of lead. However, test results have since indicated there was no lead in the air, soil or in the dust created by the removal of one of the fields.

Both fields were subsequently re-opened.

Lead chromate is not lead carbonate, the lead formerly found in paint. This inorganic substance is used to color the synthetic turf fiber. In synthetic turf, the silica-coated, encapsulated pigment particles are used to improve performance characteristics and reduce toxicity. Bioavailability of lead from pigment is extremely low. It is almost completely insoluble, not an inhalation hazard and not readily absorbed by the body if ingested.

"In July 2008, a U.S. Product Safety Commission staff report concluded that synthetic turf fields are OK to install and play on for people of all ages. The evaluation of older and newer synthetic turf fields concluded that 'young children are not at risk from exposure to lead in these fields.' The report showed that newer fields had no lead or generally had the lowest lead levels. Although small amounts of lead were detected on the surface of some older fields, none of the tested fields released amounts of lead that would be harmful to children."

U.S. Consumer Product Safety Commission, July 2008, "CPSC Staff Finds Synthetic Turf Fields OK to Install, OK to Play On"



"Testing on FieldTurf fields have consistently shown 10-20 ppms or less than 5% of the lead level regarded as problematic. No cases of elevated blood lead levels in children have been linked to artificial turf on athletic fields in New Jersey and elsewhere."

Center for Disease Control (CDC), June 2008, "Potential Exposure to Lead in Artificial Turf: Public Health Issues, Actions, and Recommendations"

"Based on existing HUD Guidelines and EPA standards, lead hazard risk assessments at these four DPR synthetic turf fields did not identify lead hazards."

New York City Department of Health and Mental Hygiene, January 2008

"Lead chromate levels are well below that necessary to cause harm to children and athletes using the popular playing field surfaces. No acute health risks due to use of artificial turf fields, and risks due to chronic and repeated exposure are unlikely."

New Jersey Department of Health and Senior Services (NJDHSS), April 2008

"A sample of stormwater was collected from the drainage system of two fields on April 28, 2008, and July 24, 2008, respectively. The results showed that lead was not detected in the drainage from either field."

Milone & MacBroom, engineering, landscape architecture, and environmental science firm based in Connecticut, December 2008, 'Evaluation of the Environmental Effects of Synthetic Turf Athletic Fields'

'young children are not at risk from exposure to lead in these fields'

"Because the lead chromate is encapsulated in the fibers, it is presumed not to be bioavailable (is not released through contact) and cannot be absorbed by humans or other living systems. Research shows that contact with, or incidental ingestion of, the fibers or rubber infill poses no health risk."

Ridgewood Environmental Advisory Committee (REAC) January-October 2009, 'Assessment of Environmental, Health and Human Safety Concerns Related to the Synthetic Turf Surface at Maple Park in Ridgewood, NJ'

WHAT THE EXPERTS SAY

"The studies acknowledge that turf field materials contain hazardous constituents and that the public, notably children, are in contact with these hazardous constituents. What has not been demonstrated, however, is an exposure pathway by which the constituents can enter the body of the field users and do damage or initiate disease. For a hazardous material to actually present a risk for the end user there has to be a pathway of exposure and a way for the chemical to do damage."

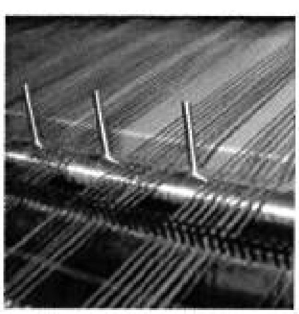
"One of the chemicals proposed as a hazardous constituent of crumb rubber illustrates this point. Carbon black is classified by the IARC as possibly carcinogenic to humans. Most of the data available linking carbon black to cancer comes from occupational studies, where workers were exposed to high concentrations of fine carbon black dust for many years. The studies evaluated during this review did not document the presence of fine particulate or specifically identify carbon black. It appears likely that the carbon black in artificial turf/crumb rubber systems remains bound in the relatively large chunks of tire rubber, making it unavailable for distribution as a fine dust and therefore unavailable for uptake by the field users. Based on the scientific research, there is neither the dose, nor the exposure route, to indicate a health hazard for artificial turf/ crumb rubber field users."

"All studies acknowledge that additional data is needed to more fully assess potential exposures and possible health risks associate with the use of artificial turf fields with crumb rubber. In the meantime, leading public health agencies, such as the EPA and Consumer Product Safety Commission, are supporting continued use of artificial turf fields with crumb rubber."

Literature Review For Health Risks Associated With Artificial Turf / Crumb Rubber
Elizabeth Black, CIH
April 12, 2015

"The lead levels that were discovered are isolated to the core samples of the turf, and did not appear in the samples of dust, wipes and blades of artificial grass taken from the field - in other words, the lead is encapsulated in the fibers inside the turf and not leaching out to the surface to be ingested."

Patrick Guilmette – PMT Group; premier environmental and consulting engineering firm in NY, NJ, CT, PA



WHAT THE EXPERTS SAY

"If a green synthetic turf field containing lead chromate is still green, then the lead chromate is still in the yarn. If the Yellow Chromate had leached out, the field would likely be blue. Lead chromate is stable when encapsulated in the fiber into which it is extruded. Being encapsulated in the fiber, the lead in the lead chromate is not readily bio-available - meaning that even if the yarn breaks down, the lead in the complex compound which is lead chromate is not readily absorbed by the body."

Dr. Davis Lee, Ph.D, Synthetic Organic Chemistry, Executive in Residence at the Georgia Institute of Technology School of Polymer, Textile, and Fiber Engineering, April 2008

"In interpreting the health risk from these results, it is important to recognize that people do not ingest the actual turf fibers. The NJ and EPA soil standards of 400 mg/kg are based on an assumption that small children may ingest approximately 100 mg of soil per day through hand to mouth activity. Thus, comparing the concentration of lead in the turf fiber to an acceptable soil lead concentration is not an accurate way to evaluate the human health risk from exposure to lead in turf fibers and is likely to overestimate risk, because the turf fiber is unlikely to be ingested (if at all) to the same extent as lead in soil.

The best way to evaluate exposure to lead on synthetic turf fields is to evaluate the dust present on the surface of the field. When people play on the field, they may get dust onto their hands or other exposed skin, and transfer the dust into their mouth through normal hand to mouth activity. Thus, the primary route of exposure we are concerned with is ingestion of dust. Lead has no appreciable absorption through the skin, and the inhalation of dust from the field is expected to be minimal, as any dust is likely to adhere to the turf fiber or rubber crumb padding rather than becoming airborne."

Toxicologist Dr. Barbara D. Beck, a lecturer in Toxicology at Harvard; Former Chief of Air Toxics Staff in Region I EPA; Fellow, Interdisciplinary Programs in Health at the Harvard School of Public Health, May 2008

'none of the tested fields released amounts of lead that would be harmful to children'

CONCLUSION

Concern for a safe and healthy environment is always of paramount importance. Going Green. Eco-friendly. Environmentally safe. These are common phrases heard over and over as we push for a clean, sustainable future.

The recent spate of media coverage concerning artificial/synthetic turf is more hype than fact. It is important to first get the truth from the science.

We are not aware of an injury or sickness diagnosed as a result of inhalation, ingestion, or of exposure to any of the components in the FieldTurf system.

Research and testing has been and continues to confirm that properly manufactured synthetic turf surfaces are a safe and sizeable contributor to an eco-friendly lifestyle.

Many countries have commissioned extensive studies to identify any potential dangers of crumb rubber (SBR). Throughout the years such research and testing has been carried out by world health associations, national health departments, municipal and federal groups, sporting associations, environmental protection groups, government ministries and official bodies.

These studies originated mostly in countries where environmental issues are of paramount importance. When the potential dangers were first presented, some countries even prohibited the use of SBR rubber in artificial grass fields. To our knowledge, the countries that originally restricted or prohibited the use of SBR have reversed their position since reviewing the data and results of the comprehensive studies they instituted.

THE RESEARCH HAS BEEN DONE. THE STUDIES EXIST. GET THE FACTS AND FIND OUT FOR YOURSELF.

Synthetic Turf Safety
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Information

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FieldTurf
A Tarkett Sports Company

THE ULTIMATE
SURFACE EXPERIENCE

LABOSPORT

TECHNICAL REPORT

Toxicological Analysis of performance infill for synthetic turf fields according to *EN 71-3* standard
– Safety of toys Part 3: Migration of certain elements.

Report Number **R14565CAN-A1**

Jason Smollett
Marketing Manager

Client FieldTurf® A Tarkett Sports Company | THE ULTIMATE SURFACE EXPERIENCE

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Date **December 12th 2014**

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SUMMARY

Toxicology test according to **EN 71-3 - *Safety of toys Part 3: Migration of certain elements (Material of Category III)*** has been carried out on performance infill samples.

Abstract:

The EN 71-3 standard specifies maximum migration limits for three categories of (toy) materials. The limits for the migration of certain elements are expressed in milligrams per kilogram material and are detailed in the report. The purpose of the limits is to minimise children's exposure to certain potentially toxic elements. The EN 71-3 concerns all toys and materials that might be ingested.

Soluble elements are extracted from materials using conditions which simulate the material remaining in contact with gastric juices for a period of time after swallowing. The concentrations of the soluble elements are determined quantitatively by two different methods:

1. Method for determining general elements: Aluminium, Antimony, Arsenic, Barium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Mercury, Nickel, Selenium, Strontium, Tin and Zinc;
2. Method for determining Chromium (III) and Chromium (VI);

DESCRIPTION OF THE PRODUCT

Description of the product tested	PERFORMANCE INFILLS FOR SYNTHETIC TURF FIELDS
Sample number	CAN0001608 - TPE CAN0001609 – NIKE GRIND CAN0001610 - ECOMAX CAN0001611 – PUREFILL CORK CAN0001612 - CRYOGENIC RUBBER CAN0001613 – COOL PLAY CAN0001614 – ARC EPDM
Date of the tests	DECEMBER 2014

Note: The results of this report are only valid for the samples tested.

REPORTED BY:

Mickaël Benetti, T.P.
(Lab Manager) - Writer

Guillaume Loubersac
(Director) - Approver

TOXICOLOGICAL ANALYSIS – EN71-3

RESULTS– CAN0001608-TPE

Element	Units	Test method	Results	Requirements Category III	Pass/Fail
Aluminium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**36.4**	70 000	Pass
Antimony	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	560	Pass
Arsenic	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	47	Pass
Barium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**1.58**	18 750	Pass
Boron	mg/kg MS	*NF EN ISO 17294-1 et 2*	**3.0**	15 000	Pass
Cadmium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	17	Pass
Cobalt	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	130	Pass
Copper	mg/kg MS	*NF EN ISO 17294-1 et 2*	**6.44**	7 700	Pass
Lead	mg/kg MS	*NF EN ISO 17294-1 et 2*	**0.5**	160	Pass
Manganese	mg/kg MS	*NF EN ISO 17294-1 et 2*	**1.30**	15 000	Pass
Mercury	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	94	Pass
Nickel	mg/kg MS	*NF EN ISO 17294-1 et 2*	**68.2**	930	Pass
Selenium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	460	Pass
Strontium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**10.2**	56 000	Pass
Tin	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	180 000	Pass
Zinc	mg/kg MS	*NF EN ISO 17294-1 et 2*	**23.4**	46 000	Pass
Chrome Total	mg/kg MS	*NF EN ISO 17294-1 et 2*	**2.79**	-	-
Chromium III	mg/kg MS	*NF EN ISO 17294-1 et 2*	**<2.59**	460	Pass
Chromium VI	mg/kg MS	*NF T 90-043*	**n.d.****	0.2	Pass

**Not detectable – substance could not be detected, the detection limit for the used test method is <0.5mg/kg MS*

*** Not detectable – substance could not be detected, the detection limit for the used test method is <0.2mg/kg MS*

LABOSPORT

RESULTS– CAN0001609-NIKE GRIND

Element	Units	Test method	Results	Requirements Category III	Pass/Fail
Aluminium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**35.9**	70 000	Pass
Antimony	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	560	Pass
Arsenic	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	47	Pass
Barium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**0.63**	18 750	Pass
Boron	mg/kg MS	*NF EN ISO 17294-1 et 2*	**1.79**	15 000	Pass
Cadmium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	17	Pass
Cobalt	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	130	Pass
Copper	mg/kg MS	*NF EN ISO 17294-1 et 2*	**1.0**	7 700	Pass
Lead	mg/kg MS	*NF EN ISO 17294-1 et 2*	**1.94**	160	Pass
Manganese	mg/kg MS	*NF EN ISO 17294-1 et 2*	**0.65**	15 000	Pass
Mercury	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	94	Pass
Nickel	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	930	Pass
Selenium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	460	Pass
Strontium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**6.33**	56 000	Pass
Tin	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	180 000	Pass
Zinc	mg/kg MS	*NF EN ISO 17294-1 et 2*	**3273**	46 000	Pass
Chrome Total	mg/kg MS	*NF EN ISO 17294-1 et 2*	**1.0**	-	-
Chromium III	mg/kg MS	*NF EN ISO 17294-1 et 2*	**<0.8**	460	Pass
Chromium VI	mg/kg MS	*NF T 90-043*	**n.d.****	0.2	Pass

**Not detectable – substance could not be detected, the detection limit for the used test method is <0.5mg/kg MS*

*** Not detectable – substance could not be detected, the detection limit for the used test method is <0.2mg/kg MS*

RESULTS– CAN0001610-ECOMAX

Element	Units	Test method	Results	Requirements Category III	Pass/Fail
Aluminium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**29.9**	70 000	Pass
Antimony	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	560	Pass
Arsenic	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	47	Pass
Barium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**3.66**	18 750	Pass
Boron	mg/kg MS	*NF EN ISO 17294-1 et 2*	**5.44**	15 000	Pass
Cadmium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	17	Pass
Cobalt	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	130	Pass
Copper	mg/kg MS	*NF EN ISO 17294-1 et 2*	**1.24**	7 700	Pass
Lead	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	160	Pass
Manganese	mg/kg MS	*NF EN ISO 17294-1 et 2*	**0.69**	15 000	Pass
Mercury	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	94	Pass
Nickel	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	930	Pass
Selenium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	460	Pass
Strontium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**8.11**	56 000	Pass
Tin	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	180 000	Pass
Zinc	mg/kg MS	*NF EN ISO 17294-1 et 2*	**2.57**	46 000	Pass
Chrome Total	mg/kg MS	*NF EN ISO 17294-1 et 2*	**0.79**	-	-
Chromium III	mg/kg MS	*NF EN ISO 17294-1 et 2*	**<0.59**	460	Pass
Chromium VI	mg/kg MS	*NF T 90-043*	**n.d.****	0.2	Pass

**Not detectable – substance could not be detected, the detection limit for the used test method is <0.5mg/kg MS*

*** Not detectable – substance could not be detected, the detection limit for the used test method is <0.2mg/kg MS*

LABOSPORT

RESULTS– CAN0001611-PUREFILL CORK

Element	Units	Test method	Results	Requirements Category III	Pass/Fail
Aluminium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**9.81**	70 000	Pass
Antimony	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	560	Pass
Arsenic	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	47	Pass
Barium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**10.9**	18 750	Pass
Boron	mg/kg MS	*NF EN ISO 17294-1 et 2*	**7.37**	15 000	Pass
Cadmium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	17	Pass
Cobalt	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	130	Pass
Copper	mg/kg MS	*NF EN ISO 17294-1 et 2*	**3.58**	7 700	Pass
Lead	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	160	Pass
Manganese	mg/kg MS	*NF EN ISO 17294-1 et 2*	**37.6**	15 000	Pass
Mercury	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	94	Pass
Nickel	mg/kg MS	*NF EN ISO 17294-1 et 2*	**0.60**	930	Pass
Selenium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	460	Pass
Strontium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**17.7**	56 000	Pass
Tin	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	180 000	Pass
Zinc	mg/kg MS	*NF EN ISO 17294-1 et 2*	**5.97**	46 000	Pass
Chrome Total	mg/kg MS	*NF EN ISO 17294-1 et 2*	**0.55**	-	-
Chromium III	mg/kg MS	*NF EN ISO 17294-1 et 2*	**<0.35**	460	Pass
Chromium VI	mg/kg MS	*NF T 90-043*	**n.d.****	0.2	Pass

**Not detectable – substance could not be detected, the detection limit for the used test method is <0.5mg/kg MS*

*** Not detectable – substance could not be detected, the detection limit for the used test method is <0.2mg/kg MS*

RESULTS– CAN0001612-CRYOGENIC RUBBER

Element	Units	Test method	Results	Requirements Category III	Pass/Fail
Aluminium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**9.89**	70 000	Pass
Antimony	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	560	Pass
Arsenic	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	47	Pass
Barium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**3.57**	18 750	Pass
Boron	mg/kg MS	*NF EN ISO 17294-1 et 2*	**3.80**	15 000	Pass
Cadmium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	17	Pass
Cobalt	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	130	Pass
Copper	mg/kg MS	*NF EN ISO 17294-1 et 2*	**11.8**	7 700	Pass
Lead	mg/kg MS	*NF EN ISO 17294-1 et 2*	**1.15**	160	Pass
Manganese	mg/kg MS	*NF EN ISO 17294-1 et 2*	**3.30**	15 000	Pass
Mercury	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	94	Pass
Nickel	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	930	Pass
Selenium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	460	Pass
Strontium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**4.65**	56 000	Pass
Tin	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	180 000	Pass
Zinc	mg/kg MS	*NF EN ISO 17294-1 et 2*	**353**	46 000	Pass
Chrome Total	mg/kg MS	*NF EN ISO 17294-1 et 2*	**0.95**	-	-
Chromium III	mg/kg MS	*NF EN ISO 17294-1 et 2*	**<0.75**	460	Pass
Chromium VI	mg/kg MS	*NF T 90-043*	**n.d.****	0.2	Pass

**Not detectable – substance could not be detected, the detection limit for the used test method is <0.5mg/kg MS*

*** Not detectable – substance could not be detected, the detection limit for the used test method is <0.2mg/kg MS*

RESULTS– CAN0001613-COOL PLAY

Element	Units	Test method	Results	Requirements Category III	Pass/Fail
Aluminium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**19.0**	70 000	Pass
Antimony	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	560	Pass
Arsenic	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	47	Pass
Barium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**4.23**	18 750	Pass
Boron	mg/kg MS	*NF EN ISO 17294-1 et 2*	**2.63**	15 000	Pass
Cadmium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	17	Pass
Cobalt	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	130	Pass
Copper	mg/kg MS	*NF EN ISO 17294-1 et 2*	**1.39**	7 700	Pass
Lead	mg/kg MS	*NF EN ISO 17294-1 et 2*	**1.64**	160	Pass
Manganese	mg/kg MS	*NF EN ISO 17294-1 et 2*	**21.0**	15 000	Pass
Mercury	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	94	Pass
Nickel	mg/kg MS	*NF EN ISO 17294-1 et 2*	**0.85**	930	Pass
Selenium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	460	Pass
Strontium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**17.4**	56 000	Pass
Tin	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	180 000	Pass
Zinc	mg/kg MS	*NF EN ISO 17294-1 et 2*	**56.8**	46 000	Pass
Chrome Total	mg/kg MS	*NF EN ISO 17294-1 et 2*	**1.09**	-	-
Chromium III	mg/kg MS	*NF EN ISO 17294-1 et 2*	**<0.89**	460	Pass
Chromium VI	mg/kg MS	*NF T 90-043*	**n.d.****	0.2	Pass

**Not detectable – substance could not be detected, the detection limit for the used test method is <0.5mg/kg MS*

*** Not detectable – substance could not be detected, the detection limit for the used test method is <0.2mg/kg MS*

RESULTS– CAN0001614-ARC EPDM

Element	Units	Test method	Results	Requirements Category III	Pass/Fail
Aluminium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**86.0**	70 000	Pass
Antimony	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	560	Pass
Arsenic	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	47	Pass
Barium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**0.97**	18 750	Pass
Boron	mg/kg MS	*NF EN ISO 17294-1 et 2*	**2.53**	15 000	Pass
Cadmium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	17	Pass
Cobalt	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	130	Pass
Copper	mg/kg MS	*NF EN ISO 17294-1 et 2*	**0.84**	7 700	Pass
Lead	mg/kg MS	*NF EN ISO 17294-1 et 2*	**17.3**	160	Pass
Manganese	mg/kg MS	*NF EN ISO 17294-1 et 2*	**0.80**	15 000	Pass
Mercury	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	94	Pass
Nickel	mg/kg MS	*NF EN ISO 17294-1 et 2*	**0.65**	930	Pass
Selenium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	460	Pass
Strontium	mg/kg MS	*NF EN ISO 17294-1 et 2*	**6.31**	56 000	Pass
Tin	mg/kg MS	*NF EN ISO 17294-1 et 2*	**n.d.***	180 000	Pass
Zinc	mg/kg MS	*NF EN ISO 17294-1 et 2*	**528**	46 000	Pass
Chrome Total	mg/kg MS	*NF EN ISO 17294-1 et 2*	**0.75**	-	-
Chromium III	mg/kg MS	*NF EN ISO 17294-1 et 2*	**<0.55**	460	Pass
Chromium VI	mg/kg MS	*NF T 90-043*	**n.d.****	0.2	Pass

**Not detectable – substance could not be detected, the detection limit for the used test method is <0.5mg/kg MS*

*** Not detectable – substance could not be detected, the detection limit for the used test method is <0.2mg/kg MS*

Memorandum

To: *Phil Barlow, Shaw Industries*

From: *Laura C. Green, Ph.D., D.A.B.T.*

Date: *March 4, 2015*

Subject: *Assessment of recent media reports of cancer among soccer players using synthetic turf fields*

Thank you for this opportunity to present my assessment of a possible cluster of cancer-cases among soccer players using synthetic turf fields, which has been the subject of recent media reports.

In what follows, I begin by addressing what is known, and not known, about these cancer-cases. I also present the causal hypothesis raised by Dr. David Brown and his colleagues at the nonprofit group, Environment and Human Health, Inc. (EHHI). Dr. Brown is the former Chief of Environmental Epidemiology and Occupational Health in the State of Connecticut, and has been quoted in the *Huffington Post* as saying, "I wouldn't put a child on one of these fields."

Next, I summarize what is known about cancer in adolescents, focusing on previously reported and investigated cancer-clusters.

I then return to EHHI's hypothesis, and point out its central flaws. In this context, I rely on measurements of chemicals emitted from crumb rubber, turf fibers, and/or synthetic turf field-systems, as well as on quantitative exposure-assessments and health risk-assessments that have been based on these measurements. All such assessments have found that plausible risks of developing cancer from playing on synthetic turf fields range from none to negligible.

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Reports of cancer in young soccer players

In May of last year, a Seattle, Washington TV station broadcast a story, "Toxic Turf? UW coach draws connection between turf and cancer." The story noted:

> *University of Washington assistant soccer coach Amy Griffin sees a troubling connection between the turf and cancer among soccer players. Griffin [said] . . . that 13 players from the state of Washington were all diagnosed with rare types of cancer. Of those 13, 11 were goalkeepers. Griffin can't say why goalkeepers are getting cancer but she wonders if it could be caused by the crumb rubber, a kind of filler in turf fields. . . . 'Everyone says it's just a coincidence and kind of walks away, but the ratio of goalkeepers to field players is 15 to 1, 16 to 2, and I know plenty of goalkeepers that have cancers and I don't know many field players,' Griffin said . . .*

Other news reports followed, with additional cancers reported; but, to my knowledge, no systematic or scientific study of these cases has been performed or published.

Environment and Human Health, Inc. (EHHI), however, has presented some uncited information. At http://www.ehhi.org/turf/cancer_cases_grow_0115.shtml, in a recent (apparently January 2015) but undated posting, EHHI writes the following:

> ***Cancer cases among student athletes playing on synthetic turf continue to grow***
>
> *There are now reported 95 cancers among student athletes who have played on synthetic turf fields. 65 are soccer goal keepers (this is not surprising as goal keepers are more heavily exposed to crumb rubber). The reported cancers are:*
>
> *40 lymphomas*
> *16 leukemias*
> *7 Brain*
> *6 Thyroid*
> *7 Sarcomas*

3 Testicular
The rest are rare forms of
cancers.

It is important to note the predominance of lymphomas and leukemias. 1,3 butadiene is connected to lymphoma and benzene is connected to leukemia. Both of these chemicals are present in rubber tires.

The United States itself is still not tracking cancers among students who have played on synthetic turf - the U.S. government has still not tested synthetic turf for anything but lead -- for which there is very little -- we still have no government official asking for a congressional hearing on synthetic turf - and the government is still promoting synthetic turf with rubber tire infill at both the state and the federal levels.

Synthetic turf fields are loaded with carcinogens - so no one should be surprised at the growing number of cancers among student athletes. The surprise is that government refuses to act.

When will state and federal governments step in and protect our children?

And in an earlier posting, at http://www.ehhi.org/turf/brown_stc_response.shtml, EHHI writes,

> *. . . it is known that there are carcinogens and other toxic materials in the crumb rubber and possibly other infills, that children ingest the crumbs, track them into school rooms, school buses, private cars and homes.*

What is *not* known regarding these cancers in soccer players

As noted above, these cancer-cases have not been reported on in any scientific journal, and no details have been reported. We do not know, for example, the ages, sexes, or races of any of the cases, nor do we know the specific forms of leukemia, lymphoma, or other cancer for any individual soccer-player.

Lacking this information, it is not possible to determine whether the cases constitute an actual cluster — that is, whether, as a group, they have experienced a significantly larger incidence of cancer-cases than would be expected, based on rates in the general population. EHHI notes a "predominance of lymphomas and leukemias," but these are among the most common types of cancer that develop in children and adolescents (Ward *et al.*, 2014), and so are not necessarily noteworthy.

Moreover, although cancers in young people are not common, in 2014 in the U.S., almost 16,000 children and adolescents (from 0 to 19 years of age) were expected to have been diagnosed with some form of cancer (Ward *et al.*, 2014). Thus, learning about many cancer diagnoses in adolescents (I am assuming that most of these cases are in fact among adolescents) would not be entirely unexpected.

Suppose that these 95 cases do represent a cluster — that there are indeed significantly more cases of cancer among soccer players than one would "expect." Does this mean that the cluster has an identifiable cause? In fact, no. As explained below, many cancer clusters have been evaluated in great detail, and for almost none has a cause ever been found.

Results of prior investigations of cancer clusters

For several reasons, unusual coincidences of cancers among groups of younger people are noteworthy, and many of these have been extensively investigated. However, exhaustive study of such clusters in young people has never established an environmental or other exogenous cause: these clusters appear to be due instead to random bad luck (Caldwell, 1990; Gawande, 1999; Trumbo, 2000; Connecticut Department of Health, 2012).

Here, for example, is what noted epidemiologist Glynn Caldwell (1990) wrote toward the end of his long career:

> *Beginning in 1961, the Centers for Disease Control investigated 108 cancer clusters and reported the findings in Epidemic Aid Reports. The clusters studied were of leukemia (38%), leukemia and lymphoma (30%), leukemia and other cancer combinations (13%), and all other cancer or combinations (19%). These clusters occurred in 29 states and five foreign countries . . .*

> *Eight different data collection methods were used, often in combinations, and four types of laboratory methods on four different specimen types. Although 14 different categories of associations were reported, no clear cause was found for any cluster.*

A priori, then, an association between playing soccer on synthetic turf fields and risk of leukemia and lymphoma may be reported, but that does not mean that the association is causal, as opposed to coincidental.

Of course, some clusters of cancer in communities *are* due to shared environmental and carcinogenic exposures, so one cannot and should not over-generalize.

For example, clusters of skin cancer (and other diseases) have been repeatedly reported among groups of people who drink water that has been (naturally) contaminated with high concentrations of arsenic, and this is because such exposures are genuinely carcinogenic (IARC, 1980). Similarly, clusters of lung cancer and of mesothelioma occur in communities with naturally large amounts of erionite (a mineral similar to asbestos) in local rocks and soils, and, again, these associations are known to be causal (IARC, 1987).

Importantly, however, no community-based cluster of any of the cancers *at issue here* has been found to have an identifiable, external, chemical cause.

Another reason to doubt an external, chemical cause for adolescent cancers is this: the type of leukemia prevalent in childhood (namely, acute lymphocytic leukemia), all types of lymphomas, and brain tumors are *not known to be caused by cigarette smoking* (IARC, 2004). Of course, cigarette smoke is the most chemically complex and important cause of cancers of several tissues and organs (not only the lung) in the world (Surgeon General's Report, 2014; IARC, 2004). Since chronic exposure to such a potent mixture of carcinogenic chemicals does not cause the cancers at issue, then on what reliable basis could it be suggested that the much smaller doses of some of the same chemicals (potentially) emanating from used rubber particles could cause these cancers? I can think of none.

Some salient features of lymphomas, leukemias, and other cancers that occur in adolescents

As noted above, EHHI reports that of the 95 cases of cancer in soccer players, 40 are cases of lymphoma. Lymphomas are not uncommon cancers: in 2014, more than

760,000 Americans were diagnosed with a form of lymphoma (Leukemia & Lymphoma Society, 2015). Among adolescents who develop cancer, lymphomas are the most common type (IARC, 2008). Dogs are also prone to developing lymphoma, with some breeds more likely to develop this cancer than other breeds (Teske, 1994).

There are many different types of lymphomas, and these vary substantially with regard to their prevalence, genetic pre-dispositions, other risk-factors, and clinical courses (Swerdlow *et al.*, 2008; Morton *et al.*, 2014). (This is one reason that the lack of detail about these cases makes their interpretation difficult). As suggested by the patterns of lymphomas in dog-breeds, and in some human families, some lymphoma-types have a strong genetic component (Bassig *et al.*, 2015); while others appear to be due to the significant alterations in the immune systems of people infected H.I.V., or afflicted with various autoimmune diseases (Cáceres *et al.*, 2010; Liang *et al.*, 2014). Although many hypotheses have been raised and investigated, to date, no environmental exposures have been established to cause lymphoma (IARC, 2008).

Leukemias also vary according to type, prevalence, etiologies, and clinical courses (Jandl, 1996). Although not specified by EHHI, as noted above, I suspect that most of the leukemias in the soccer players (at least, in the younger players) are the type known as acute lymphocytic leukemia (ALL). This is important because ALL — as opposed to a major leukemia-type in adults, namely acute myelogenous leukemia (AML) — is not known to be caused by overexposures to chemicals, such as benzene, nor by chronic exposure to the chemicals present in cigarette smoke (IARC, 2004).

More generally, no type of cancer in adolescents is known to be caused by overexposure to chemicals. Instead, many of these cancer-cases are known or believed to occur spontaneously, or to be caused by factors common to us all (Lynch, 2010; Matés *et al.*, 2012; Tomasetti *et al.*, 2013; Tomasetti and Vogelstein, 2015). Some cases of cancers in adolescents appear to be due to infections with viruses such as Epstein-Barr virus (EBV); and some are due to inherited genetic mutations (IARC, 2008).

EHHI's hypothesis with regard to crumb rubber and cancer

Turning back to EHHI's apparent hypothesis with regard to crumb rubber and cancer, I begin by noting that it is of course true that tires are industrial products made with various potentially hazardous chemicals; and although tires *per se* are essentially inert, finely crumbled tires can release small amounts of various chemicals. In particular, synthetic rubber products tend to have a distinctive smell, caused primarily by release of small amounts of volatile amines and organic sulfur compounds (Ambelong, 1963). These compounds are more odorous than they are toxic, and they are certainly not known or reasonably expected to pose a risk of cancer, regardless of the level of exposure.

Rather than focusing on actual, measured emissions from crumb rubber, EHHI raises the specter of two other chemicals, which, at very high levels of exposures, can indeed cause cancer.

As quoted above, EHHI writes:

> *It is important to note the predominance of lymphomas and leukemias [among the 95 cases]. 1,3 butadiene is connected to lymphoma and benzene is connected to leukemia. Both of these chemicals are present in rubber tires.*

These statements are misleading in several ways. First, there is nothing surprising about a "predominance of lymphomas and leukemias" among young people: as noted above, these are the most common cancers in adolescents. Indeed, it would be striking if these cancer types were *not* prevalent in any random group of adolescents with cancer.

Second, the implication that crumb rubber is a significant source of people's exposures to the chemicals 1,3-butadiene and benzene is incorrect. It is true that 1,3-butadiene is *used* to make synthetic rubber (for tires and other products), but it is also essentially all *used up* in this process, in that it reacts with another chemical, styrene, to form a stable polymer (styrene-butadiene rubber). This stable polymer is no more a significant source of exposure to 1,3-butadiene than, say, a thoroughly baked cake is a significant source of exposure to raw eggs.

Nor do tires contain anything more than perhaps trace amounts of benzene. While it is the case that some tire building-machine operations rely on solvents that do contain small amounts (less than 1%) of benzene, there is neither evidence nor reason to maintain that tires would absorb and retain anything more than trace amounts of

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benzene.

It is not surprising, then, that studies of ambient air in contact with crumb rubber in-filled synthetic turf fields have reported either (i) no detectable concentrations of 1,3-butadiene or benzene, or (ii) only the very low-level concentrations found throughout suburban and urban environments (Dye *et al.*, 2006; Norwegian Pollution Control Authority, 2006; Moretto, 2007; Denly *et al.*, 2008; Lim and Walker, 2009; Li *et al.*, 2010; Schilirò *et al.*, 2012). As noted by researchers Schilirò *et al.* (2012), "On the basis of environmental monitoring, artificial turf football fields present no more exposure risks than the rest of the city." Their conclusions were based on measurements in ambient air of benzene and the related compounds, toluene and xylenes, as well as on measurements of inhalable particles (in the size ranges of PM_{10} and $PM_{2.5}$) and of polycyclic aromatic hydrocarbons (PAHs).

Third, as just suggested, all of us are exposed to very small concentrations of both 1,3-butadiene and benzene in ordinary outdoor air, every day. This is because both chemicals are present in the exhaust from automobiles and from several other common sources. However, the evidence that benzene can cause leukemia (and again, only AML, and not ALL of childhood, and not lymphoma) does not come from these common, low-level, environmental exposures, but instead from massive exposures experienced by workers inside poorly ventilated factories, prior to the institution of modern industrial hygiene (Graham *et al.*, 1988). It is entirely misleading to conflate these genuinely dangerous, historical, occupational settings with any outdoor environments, even on heavily trafficked roads, for example, let alone on playing fields.

Finally, although EHHI claims that 1,3-butadiene "is connected to lymphoma," in fact it, like benzene, is known to cause leukemia (AML) and not lymphoma; and, again, it is known to do so in over-exposed factory workers (Delzell *et al.*, 1996), but not known to do so in the public at large, which experiences vastly smaller, environmental exposures.

Theoretical risks of cancer from crumb rubber in-filled synthetic turf fields

Because some potentially carcinogenic chemicals are present in crumb rubber (as they are in ordinary dirt), several studies have sought to estimate the degree of health-risk, if any, associated with these chemicals.

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For example, Van Rooij and Jongeneelen (2010) studied young-adult male soccer players following intensive contact with crumb rubber-filled synthetic turf. The researchers sought to determine whether this contact would lead to increased exposures to polycyclic aromatic hydrocarbons (PAHs). The researchers found that it did not. They concluded, "If there is any exposure, then the uptake is very limited and within the range of uptake of PAH from environmental sources and/or diet." This was the case despite the fact that the athletes "had black residue of crumb dust on knees, hand palms and elbows . . . [confirming] that skin contact had occurred to dust of the tire crumb rubber."

A recently published study from New Jersey's state medical school (The Robert Wood Johnson Medical School) provides additional information. In particular, Pavilonis and colleagues (2014) subjected samples of both new and turf field-aged crumb rubber to extractions with solutions of synthetic sweat, synthetic lung fluid, and synthetic digestive fluid. They analyzed the types and amounts of chemicals that appeared in these synthetic biofluids, and then assessed whether children's and adults' exposures to these chemicals would be risky. Their results were negative: that is, health risks to children and adults from extensive contact with crumb rubber were found to range from none to negligible. Small amounts of potentially carcinogenic metals were detected in the crumb rubber-extracts, but the theoretical risks associated with these were all less than one in one million, "and therefore risk was considered negligible."

Earlier scientific studies and health risk-assessments have reported similar results. For example, in 2003, Birkholz and colleagues published their study, "Toxicological evaluation for the hazard assessment of tire crumb for use in public playgrounds." Aggressive extraction of crumb rubber and testing of that extract revealed no significant toxic or mutagenic activity. (Mutagenic activity is an *in vitro* surrogate for ability to initiate cancer). Based on these and other results, the authors wrote, "We conclude that the use of tire crumb in playgrounds results in minimal hazard to children and the receiving environment."

In 2006, the Norwegian Institute of Public Health published their report, "Artificial turf pitches – an assessment of the health risks for football players." These researchers focused on indoor fields because, of course, this is the setting in which air emissions would be much more concentrated, relative to outdoor fields. Nonetheless, the Institute

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concluded:

> *Worst case calculations based on air measurements carried out by NILU [Norwegian Institute for Air Research] and exposure values from the Norwegian Institute of Public Health indicate that training in sports halls does not cause any increased risk of leukaemia as a result of benzene exposure or any elevated risk as a result of exposure to polycyclic aromatic hydrocarbons.*
>
> *On the basis of the exposures which have been calculated in connection with the use of indoor halls with artificial turf in which recycled rubber granulate is used, there is no evidence to indicate that the use of such halls causes an elevated health risk. . . . It has been concluded that exposure to benzene and PAHs in the quantities in which they have been measured in the halls will not cause any increased risk of cancer in people using the halls.*

In 2007, the Dutch researcher Hoftstra published his report, "Environmental and Health Risks of Rubber Infill. Rubber Crumb from Car Tyres as Infill on Artificial Turf." His analysis was based on an extensive review of prior studies, as well as on the generation of new test data from fresh and weathered samples of rubber infill. Hofstra wrote:

> *Based on the available literature on exposure to rubber crumb by swallowing, inhalation and skin contact and our experimental investigations on skin contact we conclude that there is not a significant health risk due to the presence of rubber infill for football players on artificial turf pitch with rubber infill from used car tyres.*

Finally, the Connecticut Department of Public Health (CT DPH) has published three peer-reviewed studies of synthetic turf fields (Ginsberg *et al.*, 2011a and 2011b; Simcox *et al.*, 2011), and has recently (January 20, 2015) issued a memorandum to local health departments and districts in the State. In this, CT DPH (2015) affirms its "position that outdoor artificial turf fields do not represent an elevated health risk." The Department notes:

> *. . . CT DPH finds no scientific support for a finding of elevated cancer risk*

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> *from inhalation or ingestion of chemicals derived from recycled tires used on artificial turf fields. . . . federal and state authorities have taken seriously the concerns that artificial turf fields may present a health risk due to contaminants in recycled rubber. The best way to investigate these concerns is via an exposure investigation. Studies conducted in Connecticut and elsewhere have shown a very low exposure potential, less than from typical outdoor sources of air pollution. The current news reports of a list of soccer players with cancer does not constitute a correlation or causality and thus raises a concern that currently lacks scientific support. Thus, the CT DPH position expressed in 2011 at the conclusion of the Connecticut study, that outdoor artificial turf fields do not represent an elevated health risk, remains unchanged.*

Conclusion

Overall, then, for several reasons, I find no reliable basis for the notion that crumb rubber in-filled synthetic turf fields pose a significant risk of cancer. Several groups of investigators, from academia, government, and consulting firms, have performed environmental monitoring and/or modeling studies of crumb rubber and synthetic turf fields, and have reached the same conclusion. I find no merit in EHHI's apparent hypothesis as to how and why soccer players have developed cancer at excess rates. If these players do constitute a cancer-cluster — and, again, one cannot say one way or the other with the limited information at hand — then this cluster has almost certainly arisen entirely by chance, as have essentially all of the others.

* * * * *

Thank you again for the opportunity to have considered this matter. Please feel free to call or email me with any questions or concerns.

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Alternative Infill Systems

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BE A CHAMPION

Alternative Infill Systems

SAFETY OF CRUMB RUBBER

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FieldTurf®
A Tarkett Sports Company

Rubber is safe

- We have encouraged the rigorous work from third-parties that has taken place over decades to confirm there are no negative health effects connected to synthetic turf.

The science is clear

- Dozens of scientific studies, including peer-reviewed academic analyses and federal and state government reports, have all found no connection between these fields and cancer or other health issues.

This is not a new issue

- The reason why the theory from the coach in NBC's story gained traction originally is because this is an issue that has come up before – originally in 2008. What aired last week was them doing what media outlets often do with stories of this type – running an update piece.

We agree with NBC

- This is one area where we are in agreement with NBC, and in fact we have joined with a number of our competitors to meet with these organizations and lobby EPA and CPSC to put a stop to this unnecessary confusion.

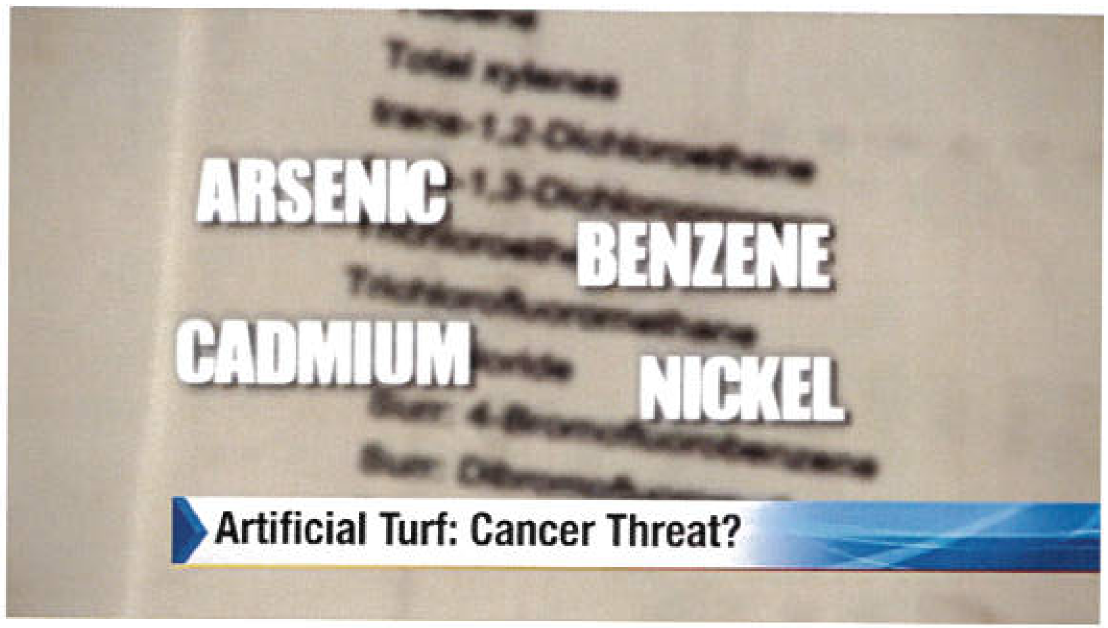
Turf complies with CPSC Toy Standards

- The NBC report cited several chemicals found in crumb rubber as points of concern. Industry voluntarily ensures the levels of any chemicals in synthetic turf fields are lower than the Consumer Products Safety Commission's standards for children's toys and the Environmental Protection Agency's safe standards for urban and rural soils

We support additional research

- More research can always be done, and we are willing to support any additional scientific studies in any way we can. However, it should be pointed out that over a decade of research has not produced a single published, peer reviewed study that shows that crumb rubber is unsafe.

The most common chemicals of concern are Arsenic, Benzene, Cadmium and Nickel.



Source: Click on Detroit "**Are artificial turf fields toxic?**" (July 26, 2015)
http://www.clickondetroit.com/news/are-artificial-turf-fields-toxic/34337674

lo the h tals in crumb rubber

...Less arsenic

Item	Arsenic (ppm)
Crumb Rubber[1]	n.d
Uncle Ben's Original Rice[2]	0.25
Gerber Rice Baby Cereal[2]	0.26

...Less cadmium

Item	Cadmium (ppm)
Crumb Rubber[1]	0.53
Lobster	0.50
Rice	0.20

...Less nickel

Item	Nickel (ppm)
Crumb Rubber[1]	n.d
Cashews	5.1
Cocoa/Chocolate	9.8

...Less benzene

Item	Benzene (ppb)
Crumb Rubber[1]	n.d
Soda	Between 2-20
Jam	<5

Alternative Infill Systems

FIELDTURF PRODUCT OFFERING

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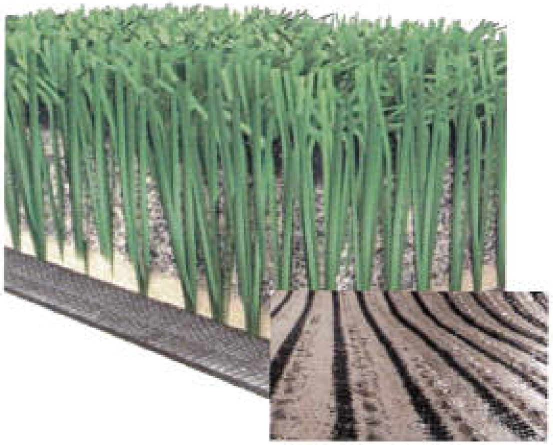
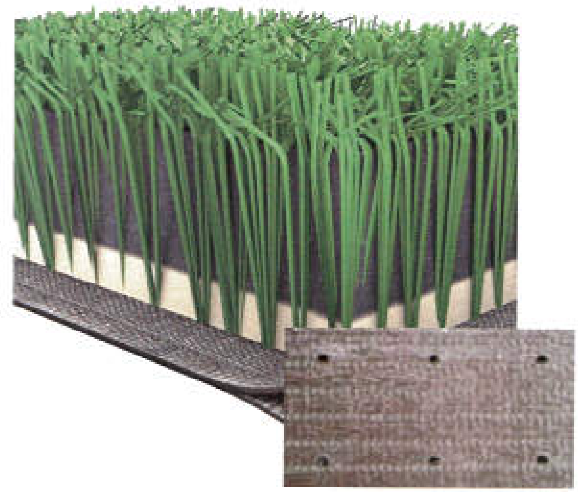


Elite

Prestige



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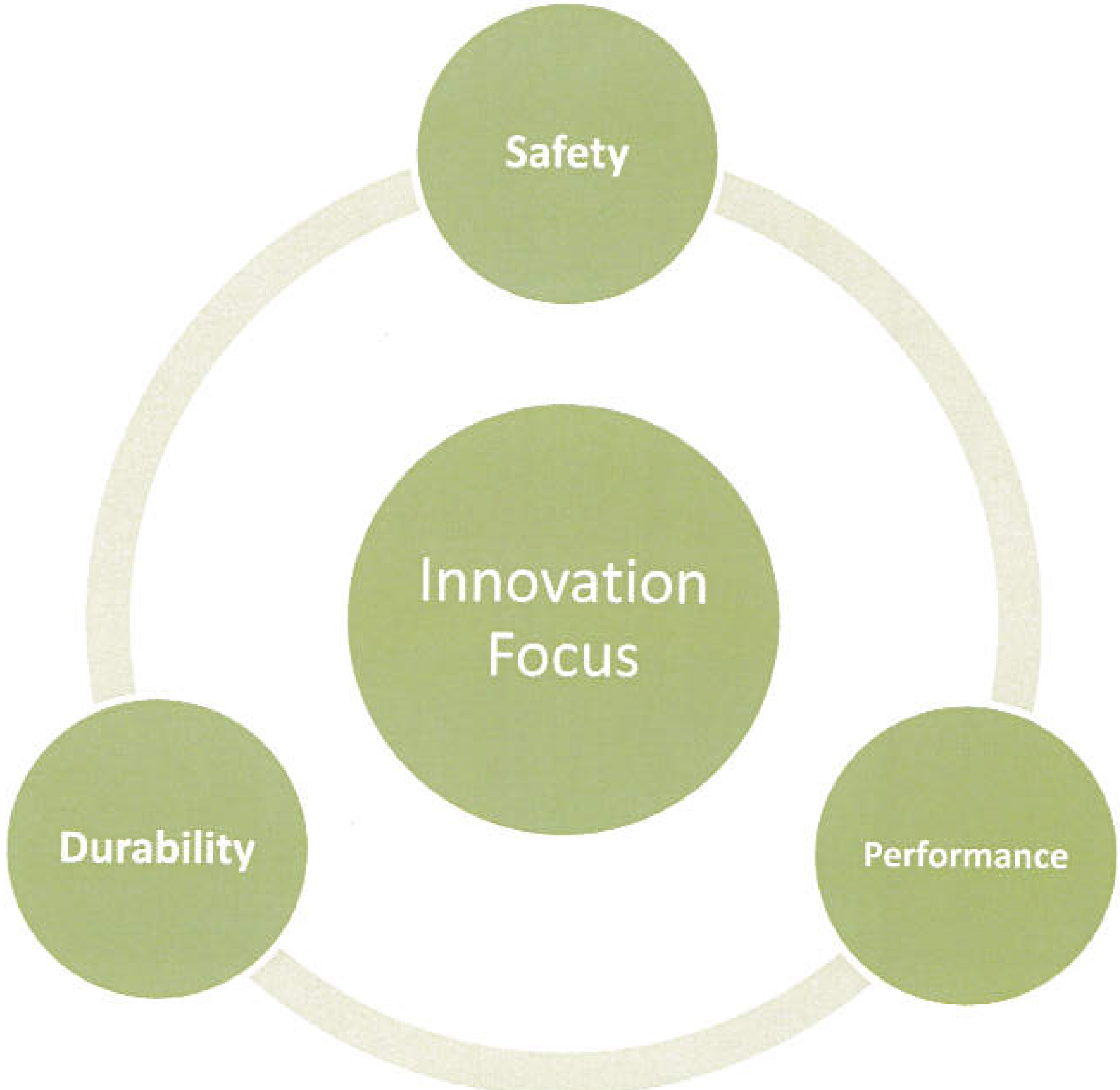

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ALTERNATIVE INFILLS

Internal Use Only


Organic


Thermoplastic


Nike Grind


Coated Sand

LABOSPORT

Technical Report

Toxicological Analysis of performance infill for synthetic turf fields according to *EN 71-3* standard

– Safety of toys Part 3: Migration of certain elements.

Heavy Metal	Crumb Rubber	TPE	Nike Grind	Cork	Requirements
Aluminium	9.89	36.4	35.9	9.81	70000
Antimony	n.d.*	n.d.*	n.d.*	n.d.*	560
Arsenic	n.d.*	n.d.*	n.d.*	n.d.*	47
Barium	3.57	1.58	0.63	10.9	18750
Boron	3.8	3	1.79	7.37	15000
Cadmium	n.d.*	n.d.*	n.d.*	n.d.*	17
Cobalt	n.d.*	n.d.*	n.d.*	n.d.*	130
Copper	11.8	6.44	1	3.58	7700
Lead	1.15	0.5	1.94	n.d.*	160
Manganese	3.3	1.3	0.65	37.6	15000
Mercury	n.d.*	n.d.*	n.d.*	n.d.*	94
Nickel	n.d.*	68.2	n.d.*	0.6	930
Selenium	n.d.*	n.d.*	n.d.*	n.d.*	460
Strontium	4.65	10.2	6.33	17.7	56000
Tin	n.d.*	n.d.*	n.d.*	n.d.*	180000
Zinc	353	23.4	3273	5.97	46000
Chrome Total	0.95	2.79	1	0.55	-
Chromium III	<0.75	<2.59	<0.8	<0.35	460
Chromium VI	n.d.**	n.d.**	n.d.**	n.d.**	0.2

Internal Use Only

Alternative Infill Systems

ORGANIC

Coconut / Rice / Cork

Shock Pad: **Yes**

Additional Maintenance: **Yes**

Advantages

Fully organic material

Proven heat reduction

Natural UV resistance

Infill looks like natural soil

Natural product

Disadvantages

Cost

Infill Migration / Flotation

Irrigation Required

Additional Maintenance

Limited Resilience

$2.85

(plus irrigation)

Cork

Shock Pad: **Yes**

Additional Maintenance: **Yes**

Advantages

Fully organic material

Good compression/compaction characteristics

Proven heat reduction

No water needed

Natural UV resistance

Infill looks like natural soil

Fire-retardant

No smell

Disadvantages

Cost

Infill Migration / Flotation

Additional Maintenance

$1.90

Internal Use Only

CoolPlay

Shock Pad: **No**

Additional Maintenance: **No**

Advantages

Organic top layer

Proven heat reduction

No change in playability

Excellent compression/compaction

Least expensive option

Disadvantages

Crumb Rubber still used

$0.40

Alternative Infill Systems

THERMOPLASTIC

Internal Use Only

Internal Use Only

TPE

Shock Pad: **Yes**

Additional Maintenance: **No**

Advantages

Strong History (~500 fields)
Consistent shape
Good compression/compaction
Recyclable
Color Options

Disadvantages

Potential Failure
Cost
Imported, Virgin material

$3.20

EPDM

Shock Pad: **Yes**

Additional Maintenance: **No**

Advantages

Cheaper than TPE
Good compression / compaction
Color Options

Disadvantages

Potential Failure
Cost
Imported, Virgin material

$2.35

EcoMax

Shock Pad:	**Yes**
Additional Maintenance:	**No**

Advantages

Use of Recycled Material

Excellent playability

Good Compression / Compaction

Made in North America

Disadvantages

Cost

Limited Supply

$2.60

Alternative Infill Systems

NIKE GRIND

Internal Use Only

Nike Grind

Shock Pad: No

Additional Maintenance: **No**

Advantages

Less public perception of health risks

Play is similar to a sand/rubber field

No pad needed

Post-industrial recycled material

Disadvantages

Still rubber, just not SBR tire rubber

Multi-color rubber, different "look"

Limited supply (40 fields/year)

Waste from Asia

$1.50

Alternative Infill Systems

COATED SAND

Coated Sand

Shock Pad: **Yes**

Additional Maintenance: **No**

Advantages

Slight temperature reduction

Recyclable

Durable material

Disadvantages

Hard Systems

Abrasive

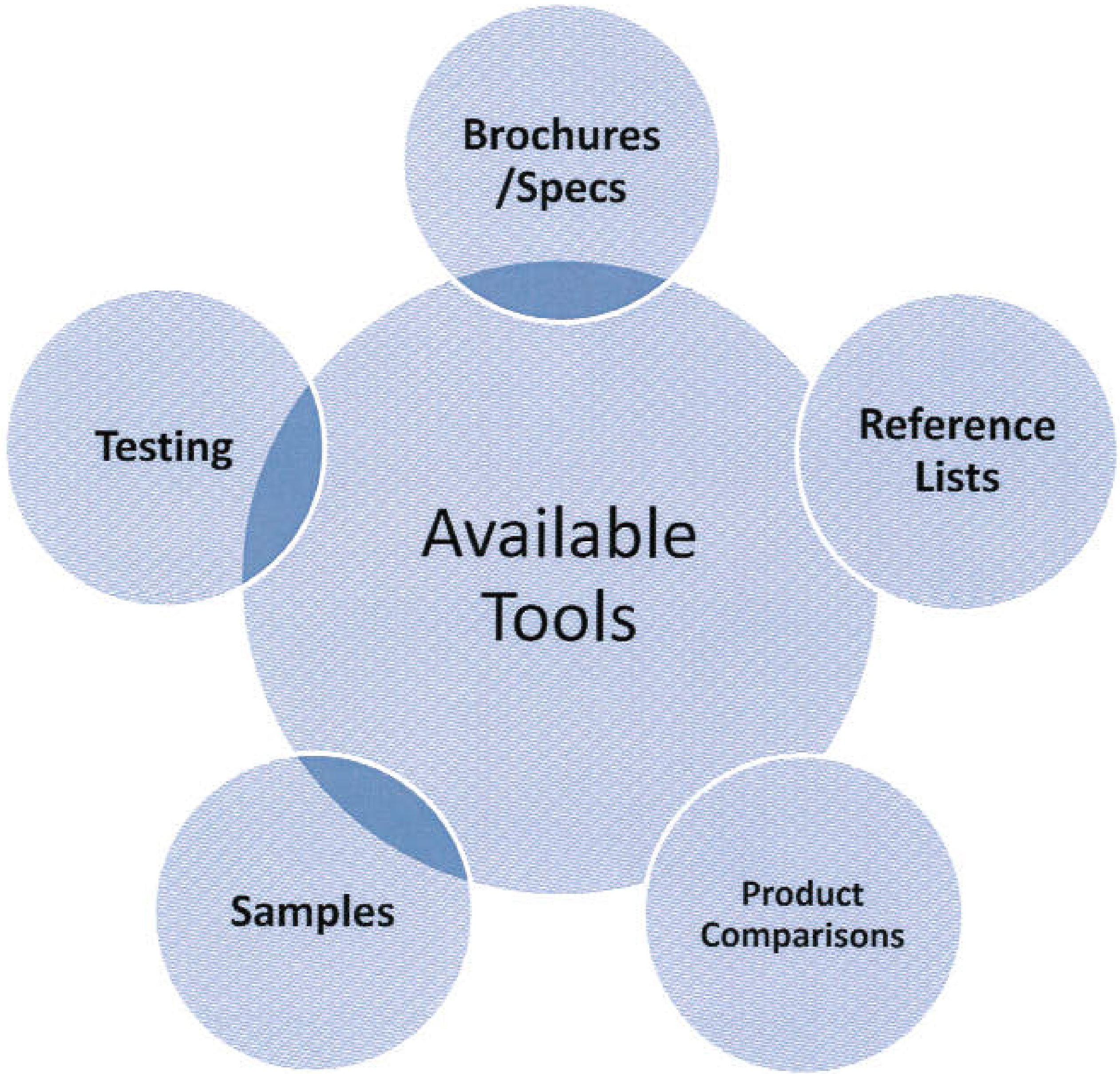
Delamination of coating

$1.50

Alternative Infill Systems

RECAP

System	CoolPlay	EcoGrind	PureFill	EcoMax	EcoGreen
Material	Cork Top Layer	Nike Grind	Cork	TPE / Recycled Turf	TPE
Shock Pad	No	Yes	Yes	Yes	Yes
Additional Maintenance	No	No	Yes	Yes	Yes
Price vs Rubber	$0.40	$1.50	$1.65	$2.45	$3.10



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Alternative Infill Systems

Internal Use Only

Alternative Infill Comparison

Infill	Description	Shock Pad Required?	Additional Maintenance Required?	Advantages	Disadvantages	*Price difference vs SBR (per sq ft)
CoolPlay	Extruded cork composite, made up primarily of natural cork, polyethylene and elastomers.	No	No	- Organic material on top of the field where athletes come into contact with the infill - Proven heat reduction - Significant 30-35 degree heat reduction - No change in playability vs. sand/cryogenic rubber system - Natural UV resistance - Good compression/compaction characteristics - Least expensive option	- Crumb rubber still utilized in the system - Breakdown of top cork layer over time - Virgin material	$0.40
Nike Grind	Proprietary rubber mixture for running shoes. By-product of the shoe production process.	No	No	- Not "SBR" rubber. Less public perception of health risks - Play is similar to a sand/rubber field - No pad needed - Post-industrial recycled material	- Still rubber, just not SBR tire rubber - Multi-color rubber, different "look" - Limited supply (40 fields/year) - Unknown control over source of supply - Waste from Asia	$1.50
Organic (Cork Based)	100% cork, derived directly from cork trees.	Yes	Yes	- Fully organic material - Good compression/compaction characteristics - Proven heat reduction - No water needed - Natural UV resistance - Infill looks like natural soil - Fire-retardant - No smell	- Expensive option with additional long term maintenance requirements - Some migration of infill may occur - Low density allows material to float, cling to fibers with static charge	$1.90
EPDM	A copolymer of ethylene and propylene having diene linkages that can be cross-linked with peroxides or sulfur.	Yes	No	- High to medium resiliency depending on filler level - Can be colored	- Similar to TPE (many put them in the same family), but high filler level can result in chalking and advanced degradation of materials - Expensive; higher quality materials must be imported from Europe - Improper crosslinking can lead to premature aging - Virgin material	$2.35
EcoMax	Mixture of recycled turf and TPE.	Yes	No	- Great playability characteristics (plays close to high end cryogenic rubber/sand infill system) - Good compression/compaction characteristics - Tested rigorously for mechanical wear and weathering - Slight heat reduction - High quality TPE with a strong environmental story (recycled turf) - Made in North America	- Expensive - Limited supply - Limited installation history	$2.60
Organic (Fiber Based)	Primarily coconut husks, coconut peat and rice husks.	Yes	Yes	- Fully organic material - Proven heat reduction - Natural UV resistance - Infill looks like natural soil - Natural product – not chemically produced - Provides playing characteristics similar to natural turf - Retains water for evaporative cooling	- Fiber material will break down over time - Requires a watering system and water to maintain playability - Some migration of infill may occur - Additional maintenance needed - Higher price - Requires more maintenance and refreshing than crumb rubber fields - Limited resilience	$2.85 (plus irrigation)
TPE	Thermoplastic elastomers consist of materials with both thermoplastic and elastomeric properties.	Yes	No	- Strong history; product has been installed on over 500 fields worldwide in the past 10 years - Consistent shape - Good compression/compaction characteristics - Can be melted so they can be recycled after use - Can be colored	- Varying grades of TPE; improper formulation can lead to premature aging issues and potential failure (well documented cases) - Very expensive; higher quality materials must be imported from Europe - All particles are the same size– do not settle together - Round particles can create slipping problems on sidewalks or tracks - Virgin material	$3.20

*Price difference is versus standard two layer infill system. All prices include the pad, if required.

FieldTurf® ECOSPORT

intelligent infill solutions

THE ALTERNATIVE TO CRUMB RUBBER.

FieldTurf®
A Tarkett Sports Company

THE ULTIMATE
SURFACE EXPERIENCE

INTRODUCING

FieldTurf®

ECOSPORT

intelligent infill solutions

High quality, alternative infill systems.

True to FieldTurf's proven history of delivering Safe, High Performing and Durable artificial turf fields, we are proud to present our EcoSport Series of alternative infill products. Designed to be the highest quality, eco-friendly infill materials in the industry today, the EcoSport Series features a variety of options geared for proper sports performance.

EcoMax

Player comfort and safety have never been this green. An extruded composite of recycled turf and thermosplastic elastomer (TPE), the EcoMax granules deliver a new, impact absorbing infill that offers safe and comfortable performance. Compared to other "Eco" infill technologies on the market, the EcoSport pellet offers the best value in terms of durability, price and performance.

EcoGreen

EcoGreen is built from premium, virgin TPE. Only top grades of TPE have the characteristics to deliver a stable surface over the long-term. Each pellet has built-in memory and rebounds back to its original shape after compression. This infill is resistant to UV degradation and delivers a durable and fully recyclable infill alternative for a wide variety of sport applications.

EcoGrind

EcoGrind is one of the most cost-efficient alternatives to SBR. Made from recycled athletic shoes and Nike manufacturing material, these reclaimed materials are ground-up to create a new, clean, eco-friendly infill (Nike Grind) and another alternative to crumb rubber. EcoGrind is a non-marking rubber, helping to keep balls, shoes and uniforms clean.

FieldTurf

ECOSPORT

intelligent infill solutions

Information

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THE ULTIMATE
SURFACE EXPERIENCE

AIA® Document B101™ – 2007

Standard Form of Agreement Between Owner and Architect

AGREEMENT made as of the Twenty-third (23) day of November in the year Twenty Fifteen (2015)
(In words, indicate day, month and year.)

BETWEEN the Architect's client identified as the Owner:
(Name, legal status, address and other information)

Huron School District 2-2
150 5th Street SW
PO Box 949
Huron, South Dakota 57350-0949

and the Architect:
(Name, legal status, address and other information)

Koch Hazard Architects
431 N. Phillips Avenue #200
Sioux Falls, South Dakota 57104

for the following Project:
(Name, location and detailed description)

Sports Facility Improvements to include:

- An 8 court tennis complex and
- Tiger field improvements – primarily new turf and drainage systems.

The budget for construction is expected to be approximately $2,100,000.
The improvements are described in more detail in the Huron School District Sports Facility Improvements Study dated 10/26/15.

The Owner and Architect agree as follows.

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

TABLE OF ARTICLES

ARTICLE 1 INITIAL INFORMATION

§ 1.1 This Agreement is based on the Initial Information set forth in this Article 1 and in optional Exhibit A, Initial Information:

(Complete Exhibit A, Initial Information, and incorporate it into the Agreement at Section 13.2, or state below Initial Information such as details of the Project's site and program, Owner's contractors and consultants, Architect's consultants, Owner's budget for the Cost of the Work, authorized representatives, anticipated procurement method, and other information relevant to the Project.)

§ 1.2 The Owner's anticipated dates for commencement of construction and Substantial Completion of the Work are set forth below:

.1 Commencement of construction date:

Approximately April 2016

.2 Substantial Completion date:

Approximately August 2016

§ 1.3 The Owner and Architect may rely on the Initial Information. Both parties, however, recognize that such information may materially change and, in that event, the Owner and the Architect shall appropriately adjust the schedule, the Architect's services and the Architect's compensation.

ARTICLE 2 ARCHITECT'S RESPONSIBILITIES

§ 2.1 The Architect shall provide the professional services as set forth in this Agreement.

§ **2.2** The Architect shall perform its services consistent with the professional skill and care ordinarily provided by architects practicing in the same or similar locality under the same or similar circumstances. The Architect shall perform its services as expeditiously as is consistent with such professional skill and care and the orderly progress of the Project.

§ **2.3** The Architect shall identify a representative authorized to act on behalf of the Architect with respect to the Project.

§ **2.4** Except with the Owner's knowledge and consent, the Architect shall not engage in any activity, or accept any employment, interest or contribution that would reasonably appear to compromise the Architect's professional judgment with respect to this Project.

§ **2.5** The Architect shall maintain the following insurance for the duration of this Agreement. If any of the requirements set forth below exceed the types and limits the Architect normally maintains, the Owner shall reimburse the Architect for any additional cost:
(Identify types and limits of insurance coverage, and other insurance requirements applicable to the Agreement, if any.)

.1 General Liability

$1,000,000

.2 Automobile Liability

$1,000,000

.3 Workers' Compensation

$500,000

.4 Professional Liability

$1,000,000

ARTICLE 3 SCOPE OF ARCHITECT'S BASIC SERVICES

§ **3.1** The Architect's Basic Services consist of those described in Article 3 and include usual and customary structural, mechanical, and electrical engineering services. Services not set forth in this Article 3 are Additional Services.

§ **3.1.1** The Architect shall manage the Architect's services, consult with the Owner, research applicable design criteria, attend Project meetings, communicate with members of the Project team and report progress to the Owner.

§ **3.1.2** The Architect shall coordinate its services with those services provided by the Owner and the Owner's consultants. The Architect shall be entitled to rely on the accuracy and completeness of services and information furnished by the Owner and the Owner's consultants. The Architect shall provide prompt written notice to the Owner if the Architect becomes aware of any error, omission or inconsistency in such services or information.

§ **3.1.3** As soon as practicable after the date of this Agreement, the Architect shall submit for the Owner's approval a schedule for the performance of the Architect's services. The schedule initially shall include anticipated dates for the commencement of construction and for Substantial Completion of the Work as set forth in the Initial Information. The schedule shall include allowances for periods of time required for the Owner's review, for the performance of the Owner's consultants, and for approval of submissions by authorities having jurisdiction over the Project. Once approved by the Owner, time limits established by the schedule shall not, except for reasonable cause, be exceeded by the Architect or Owner. With the Owner's approval, the Architect shall adjust the schedule, if necessary, as the Project proceeds until the commencement of construction.

§ 3.1.4 The Architect shall not be responsible for an Owner's directive or substitution made without the Architect's approval.

§ 3.1.5 The Architect shall, at appropriate times, contact the governmental authorities required to approve the Construction Documents and the entities providing utility services to the Project. In designing the Project, the Architect shall respond to applicable design requirements imposed by such governmental authorities and by such entities providing utility services.

§ 3.1.6 The Architect shall assist the Owner in connection with the Owner's responsibility for filing documents required for the approval of governmental authorities having jurisdiction over the Project.

§ 3.2 SCHEMATIC DESIGN PHASE SERVICES

§ 3.2.1 The Architect shall review the program and other information furnished by the Owner, and shall review laws, codes, and regulations applicable to the Architect's services.

§ 3.2.2 The Architect shall prepare a preliminary evaluation of the Owner's program, schedule, budget for the Cost of the Work, Project site, and the proposed procurement or delivery method and other Initial Information, each in terms of the other, to ascertain the requirements of the Project. The Architect shall notify the Owner of (1) any inconsistencies discovered in the information, and (2) other information or consulting services that may be reasonably needed for the Project.

§ 3.2.3 The Architect shall present its preliminary evaluation to the Owner and shall discuss with the Owner alternative approaches to design and construction of the Project, including the feasibility of incorporating environmentally responsible design approaches. The Architect shall reach an understanding with the Owner regarding the requirements of the Project.

§ 3.2.4 Based on the Project's requirements agreed upon with the Owner, the Architect shall prepare and present for the Owner's approval a preliminary design illustrating the scale and relationship of the Project components.

§ 3.2.5 Based on the Owner's approval of the preliminary design, the Architect shall prepare Schematic Design Documents for the Owner's approval. The Schematic Design Documents shall consist of drawings and other documents including a site plan, if appropriate, and preliminary building plans, sections and elevations; and may include some combination of study models, perspective sketches, or digital modeling. Preliminary selections of major building systems and construction materials shall be noted on the drawings or described in writing.

§ 3.2.5.1 The Architect shall consider environmentally responsible design alternatives, such as material choices and building orientation, together with other considerations based on program and aesthetics, in developing a design that is consistent with the Owner's program, schedule and budget for the Cost of the Work. The Owner may obtain other environmentally responsible design services under Article 4.

§ 3.2.5.2 The Architect shall consider the value of alternative materials, building systems and equipment, together with other considerations based on program and aesthetics, in developing a design for the Project that is consistent with the Owner's program, schedule and budget for the Cost of the Work.

§ 3.2.6 The Architect shall submit to the Owner an estimate of the Cost of the Work prepared in accordance with Section 6.3.

§ 3.2.7 The Architect shall submit the Schematic Design Documents to the Owner, and request the Owner's approval.

§ 3.3 DESIGN DEVELOPMENT PHASE SERVICES

§ 3.3.1 Based on the Owner's approval of the Schematic Design Documents, and on the Owner's authorization of any adjustments in the Project requirements and the budget for the Cost of the Work, the Architect shall prepare Design Development Documents for the Owner's approval. The Design Development Documents shall illustrate and describe the development of the approved Schematic Design Documents and shall consist of drawings and other documents including plans, sections, elevations, typical construction details, and diagrammatic layouts of building systems to fix and describe the size and character of the Project as to architectural, structural, mechanical and electrical systems, and such other elements as may be appropriate. The Design Development Documents shall also include outline specifications that identify major materials and systems and establish in general their quality levels.

§ 3.3.2 The Architect shall update the estimate of the Cost of the Work.

§ 3.3.3 The Architect shall submit the Design Development Documents to the Owner, advise the Owner of any adjustments to the estimate of the Cost of the Work, and request the Owner's approval.

§ 3.4 CONSTRUCTION DOCUMENTS PHASE SERVICES

§ 3.4.1 Based on the Owner's approval of the Design Development Documents, and on the Owner's authorization of any adjustments in the Project requirements and the budget for the Cost of the Work, the Architect shall prepare Construction Documents for the Owner's approval. The Construction Documents shall illustrate and describe the further development of the approved Design Development Documents and shall consist of Drawings and Specifications setting forth in detail the quality levels of materials and systems and other requirements for the construction of the Work. The Owner and Architect acknowledge that in order to construct the Work the Contractor will provide additional information, including Shop Drawings, Product Data, Samples and other similar submittals, which the Architect shall review in accordance with Section 3.6.4.

§ 3.4.2 The Architect shall incorporate into the Construction Documents the design requirements of governmental authorities having jurisdiction over the Project.

§ 3.4.3 During the development of the Construction Documents, the Architect shall assist the Owner in the development and preparation of (1) bidding and procurement information that describes the time, place and conditions of bidding, including bidding or proposal forms; (2) the form of agreement between the Owner and Contractor; and (3) the Conditions of the Contract for Construction (General, Supplementary and other Conditions). The Architect shall also compile a project manual that includes the Conditions of the Contract for Construction and Specifications and may include bidding requirements and sample forms.

§ 3.4.4 The Architect shall update the estimate for the Cost of the Work.

§ 3.4.5 The Architect shall submit the Construction Documents to the Owner, advise the Owner of any adjustments to the estimate of the Cost of the Work, take any action required under Section 6.5, and request the Owner's approval.

§ 3.5 BIDDING OR NEGOTIATION PHASE SERVICES

§ 3.5.1 GENERAL

The Architect shall assist the Owner in establishing a list of prospective contractors. Following the Owner's approval of the Construction Documents, the Architect shall assist the Owner in (1) obtaining either competitive bids or negotiated proposals; (2) confirming responsiveness of bids or proposals; (3) determining the successful bid or proposal, if any; and, (4) awarding and preparing contracts for construction.

§ 3.5.2 COMPETITIVE BIDDING

§ 3.5.2.1 Bidding Documents shall consist of bidding requirements and proposed Contract Documents.

§ 3.5.2.2 The Architect shall assist the Owner in bidding the Project by

.1 procuring the reproduction of Bidding Documents for distribution to prospective bidders;

.2 distributing the Bidding Documents to prospective bidders, requesting their return upon completion of the bidding process, and maintaining a log of distribution and retrieval and of the amounts of deposits, if any, received from and returned to prospective bidders;

.3 organizing and conducting a pre-bid conference for prospective bidders;

.4 preparing responses to questions from prospective bidders and providing clarifications and interpretations of the Bidding Documents to all prospective bidders in the form of addenda; and

.5 organizing and conducting the opening of the bids, and subsequently documenting and distributing the bidding results, as directed by the Owner.

§ 3.5.2.3 The Architect shall consider requests for substitutions, if the Bidding Documents permit substitutions, and shall prepare and distribute addenda identifying approved substitutions to all prospective bidders.

§ 3.5.3 NEGOTIATED PROPOSALS

§ 3.5.3.1 Proposal Documents shall consist of proposal requirements and proposed Contract Documents.

§ 3.5.3.2 The Architect shall assist the Owner in obtaining proposals by

- .1 procuring the reproduction of Proposal Documents for distribution to prospective contractors, and requesting their return upon completion of the negotiation process;
- .2 organizing and participating in selection interviews with prospective contractors; and
- .3 participating in negotiations with prospective contractors, and subsequently preparing a summary report of the negotiation results, as directed by the Owner.

§ 3.5.3.3 The Architect shall consider requests for substitutions, if the Proposal Documents permit substitutions, and shall prepare and distribute addenda identifying approved substitutions to all prospective contractors.

§ 3.6 CONSTRUCTION PHASE SERVICES

§ 3.6.1 GENERAL

§ 3.6.1.1 The Architect shall provide administration of the Contract between the Owner and the Contractor as set forth below and in AIA Document A201™–2007, General Conditions of the Contract for Construction. If the Owner and Contractor modify AIA Document A201–2007, those modifications shall not affect the Architect's services under this Agreement unless the Owner and the Architect amend this Agreement.

§ 3.6.1.2 The Architect shall advise and consult with the Owner during the Construction Phase Services. The Architect shall have authority to act on behalf of the Owner only to the extent provided in this Agreement. The Architect shall not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, nor shall the Architect be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect shall be responsible for the Architect's negligent acts or omissions, but shall not have control over or charge of, and shall not be responsible for, acts or omissions of the Contractor or of any other persons or entities performing portions of the Work.

§ 3.6.1.3 Subject to Section 4.3, the Architect's responsibility to provide Construction Phase Services commences with the award of the Contract for Construction and terminates on the date the Architect issues the final Certificate for Payment.

§ 3.6.2 EVALUATIONS OF THE WORK

§ 3.6.2.1 The Architect shall visit the site at intervals appropriate to the stage of construction, or as otherwise required in Section 4.3.3, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine, in general, if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect shall not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of the site visits, the Architect shall keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work.

§ 3.6.2.2 The Architect has the authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect shall have the authority to require inspection or testing of the Work in accordance with the provisions of the Contract Documents, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees or other persons or entities performing portions of the Work.

§ 3.6.2.3 The Architect shall interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests shall be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 3.6.2.4 Interpretations and decisions of the Architect shall be consistent with the intent of and reasonably inferable from the Contract Documents and shall be in writing or in the form of drawings. When making such interpretations and decisions, the Architect shall endeavor to secure faithful performance by both Owner and Contractor, shall not show partiality to either, and shall not be liable for results of interpretations or decisions rendered in good faith. The Architect's decisions on matters relating to aesthetic effect shall be final if consistent with the intent expressed in the Contract Documents.

§ 3.6.2.5 Unless the Owner and Contractor designate another person to serve as an Initial Decision Maker, as that term is defined in AIA Document A201–2007, the Architect shall render initial decisions on Claims between the Owner and Contractor as provided in the Contract Documents.

§ 3.6.3 CERTIFICATES FOR PAYMENT TO CONTRACTOR

§ 3.6.3.1 The Architect shall review and certify the amounts due the Contractor and shall issue certificates in such amounts. The Architect's certification for payment shall constitute a representation to the Owner, based on the Architect's evaluation of the Work as provided in Section 3.6.2 and on the data comprising the Contractor's Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject (1) to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, (2) to results of subsequent tests and inspections, (3) to correction of minor deviations from the Contract Documents prior to completion, and (4) to specific qualifications expressed by the Architect.

§ 3.6.3.2 The issuance of a Certificate for Payment shall not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) ascertained how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 3.6.3.3 The Architect shall maintain a record of the Applications and Certificates for Payment.

§ 3.6.4 SUBMITTALS

§ 3.6.4.1 The Architect shall review the Contractor's submittal schedule and shall not unreasonably delay or withhold approval. The Architect's action in reviewing submittals shall be taken in accordance with the approved submittal schedule or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review.

§ 3.6.4.2 In accordance with the Architect-approved submittal schedule, the Architect shall review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Review of such submittals is not for the purpose of determining the accuracy and completeness of other information such as dimensions, quantities, and installation or performance of equipment or systems, which are the Contractor's responsibility. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 3.6.4.3 If the Contract Documents specifically require the Contractor to provide professional design services or certifications by a design professional related to systems, materials or equipment, the Architect shall specify the appropriate performance and design criteria that such services must satisfy. The Architect shall review Shop Drawings and other submittals related to the Work designed or certified by the design professional retained by the Contractor that bear such professional's seal and signature when submitted to the Architect. The Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals.

§ 3.6.4.4 Subject to the provisions of Section 4.3, the Architect shall review and respond to requests for information about the Contract Documents. The Architect shall set forth in the Contract Documents the requirements for requests for information. Requests for information shall include, at a minimum, a detailed written statement that indicates the specific Drawings or Specifications in need of clarification and the nature of the clarification requested. The Architect's response to such requests shall be made in writing within any time limits agreed upon, or otherwise with reasonable promptness. If appropriate, the Architect shall prepare and issue supplemental Drawings and Specifications in response to requests for information.

§ 3.6.4.5 The Architect shall maintain a record of submittals and copies of submittals supplied by the Contractor in accordance with the requirements of the Contract Documents.

§ 3.6.5 CHANGES IN THE WORK

§ 3.6.5.1 The Architect may authorize minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. Subject to the provisions of Section 4.3, the Architect shall prepare Change Orders and Construction Change Directives for the Owner's approval and execution in accordance with the Contract Documents.

§ 3.6.5.2 The Architect shall maintain records relative to changes in the Work.

§ 3.6.6 PROJECT COMPLETION

§ 3.6.6.1 The Architect shall conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion; receive from the Contractor and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract Documents and assembled by the Contractor; and issue a final Certificate for Payment based upon a final inspection indicating the Work complies with the requirements of the Contract Documents.

§ 3.6.6.2 The Architect's inspections shall be conducted with the Owner to check conformance of the Work with the requirements of the Contract Documents and to verify the accuracy and completeness of the list submitted by the Contractor of Work to be completed or corrected.

§ 3.6.6.3 When the Work is found to be substantially complete, the Architect shall inform the Owner about the balance of the Contract Sum remaining to be paid the Contractor, including the amount to be retained from the Contract Sum, if any, for final completion or correction of the Work.

§ 3.6.6.4 The Architect shall forward to the Owner the following information received from the Contractor: (1) consent of surety or sureties, if any, to reduction in or partial release of retainage or the making of final payment; (2) affidavits, receipts, releases and waivers of liens or bonds indemnifying the Owner against liens; and (3) any other documentation required of the Contractor under the Contract Documents.

§ 3.6.6.5 Upon request of the Owner, and prior to the expiration of one year from the date of Substantial Completion, the Architect shall, without additional compensation, conduct a meeting with the Owner to review the facility operations and performance.

ARTICLE 4 ADDITIONAL SERVICES

§ 4.1 Additional Services listed below as the architect's responsibility are included in Basic Services.

(Designate the Additional Services the Architect shall provide in the second column of the table below. In the third column indicate whether the service description is located in Section 4.2 or in an attached exhibit. If in an exhibit, identify the exhibit.)

Additional Services		**Responsibility** *(Architect, Owner or Not Provided)*	**Location of Service Description** *(Section 4.2 below or in an exhibit attached to this document and identified below)*
§ 4.1.1	Programming (B202™–2009)	Architect	
§ 4.1.2	Multiple preliminary designs	Not Provided	
§ 4.1.3	Measured drawings	Not Provided	
§ 4.1.4	Existing facilities surveys	Owner	
§ 4.1.5	Site Evaluation and Planning (B203™–2007)	Architect	

Init.

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§ 4.1.6	Building Information Modeling (E202™–2008)	Not Provided	
§ 4.1.7	Civil engineering	Architect	
§ 4.1.8	Landscape design	Architect	
§ 4.1.9	Architectural Interior Design (B252™–2007)	Not Provided	
§ 4.1.10	Value Analysis (B204™–2007)	Not Provided	
§ 4.1.11	Detailed cost estimating	Architects	
§ 4.1.12	On-site Project Representation (B207™–2008)	Not Provided	
§ 4.1.13	Conformed construction documents	Not Provided	
§ 4.1.14	As-Designed Record drawings	Not Provided	
§ 4.1.15	As-Constructed Record drawings	Architect	
§ 4.1.16	Post occupancy evaluation	Not Provided	
§ 4.1.17	Facility Support Services (B210™–2007)	Not Provided	
§ 4.1.18	Tenant-related services	Not Provided	
§ 4.1.19	Coordination of Owner's consultants	Not Provided	
§ 4.1.20	Telecommunications/data design	Not Provided	
§ 4.1.21	Security Evaluation and Planning (B206™–2007)	Not Provided	
§ 4.1.22	Commissioning (B211™–2007)	Not Provided	
§ 4.1.23	Extensive environmentally responsible design	Not Provided	
§ 4.1.24	LEED® Certification (B214™–2012)	Not Provided	
§ 4.1.25	Fast-track design services	Not Provided	
§ 4.1.26	Historic Preservation (B205™–2007)	Not Provided	
§ 4.1.27	Furniture, Furnishings, and Equipment Design (B253™–2007)	Not Provided	

§ 4.2 Insert a description of each Additional Service designated in Section 4.1 as the Architect's responsibility, if not further described in an exhibit attached to this document.

§ 4.3 Additional Services may be provided after execution of this Agreement, without invalidating the Agreement. Except for services required due to the fault of the Architect, any Additional Services provided in accordance with this Section 4.3 shall entitle the Architect to compensation pursuant to Section 11.3 and an appropriate adjustment in the Architect's schedule.

§ 4.3.1 Upon recognizing the need to perform the following Additional Services, the Architect shall notify the Owner with reasonable promptness and explain the facts and circumstances giving rise to the need. The Architect shall not proceed to provide the following services until the Architect receives the Owner's written authorization:

.1 Services necessitated by a change in the Initial Information, previous instructions or approvals given by the Owner, or a material change in the Project including, but not limited to, size, quality, complexity, the Owner's schedule or budget for Cost of the Work, or procurement or delivery method;

.2 Services necessitated by the Owner's request for extensive environmentally responsible design alternatives, such as unique system designs, in-depth material research, energy modeling, or LEED® certification;

.3 Changing or editing previously prepared Instruments of Service necessitated by the enactment or revision of codes, laws or regulations or official interpretations;

.4 Services necessitated by decisions of the Owner not rendered in a timely manner or any other failure of performance on the part of the Owner or the Owner's consultants or contractors;

.5 Preparing digital data for transmission to the Owner's consultants and contractors, or to other Owner authorized recipients;

.6 Preparation of design and documentation for alternate bid or proposal requests proposed by the Owner;

.7 Preparation for, and attendance at, a public presentation, meeting or hearing;

.8 Preparation for, and attendance at a dispute resolution proceeding or legal proceeding, except where the Architect is party thereto;
.9 Evaluation of the qualifications of bidders or persons providing proposals;
.10 Consultation concerning replacement of Work resulting from fire or other cause during construction; or
.11 Assistance to the Initial Decision Maker, if other than the Architect.

§ 4.3.2 To avoid delay in the Construction Phase, the Architect shall provide the following Additional Services, notify the Owner with reasonable promptness, and explain the facts and circumstances giving rise to the need. If the Owner subsequently determines that all or parts of those services are not required, the Owner shall give prompt written notice to the Architect, and the Owner shall have no further obligation to compensate the Architect for those services:

.1 Reviewing a Contractor's submittal out of sequence from the submittal schedule agreed to by the Architect;
.2 Responding to the Contractor's requests for information that are not prepared in accordance with the Contract Documents or where such information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation;
.3 Preparing Change Orders and Construction Change Directives that require evaluation of Contractor's proposals and supporting data, or the preparation or revision of Instruments of Service;
.4 Evaluating an extensive number of Claims as the Initial Decision Maker;
.5 Evaluating substitutions proposed by the Owner or Contractor and making subsequent revisions to Instruments of Service resulting therefrom; or
.6 To the extent the Architect's Basic Services are affected, providing Construction Phase Services 60 days after (1) the date of Substantial Completion of the Work or (2) the anticipated date of Substantial Completion identified in Initial Information, whichever is earlier.

§ 4.3.3 The Architect shall provide Construction Phase Services exceeding the limits set forth below as Additional Services. When the limits below are reached, the Architect shall notify the Owner:

.1 Two (2) reviews of each Shop Drawing, Product Data item, sample and similar submittal of the Contractor
.2 Twelve (12) visits to the site by the Architect over the duration of the Project during construction
.3 One (1) inspections for any portion of the Work to determine whether such portion of the Work is substantially complete in accordance with the requirements of the Contract Documents
.4 One (1) inspections for any portion of the Work to determine final completion

§ 4.3.4 If the services covered by this Agreement have not been completed within Twenty-Four (24) months of the date of this Agreement, through no fault of the Architect, extension of the Architect's services beyond that time shall be compensated as Additional Services.

ARTICLE 5 OWNER'S RESPONSIBILITIES

§ 5.1 Unless otherwise provided for under this Agreement, the Owner shall provide information in a timely manner regarding requirements for and limitations on the Project, including a written program which shall set forth the Owner's objectives, schedule, constraints and criteria, including space requirements and relationships, flexibility, expandability, special equipment, systems and site requirements. Within 15 days after receipt of a written request from the Architect, the Owner shall furnish the requested information as necessary and relevant for the Architect to evaluate, give notice of or enforce lien rights.

§ 5.2 The Owner shall establish and periodically update the Owner's budget for the Project, including (1) the budget for the Cost of the Work as defined in Section 6.1; (2) the Owner's other costs; and, (3) reasonable contingencies related to all of these costs. If the Owner significantly increases or decreases the Owner's budget for the Cost of the Work, the Owner shall notify the Architect. The Owner and the Architect shall thereafter agree to a corresponding change in the Project's scope and quality.

§ 5.3 The Owner shall identify a representative authorized to act on the Owner's behalf with respect to the Project. The Owner shall render decisions and approve the Architect's submittals in a timely manner in order to avoid unreasonable delay in the orderly and sequential progress of the Architect's services.

§ 5.4 The Owner shall furnish surveys to describe physical characteristics, legal limitations and utility locations for the site of the Project, and a written legal description of the site. The surveys and legal information shall include, as applicable, grades and lines of streets, alleys, pavements and adjoining property and structures; designated wetlands; adjacent drainage; rights-of-way, restrictions, easements, encroachments, zoning, deed restrictions, boundaries and contours of the site; locations, dimensions and necessary data with respect to existing buildings, other improvements and trees; and information concerning available utility services and lines, both public and private, above and below grade, including inverts and depths. All the information on the survey shall be referenced to a Project benchmark.

§ 5.5 The Owner shall furnish services of geotechnical engineers, which may include but are not limited to test borings, test pits, determinations of soil bearing values, percolation tests, evaluations of hazardous materials, seismic evaluation, ground corrosion tests and resistivity tests, including necessary operations for anticipating subsoil conditions, with written reports and appropriate recommendations.

§ 5.6 The Owner shall coordinate the services of its own consultants with those services provided by the Architect. Upon the Architect's request, the Owner shall furnish copies of the scope of services in the contracts between the Owner and the Owner's consultants. The Owner shall furnish the services of consultants other than those designated in this Agreement, or authorize the Architect to furnish them as an Additional Service, when the Architect requests such services and demonstrates that they are reasonably required by the scope of the Project. The Owner shall require that its consultants maintain professional liability insurance as appropriate to the services provided.

§ 5.7 The Owner shall furnish tests, inspections and reports required by law or the Contract Documents, such as structural, mechanical, and chemical tests, tests for air and water pollution, and tests for hazardous materials.

§ 5.8 The Owner shall furnish all legal, insurance and accounting services, including auditing services, that may be reasonably necessary at any time for the Project to meet the Owner's needs and interests.

§ 5.9 The Owner shall provide prompt written notice to the Architect if the Owner becomes aware of any fault or defect in the Project, including errors, omissions or inconsistencies in the Architect's Instruments of Service.

§ 5.10 Except as otherwise provided in this Agreement, or when direct communications have been specially authorized, the Owner shall endeavor to communicate with the Contractor and the Architect's consultants through the Architect about matters arising out of or relating to the Contract Documents. The Owner shall promptly notify the Architect of any direct communications that may affect the Architect's services.

§ 5.11 Before executing the Contract for Construction, the Owner shall coordinate the Architect's duties and responsibilities set forth in the Contract for Construction with the Architect's services set forth in this Agreement. The Owner shall provide the Architect a copy of the executed agreement between the Owner and Contractor, including the General Conditions of the Contract for Construction.

§ 5.12 The Owner shall provide the Architect access to the Project site prior to commencement of the Work and shall obligate the Contractor to provide the Architect access to the Work wherever it is in preparation or progress.

ARTICLE 6 COST OF THE WORK

§ 6.1 For purposes of this Agreement, the Cost of the Work shall be the total cost to the Owner to construct all elements of the Project designed or specified by the Architect and shall include contractors' general conditions costs, overhead and profit. The Cost of the Work does not include the compensation of the Architect, the costs of the land, rights-of-way, financing, contingencies for changes in the Work or other costs that are the responsibility of the Owner.

§ 6.2 The Owner's budget for the Cost of the Work is provided in Initial Information, and may be adjusted throughout the Project as required under Sections 5.2, 6.4 and 6.5. Evaluations of the Owner's budget for the Cost of the Work, the preliminary estimate of the Cost of the Work and updated estimates of the Cost of the Work prepared by the Architect, represent the Architect's judgment as a design professional. It is recognized, however, that neither the Architect nor the Owner has control over the cost of labor, materials or equipment; the Contractor's methods of determining bid prices; or competitive bidding, market or negotiating conditions. Accordingly, the Architect cannot and does not warrant or represent that bids or negotiated prices will not vary from the Owner's budget for the Cost of the Work or from any estimate of the Cost of the Work or evaluation prepared or agreed to by the Architect.

§ 6.3 In preparing estimates of the Cost of Work, the Architect shall be permitted to include contingencies for design, bidding and price escalation; to determine what materials, equipment, component systems and types of construction are to be included in the Contract Documents; to make reasonable adjustments in the program and scope of the Project; and to include in the Contract Documents alternate bids as may be necessary to adjust the estimated Cost of the Work to meet the Owner's budget for the Cost of the Work. The Architect's estimate of the Cost of the Work shall be based on current area, volume or similar conceptual estimating techniques. If the Owner requests detailed cost estimating services, the Architect shall provide such services as an Additional Service under Article 4.

§ 6.4 If the Bidding or Negotiation Phase has not commenced within 90 days after the Architect submits the Construction Documents to the Owner, through no fault of the Architect, the Owner's budget for the Cost of the Work shall be adjusted to reflect changes in the general level of prices in the applicable construction market.

§ 6.5 If at any time the Architect's estimate of the Cost of the Work exceeds the Owner's budget for the Cost of the Work, the Architect shall make appropriate recommendations to the Owner to adjust the Project's size, quality or budget for the Cost of the Work, and the Owner shall cooperate with the Architect in making such adjustments.

§ 6.6 If the Owner's budget for the Cost of the Work at the conclusion of the Construction Documents Phase Services is exceeded by the lowest bona fide bid or negotiated proposal, the Owner shall

- **.1** give written approval of an increase in the budget for the Cost of the Work;
- **.2** authorize rebidding or renegotiating of the Project within a reasonable time;
- **.3** terminate in accordance with Section 9.5;
- **.4** in consultation with the Architect, revise the Project program, scope, or quality as required to reduce the Cost of the Work; or
- **.5** implement any other mutually acceptable alternative.

§ 6.7 If the Owner chooses to proceed under Section 6.6.4, the Architect, without additional compensation, shall modify the Construction Documents as necessary to comply with the Owner's budget for the Cost of the Work at the conclusion of the Construction Documents Phase Services, or the budget as adjusted under Section 6.6.1. The Architect's modification of the Construction Documents shall be the limit of the Architect's responsibility under this Article 6.

ARTICLE 7 COPYRIGHTS AND LICENSES

§ 7.1 The Architect and the Owner warrant that in transmitting Instruments of Service, or any other information, the transmitting party is the copyright owner of such information or has permission from the copyright owner to transmit such information for its use on the Project. If the Owner and Architect intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions.

§ 7.2 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and shall retain all common law, statutory and other reserved rights, including copyrights. Submission or distribution of Instruments of Service to meet official regulatory requirements or for similar purposes in connection with the Project is not to be construed as publication in derogation of the reserved rights of the Architect and the Architect's consultants.

§ 7.3 Upon execution of this Agreement, the Architect grants to the Owner a nonexclusive license to use the Architect's Instruments of Service solely and exclusively for purposes of constructing, using, maintaining, altering and adding to the Project, provided that the Owner substantially performs its obligations, including prompt payment of all sums when due, under this Agreement. The Architect shall obtain similar nonexclusive licenses from the Architect's consultants consistent with this Agreement. The license granted under this section permits the Owner to authorize the Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers, as well as the Owner's consultants and separate contractors, to reproduce applicable portions of the Instruments of Service solely and exclusively for use in performing services or construction for the Project. If the Architect rightfully terminates this Agreement for cause as provided in Section 9.4, the license granted in this Section 7.3 shall terminate.

§ 7.3.1 In the event the Owner uses the Instruments of Service without retaining the author of the Instruments of Service, the Owner releases the Architect and Architect's consultant(s) from all claims and causes of action arising from such uses. The Owner, to the extent permitted by law, further agrees to indemnify and hold harmless the Architect and its consultants from all costs and expenses, including the cost of defense, related to claims and causes of action asserted by any third person or entity to the extent such costs and expenses arise from the Owner's use of the Instruments of Service under this Section 7.3.1. The terms of this Section 7.3.1 shall not apply if the Owner rightfully terminates this Agreement for cause under Section 9.4.

§ 7.4 Except for the licenses granted in this Article 7, no other license or right shall be deemed granted or implied under this Agreement. The Owner shall not assign, delegate, sublicense, pledge or otherwise transfer any license granted herein to another party without the prior written agreement of the Architect. Any unauthorized use of the Instruments of Service shall be at the Owner's sole risk and without liability to the Architect and the Architect's consultants.

ARTICLE 8 CLAIMS AND DISPUTES

§ 8.1 GENERAL

§ 8.1.1 The Owner and Architect shall commence all claims and causes of action, whether in contract, tort, or otherwise, against the other arising out of or related to this Agreement in accordance with the requirements of the method of binding dispute resolution selected in this Agreement within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Architect waive all claims and causes of action not commenced in accordance with this Section 8.1.1.

§ 8.1.2 To the extent damages are covered by property insurance, the Owner and Architect waive all rights against each other and against the contractors, consultants, agents and employees of the other for damages, except such rights as they may have to the proceeds of such insurance as set forth in AIA Document A201–2007, General Conditions of the Contract for Construction. The Owner or the Architect, as appropriate, shall require of the contractors, consultants, agents and employees of any of them similar waivers in favor of the other parties enumerated herein.

§ 8.1.3 The Architect and Owner waive consequential damages for claims, disputes or other matters in question arising out of or relating to this Agreement. This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination of this Agreement, except as specifically provided in Section 9.7.

§ 8.2 MEDIATION

§ 8.2.1 Any claim, dispute or other matter in question arising out of or related to this Agreement shall be subject to mediation as a condition precedent to binding dispute resolution. If such matter relates to or is the subject of a lien arising out of the Architect's services, the Architect may proceed in accordance with applicable law to comply with the lien notice or filing deadlines prior to resolution of the matter by mediation or by binding dispute resolution.

§ 8.2.2 The Owner and Architect shall endeavor to resolve claims, disputes and other matters in question between them by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Agreement, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of a complaint or other appropriate demand for binding dispute resolution but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration proceeding is stayed pursuant to this section, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 8.2.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 8.2.4 If the parties do not resolve a dispute through mediation pursuant to this Section 8.2, the method of binding dispute resolution shall be the following:
(Check the appropriate box. If the Owner and Architect do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, the dispute will be resolved in a court of competent jurisdiction.)

[ ] Arbitration pursuant to Section 8.3 of this Agreement

[ ] Litigation in a court of competent jurisdiction

[ ] Other (Specify)

§ 8.3 ARBITRATION
§ 8.3.1 If the parties have selected arbitration as the method for binding dispute resolution in this Agreement, any claim, dispute or other matter in question arising out of or related to this Agreement subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of this Agreement. A demand for arbitration shall be made in writing, delivered to the other party to this Agreement, and filed with the person or entity administering the arbitration.

§ 8.3.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the claim, dispute or other matter in question would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the claim, dispute or other matter in question.

§ 8.3.2 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to this Agreement shall be specifically enforceable in accordance with applicable law in any court having jurisdiction thereof.

§ 8.3.3 The award rendered by the arbitrator(s) shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 8.3.4 CONSOLIDATION OR JOINDER
§ 8.3.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation; (2) the arbitrations to be consolidated substantially involve common questions of law or fact; and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 8.3.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 8.3.4.3 The Owner and Architect grant to any person or entity made a party to an arbitration conducted under this Section 8.3, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Architect under this Agreement.

ARTICLE 9 TERMINATION OR SUSPENSION
§ 9.1 If the Owner fails to make payments to the Architect in accordance with this Agreement, such failure shall be considered substantial nonperformance and cause for termination or, at the Architect's option, cause for suspension of performance of services under this Agreement. If the Architect elects to suspend services, the Architect shall give seven days' written notice to the Owner before suspending services. In the event of a suspension of services, the

Architect shall have no liability to the Owner for delay or damage caused the Owner because of such suspension of services. Before resuming services, the Architect shall be paid all sums due prior to suspension and any expenses incurred in the interruption and resumption of the Architect's services. The Architect's fees for the remaining services and the time schedules shall be equitably adjusted.

§ 9.2 If the Owner suspends the Project, the Architect shall be compensated for services performed prior to notice of such suspension. When the Project is resumed, the Architect shall be compensated for expenses incurred in the interruption and resumption of the Architect's services. The Architect's fees for the remaining services and the time schedules shall be equitably adjusted.

§ 9.3 If the Owner suspends the Project for more than 90 cumulative days for reasons other than the fault of the Architect, the Architect may terminate this Agreement by giving not less than seven days' written notice.

§ 9.4 Either party may terminate this Agreement upon not less than seven days' written notice should the other party fail substantially to perform in accordance with the terms of this Agreement through no fault of the party initiating the termination.

§ 9.5 The Owner may terminate this Agreement upon not less than seven days' written notice to the Architect for the Owner's convenience and without cause.

§ 9.6 In the event of termination not the fault of the Architect, the Architect shall be compensated for services performed prior to termination, together with Reimbursable Expenses then due and all Termination Expenses as defined in Section 9.7.

§ 9.7 Termination Expenses are in addition to compensation for the Architect's services and include expenses directly attributable to termination for which the Architect is not otherwise compensated, plus an amount for the Architect's anticipated profit on the value of the services not performed by the Architect.

§ 9.8 The Owner's rights to use the Architect's Instruments of Service in the event of a termination of this Agreement are set forth in Article 7 and Section 11.9.

ARTICLE 10 MISCELLANEOUS PROVISIONS

§ 10.1 This Agreement shall be governed by the law of the place where the Project is located, except that if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 8.3.

§ 10.2 Terms in this Agreement shall have the same meaning as those in AIA Document A201–2007, General Conditions of the Contract for Construction.

§ 10.3 The Owner and Architect, respectively, bind themselves, their agents, successors, assigns and legal representatives to this Agreement. Neither the Owner nor the Architect shall assign this Agreement without the written consent of the other, except that the Owner may assign this Agreement to a lender providing financing for the Project if the lender agrees to assume the Owner's rights and obligations under this Agreement.

§ 10.4 If the Owner requests the Architect to execute certificates, the proposed language of such certificates shall be submitted to the Architect for review at least 14 days prior to the requested dates of execution. If the Owner requests the Architect to execute consents reasonably required to facilitate assignment to a lender, the Architect shall execute all such consents that are consistent with this Agreement, provided the proposed consent is submitted to the Architect for review at least 14 days prior to execution. The Architect shall not be required to execute certificates or consents that would require knowledge, services or responsibilities beyond the scope of this Agreement.

§ 10.5 Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against either the Owner or Architect.

§ 10.6 Unless otherwise required in this Agreement, the Architect shall have no responsibility for the discovery, presence, handling, removal or disposal of, or exposure of persons to, hazardous materials or toxic substances in any form at the Project site.

§ **10.7** The Architect shall have the right to include photographic or artistic representations of the design of the Project among the Architect's promotional and professional materials. The Architect shall be given reasonable access to the completed Project to make such representations. However, the Architect's materials shall not include the Owner's confidential or proprietary information if the Owner has previously advised the Architect in writing of the specific information considered by the Owner to be confidential or proprietary. The Owner shall provide professional credit for the Architect in the Owner's promotional materials for the Project.

§ **10.8** If the Architect or Owner receives information specifically designated by the other party as "confidential" or "business proprietary," the receiving party shall keep such information strictly confidential and shall not disclose it to any other person except to (1) its employees, (2) those who need to know the content of such information in order to perform services or construction solely and exclusively for the Project, or (3) its consultants and contractors whose contracts include similar restrictions on the use of confidential information.

ARTICLE 11 COMPENSATION

§ **11.1** For the Architect's Basic Services described under Article 3, the Owner shall compensate the Architect as follows:
(Insert amount of, or basis for, compensation.)

The sum of $143,000.

§ **11.2** For Additional Services designated in Section 4.1, the Owner shall compensate the Architect as follows:
(Insert amount of, or basis for, compensation. If necessary, list specific services to which particular methods of compensation apply.)

In accordance with the attached Schedule of Hourly Rates.

§ **11.3** For Additional Services that may arise during the course of the Project, including those under Section 4.3, the Owner shall compensate the Architect as follows:
(Insert amount of, or basis for, compensation.)

In accordance with the attached Schedule of Hourly Rates.

§ **11.4** Compensation for Additional Services of the Architect's consultants when not included in Section 11.2 or 11.3, shall be the amount invoiced to the Architect plus zero percent (0 %), or as otherwise stated below:

§ **11.5** Where compensation for Basic Services is based on a stipulated sum or percentage of the Cost of the Work, the compensation for each phase of services shall be as follows:

Schematic Design Phase	Fifteen	percent (	15	%)
Design Development Phase	Twenty	percent (	20	%)
Construction Documents Phase	Thirty-Five	percent (	35	%)
Bidding or Negotiation Phase	Five	percent (	5	%)
Construction Phase	Twenty-Five	percent (	25	%)
Total Basic Compensation	one hundred	percent (	100	%)

§ **11.6** When compensation is based on a percentage of the Cost of the Work and any portions of the Project are deleted or otherwise not constructed, compensation for those portions of the Project shall be payable to the extent services are performed on those portions, in accordance with the schedule set forth in Section 11.5 based on (1) the lowest bona fide bid or negotiated proposal, or (2) if no such bid or proposal is received, the most recent estimate of the Cost of the Work for such portions of the Project. The Architect shall be entitled to compensation in accordance with this Agreement for all services performed whether or not the Construction Phase is commenced.

§ **11.7** The hourly billing rates for services of the Architect and the Architect's consultants, if any, are set forth below. The rates shall be adjusted in accordance with the Architect's and Architect's consultants' normal review practices.
(If applicable, attach an exhibit of hourly billing rates or insert them below.)

Employee or Category	Rate

§ 11.8 COMPENSATION FOR REIMBURSABLE EXPENSES

§ **11.8.1** Reimbursable Expenses are in addition to compensation for Basic and Additional Services and include expenses incurred by the Architect and the Architect's consultants directly related to the Project, as follows:

.1 Transportation and authorized out-of-town travel and subsistence;
.2 Long distance services, dedicated data and communication services, teleconferences, Project Web sites, and extranets;
.3 Fees paid for securing approval of authorities having jurisdiction over the Project;
.4 Printing, reproductions, plots, standard form documents;
.5 Postage, handling and delivery;
.6 Expense of overtime work requiring higher than regular rates, if authorized in advance by the Owner;
.7 Renderings, models, mock-ups, professional photography, and presentation materials requested by the Owner;
.8 Architect's Consultant's expense of professional liability insurance dedicated exclusively to this Project, or the expense of additional insurance coverage or limits if the Owner requests such insurance in excess of that normally carried by the Architect's consultants;
.9 All taxes levied on professional services and on reimbursable expenses;
.10 Site office expenses; and
.11 Other similar Project-related expenditures.

§ **11.8.2** For Reimbursable Expenses the compensation shall be the expenses incurred by the Architect and the Architect's consultants plus zero percent (0 %) of the expenses incurred.

§ 11.9 COMPENSATION FOR USE OF ARCHITECT'S INSTRUMENTS OF SERVICE

If the Owner terminates the Architect for its convenience under Section 9.5, or the Architect terminates this Agreement under Section 9.3, the Owner shall pay a licensing fee as compensation for the Owner's continued use of the Architect's Instruments of Service solely for purposes of completing, using and maintaining the Project as follows:

§ 11.10 PAYMENTS TO THE ARCHITECT

§ **11.10.1** An initial payment of zero ($ 0) shall be made upon execution of this Agreement and is the minimum payment under this Agreement. It shall be credited to the Owner's account in the final invoice.

§ **11.10.2** Unless otherwise agreed, payments for services shall be made monthly in proportion to services performed. Payments are due and payable upon presentation of the Architect's invoice. Amounts unpaid ( ) days after the invoice date shall bear interest at the rate entered below, or in the absence thereof at the legal rate prevailing from time to time at the principal place of business of the Architect.
(Insert rate of monthly or annual interest agreed upon.)

%

§ **11.10.3** The Owner shall not withhold amounts from the Architect's compensation to impose a penalty or liquidated damages on the Architect, or to offset sums requested by or paid to contractors for the cost of changes in the Work unless the Architect agrees or has been found liable for the amounts in a binding dispute resolution proceeding.

§ 11.10.4 Records of Reimbursable Expenses, expenses pertaining to Additional Services, and services performed on the basis of hourly rates shall be available to the Owner at mutually convenient times.

ARTICLE 12 SPECIAL TERMS AND CONDITIONS

Special terms and conditions that modify this Agreement are as follows:

ARTICLE 13 SCOPE OF THE AGREEMENT

§ 13.1 This Agreement represents the entire and integrated agreement between the Owner and the Architect and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both Owner and Architect.

§ 13.2 This Agreement is comprised of the following documents listed below:

- **.1** AIA Document B101™–2007, Standard Form Agreement Between Owner and Architect
- **.2** AIA Document E201™–2007, Digital Data Protocol Exhibit, if completed, or the following:

- **.3** Other documents:
  (List other documents, if any, including Exhibit A, Initial Information, and additional scopes of service, if any, forming part of the Agreement.)

This Agreement entered into as of the day and year first written above.

OWNER	**ARCHITECT**
(Signature)	*(Signature)*
(Printed name and title)	Jeffery Hazard, CEO, AIA *(Printed name and title)*

EXHIBIT B

HOURLY RATE SCHEDULE

1 January 2015

Senior Architect/Principal	$170.00/hr.
Architect/Principal	$159.00/hr.
Senior Associate Principal	$152.00/hr.
Associate Principal	$142.00/hr.
Senior Interior Designer	$118.00/hr.
Senior Project Developer	$111.00/hr.
Project Developer	$101.00/hr.
Senior Administrative	$119.00/hr.

For Sub-Consulting services, including, for example, Mechanical, Electrical and Structural engineering, a multiple of 1.25 times the amount billed to Koch Hazard by the consultant.

Huron School District 2-2
Sports Facilities Improvements - Projected Costs
November 23, 2015

Changes made since the last meeting are in yellow.
Total amount for construction is in blue.
Green items to be funded by Tennis Everyone

Construct 8-Court Tennis Complex	Koch Hazard Report 10/26/2015	Superintendent & Business Manager Recommendation	Designed and Bid by Koch Hazard	Designed and Bid by Others
Grading and base	48,463	48,463	48,463	
Concrete	357,260	357,260	357,260	
Tennis Surface/striping	57,500	57,500	57,500	
Tennis standards and nets	12,280	12,280	12,280	
Perimeter fencing - 12' high and gates	95,066	95,066	95,066	
Wind Protection - 4 sides	11,600	11,600	11,600	
Aluminum bleachers - 8 sets 20' long, 3 risers each	11,000	11,000	11,000	
Standings boards - 2	500	500	500	
Landscaping	10,000	10,000	10,000	
Lighting	150,000	150,000	150,000	
Drinking fountain	2,000	2,000	2,000	
Underground plumbing for future restroom facility	3,500	3,500	3,500	
Storm water drainage system	26,000	26,000	26,000	
Demolish existing courts, grade and seed area	76,750	76,750	76,750	
TOTAL BASE TENNIS BUDGET	**861,919**	**861,919**	**861,919**	-
Tennis Alternates				
Add 2 courts for a total of 10	175,124			
Add 2 more courts for a total of 12	175,124			
Add practice board at existing playground	4,700	4,700	4,700	
Add slab and electric for relocated storage shed	8,600	8,600	8,600	
Add shelter	36,399	2,000	2,000	
Add bluetooth speaker system	10,000			
Add Restrooms at tennis courts	92,600			
TOTAL ALTERNATE TENNIS BUDGET	**502,547**	**15,300**	**15,300**	-
GRAND TOTAL TENNIS BUDGET	**1,364,466**	**877,219**	**877,219**	-
CONSTRUCT TIGER STADIUM IMPROVEMENTS				
Removals and grading	53,315	53,315	53,315	
Base	161,012	161,012	161,012	
Turf system and drainage	568,562	568,562	568,562	
Sidewalks and fencing	30,000	30,000	30,000	
Reconstruct pole vault, triple jump, and discus	35,000	35,000	35,000	
TOTAL BASE STADIUM BUDGET	**847,889**	**847,889**	**847,889**	-
Stadium Alternates				
Add storage extension to maintenance building	382,500			
Add paving of Stadium parking lots	255,000	255,000		255,000
Add fence repair	4,000	4,000	4,000	
Add grading and drainage at practice fields	246,725	246,725	246,725	
Add irrigation of practice fields	48,000	48,000	48,000	
Add rain water storage system	15,000			
Add canopies at ticket windows	3,800			
Add high school parking extension	130,660			
Add spectator suites at grand stand	370,000			
Add enclose space under grand stand for storage	25,656			
Alternate Turf System		100,000	100,000	
TOTAL ALTERNATE STADIUM BUDGET	**1,481,341**	**653,725**	**398,725**	**255,000**
GRAND TOTAL STADIUM BUDGET	**2,329,230**	**1,501,614**	**1,246,614**	**255,000**
Nordby Center Parking Lot (Not in Koch Hazard Study)		**250,000**		**250,000**
A/E services (7%)	224,200	166,518	143,000	
Survey/geotechnical	30,000	30,000	30,000	
Contingency/Reserve (10%)	320,544	262,883	212,383	50,500
TOTAL PROFESSIONAL SERVICES AND RESERVE	**574,744**	**459,402**	**385,383**	**50,500**
GRAND TOTAL PROJECTS	**4,268,440**	**3,088,235**	**2,509,216**	**555,500**
Estimated Capital Outlay Certificate Issuance Costs	**60,000**	**60,000**		
Estimated Capital Outlay Certificates Amount	**4,328,440**	**3,148,235**		

Student Meal Policy/ Negative Account Balances

All school meals and a la carte purchases shall be paid for in advance or at the point of sale.

Low balance meal notifications shall be given verbally to students and notes will be sent home.

Negative balance meal notifications could also include a letter directly to the home or a personal call from the school cashier and/or nutrition director.

A report of all negative balances shall be provided by the School Nutrition Office to all building principals, the ESL Director, the Superintendent, and the Business Manager on a weekly basis throughout the school year in an effort to prevent students from reaching negative balances of $50.00 or more.

Second entree' and a la carte sales are prohibited from being charged to an account when an account has a negative balance. Cash sales for second entree' and a la carte are allowed.

Negative balance amounts that reach $50.00 or more will be turned over to a collection agency for collection including any fees that may result.

A 30% finance charge / late fee will be added to any amounts turned over to a collection agency.

ITAX INCREMENT FINANCING IN HURON

A Guide for Applicants

INTRODUCTION

In 1978, the South Dakota Legislature approved the use of Tax Increment Financing (TIF) by municipalities to help finance redevelopment projects. Tax Increment Financing is a method of funding public investments in an area by capturing, for a time, all of the increased tax revenue that results when public investment stimulates private investment.

Tax Increment Financing is one of the few economic development and community redevelopment tools currently available to municipalities in South Dakota. Huron has effectively used Tax Increment Financing since the creation of the first district in 1983. However, as with any technique, Tax Increment Financing should be used according to carefully specified criteria. These criteria will assure that projects help fulfill the City's objectives for economic development and redevelopment and avoid unnecessary subsidies. This guide outlines criteria and procedures for evaluating proposals for the use of Tax Increment Financing. These criteria should be considered guidelines only and do not guarantee approval of a request for Tax Increment Financing.

PURPOSE OF TAX INCREMENT FINANCING.

The City of Huron recognizes the following purposes for the use of Tax Increment Financing:

1. To encourage the redevelopment of deteriorated, or otherwise blighted real property in Huron through the investment of public funds;

2. To stimulate economic development in the community by assisting projects that promote the long term economic vitality of the community;

3. To stimulate increased private investment in areas that would have otherwise remained undeveloped or under-developed and which will, in the long term, provide a significant source of additional tax revenues to all taxing entities;

4. To stimulate the construction of safe and affordable housing units for low and moderate income residents and workers in the community; and,

5. To facilitate the reconstruction, maintenance and completion of the City's existing infrastructure network to support the existing growth and guide the future growth of the community.

PROJECT REVIEW PROCESS

1. Tax Increment Finance Project Review Committee.

- Each applicant seeking to use Tax Increment Financing must submit a complete application to the City Planning Office
- Within thirty (30) days of submissionthe application will be forwardedto the Tax Increment Finance Project Review Committee for evaluation.
- The Tax Increment Finance Project Review Committee will make recommendations on the use of Tax Increment Financing to the Planning Commission and the City Commission.
- The Tax Increment Finance Project ReviewCommittee consists of the followingmembers: two City Commission members appointed by the Mayor and Commission leadership; Greater Huron Development Corp. President or his/her representative; two representatives of the Huron Area School District appointed by the School Board; and, two representatives of the Beadle County Board of Commissioners appointed by the Beadle County Board of Commissioners.
- The applicant will present the proposed Tax Increment District, Project Plan and/or Project Plan revisions to the Tax Increment Finance Project Review Committee.
- The meeting of the Tax Increment Finance Project Review Committee shall be a public meeting at which minutes will be taken and made available to the public. Notice of the meeting shall be given.Public comment on the proposed Tax Increment District, Project Plan and/or Project Plan revisions shall be taken and considered by the Committee.
- A majority of the Tax Increment Finance Project Review Committee members presentmust concur for the request to receive a positive recommendation.

2. Application Requirements.

An application for the use of Tax Increment financing must include as much of the following information, including reasonable cost estimates, as is available at the time of the application:

A. The Application should include:

(1) A detailed project description; and,
(2) List of project costs to be funded by the Tax Increment Financing; and
(3) A preliminary development financing plan, including sources of funds, interest rates, financing costs and amortization; and,
(4) The applicant shall identify all persons and entities that have an interest in the project ; and
(5) A pro forma indicating projected costs and revenues; and,
(6) Conceptual plans, sketches, maps or site plans for the project; and
(7) A development time schedule; and,
(8) A list of the specific public improvements and a list of the specific private improvements proposed to be constructed along with the project; and,
(9) A $1,000 non-refundable application fee;
(10) Other information that may be required by the Tax Increment Finance Project Review Committee.

B. Project Plan. The Project Plan presented to the Planning Commission must include a statement listing:

(1) The kind, number, and location of all proposed public works or improvements within the district;

(2) An economic feasibility study;

(3) A detailed list of estimated project costs;

(4) A fiscal impact statement which shows the impact of the tax increment district, both until and after the bonds are repaid, upon all entities levying taxes upon property in the district; and

(5) A description of the methods of financing all estimated project costs and the time when related costs or monetary obligations are to be incurred.

3. Criteria for Evaluation.

Projects applying for assistance through Tax Increment Financing must qualify by meeting certain criteria. Some criteria are statutory and must be met in order for the City to establish a Tax Increment Financing District. Others are discretionary, and enable the City to determine the benefits of the project. The project application must demonstrate how the project meets the required criteria. However, in all cases, the decisions to create a Tax Increment Financing District and to enter into a developer's agreement with any applicant are wholly discretionary. There is no right for an applicant to have a Tax Increment Financing District created or to have the City enter into a developer's agreement.

A. Statutory Criteria

In order to create a Tax Increment District, the project must comply with the requirements of SDCL Chapter 11-9. (Appendix A)

B. In addition, a project should seek to address the following five criteria:

(1) The project would not be economically feasible without the use of Tax Increment Financing or would not occur in Huron without Tax Increment Financing.

(2) The project will eliminate actual or potential hazard to the public. Hazards may include condemned or unsafe buildings, sites, or structures.

(3) The project will improve competition in retail or service businesses in the Huron trade area.

(4) The project will bring new or expanded employment opportunities to the Huron trade area.

(5) The project will result in the construction of affordable housing units for low or moderate income.

C. Additional Local Criteria.

(1) The project must comply with the adopted Comprehensive Plan and all other appropriate plans and regulations.

(2) The use of Tax Increment Financing for the project will not result in the net loss of pre-existing tax revenues to the City and other taxing jurisdictions.

D. Discretionary Criteria.

In addition, the project should seek to satisfy as many of the following criteria as possible. The project will be evaluated relative to the criteria outlined below.

(1) The project will increase the size and/or skill of the existing workforce.

(2) The project involves the rehabilitation of a building listed on or eligible for listing on the National Register of Historic Places.

(3) The project involves the start-up of an entirely new business or business operation within the City of Huron.

(4) The project involves the expansion of an existing business located within Huron.

(5) The project site has displayed a recent pattern of declining real property assessments, as measured by the Beadle County Director of Equalization.

(6) The developer agrees to waive the five-year tax abatement.

PROJECT COSTS

1. To accomplish the purposes of Tax Increment Financing, the following costs are determined to be allowable costs:

A. Capital costs, including the actual costs of the construction of public works or improvements, buildings, structures, and permanent fixtures; the demolition, alteration, remodeling, repair, or reconstruction of existing buildings, structures, and permanent fixtures; the acquisition of equipment; the clearing and grading of land; and the amount of interest payable on tax incremental bonds issued pursuant to this chapter until such time as positive tax increments to be received from the district, as estimated by the project plan, are sufficient to pay the principal of and interest on the tax incremental bonds when due;

B. Financing costs, including all interest paid to holders of evidences of indebtedness issued to pay for project costs, any premium paid over the principal amount thereof because of the redemption of such obligations prior to maturity and a reserve for the payment of principal and interest on such obligations in an amount determined by the governing body to be reasonably required for the marketability of such obligations;

C. Real property assembly costs, including the actual cost of the acquisition by a municipality of real or personal property within a tax incremental district less any proceeds to be received by the municipality from the sale, lease, or other disposition of such property pursuant to a project plan;

D. Professional service costs, including those costs incurred for architectural, planning, engineering, and legal advice and services;

E. Imputed administrative costs, including reasonable charges for the time spent by municipal employees in connection with the implementation of a project plan;

F. Relocation costs;

G. Organizational costs, including the costs of conducting environmental impact and other studies and the costs of informing the public of the creation of tax incremental districts and the implementation of project plans; and

H. Payments and grants made, at the discretion of the governing body, which are found to be necessary or convenient to the creation of tax incremental districts, the implementation of project plans, or to stimulate and develop the general economic welfare and prosperity of the state.

2. The following are specific items included in project costs:

   A. Oversizing costs for sewer, water, curb and gutter, sidewalks and streets required by the City of Huron;
   B. Extension of off-site sewer, water, street and public improvements to the development site;
   C. Oversizing costs for storm drainage detention and transmission facilities to accommodate storm water runoff beyond that generated by the development;
   D. Reconstruction of existing streets, water, sewer, sidewalks or other public infrastructure;
   E. Regional lift stations, pump stations or other public facilities to be owned by the City of Huron;
   F. Public playgrounds, parks and recreational improvements to be owned by the City of Huron;
   G. Demolition costs for the removal of existing structures or infrastructure;
   H. Interest and financing fees;

I. Imputed administrative fees due to the City;
J. Removal and replacement of contaminated soils;
K. Professional service fees limited to engineering, design, survey and construction management associated with the allowable project costs; and,
L. Costs, at the discretion of the governing body, which are found to be necessary or convenient to the creation of the Tax Incremental District or the implementation of the Project Plan.

TAX INCREMENT FINANCING APPROVAL PROCESS

Following the review of a project plan by the TIF Project Review Committee, the City Planning Office shall notify the applicant of the Committee's action within seven (7) days.

If after reviewing the application the Tax Increment Finance Project Review Committee recommends approval of the creation of the Tax Increment District or approval of the project plan or revision to the project plan, the following approval process shall be initiated:

1. Notification of Planning Commission Hearing. The City Planning office will publish notice of a public hearing to be held at the Planning Commission meeting that will be held not less than one (1) month after the date of the recommendation of the TIF Project Review Committee's on the applicant's request to create a TIF district. The meeting notice will be published at least then (10) days prior to the Planning Commission meeting.

2. Resolution Defining Proposed Tax Increment District. City Staff shall forward a draft Resolution and Project Plan along with the TIF Project Review Committee recommendation to the Planning Commission.

3. Planning Commission Hearing. The Planning Commission shall review the Project Plan and recommendation of the TIF Project Review Committee and take action on the application.The City Commission shall set the recommended Resolution and Project Plan for Public Hearing at a future City Commission meeting.

4. Notification of City Commission Hearing. The City Planning office will publish notice of a public hearing to be held at theCity Commission meeting that will be held after the Planning Commission meeting where the Planning Commission made a recommendation on a proposed TIF district. The meeting notice will be published at least ten (10) days prior to the City Commission meeting and may be combined with the notice of the Planning Commission hearing on the proposed creation of a TIFdistrct.

4. City Commission Hearing. TheCity Commission shall review the Project Plan, action of the Planning Commission, and recommended Resolution and take action on the application.

5. Approval of the Development Agreement. Following approval of the Resolutions creating the Tax Increment District and the Project Plan by the City Commission, the City Attorney shall draft a Development Agreement. The Agreement sets forth the mutual responsibilities

of both parties. The Development Agreement is reviewed by the City Commission who must authorize the Mayor and Finance Officer to sign the agreement.

If the Tax Increment Finance Project Review Committee does not recommend approval of the creation of the Tax Increment District, the applicant may appeal that decision to the Planning Commission. The decision of the Planning Commission on the creation of the Tax Increment District shall be final.

If the application is denied, resubmission of the request cannot occur for thirty (30) days from the date of denial.

PROCESS FOR REVISING APPROVED TAX INCREMENT DISTRICT PROJECT PLANS

1. Submit written request to City Planning Officestaff.

2. City Planning Officestaff schedules a Tax Increment Finance Project Review Committee meeting for review of the request.

3. The Tax Increment Finance Project Review Committee shall meet with the applicant, review the request, take public comment and make a recommendation. If denied by the committee, the applicant may appeal the decision to the Planning Commission. The decision of the Planning Commission on the revision of a Tax Increment District Project Plan shall be final.

4. Pursuant to the provisions of SDCL11-9-18, the Planning Commission considers the proposed revisions and approves any changes by resolution.

5. Upon approval by the Planning Commission, the request is forwarded to the City Commission where it may approve, amend or reject the revised Project Plan.

6. The City Finance Office shall provide an "Annual Summary of all Active Tax Increment Financing Districts" to the City Commission on or before July 31 of each year utilizing the Summary of Current Interest Rate on Active Districts spreadsheet with the addition of Prior Assessment and Revenues Received Information.

GENERAL RULES OF THE TAX INCREMENT FINANCING PROGRAM

All approved projects must comply with the following general rules.

1. Tax Increment Financing shall not be used for the construction of residential structures.

2. Any Tax Increment Financing assisted rehabilitation within a National Historic District must be carried out according to the Secretary of the Interior's Standards for Rehabilitation.

3. The City shall incur nothing more than minimal, incidental costs associated with a request for, or the creation of, Tax Increment Districts.

The City Finance Officer will review and analyze the proposed financing terms and forward a recommendation for approval or disapproval to the City Commission along with the Developers Agreement or proposal for refinancing.

The City reserves the right of approval of the financing proposal. Each project plan and developer's agreement shall include language that allows the City to be reimbursed for any and all project costs should they elect to either finance or refinance the Tax Increment Finance loan.

4. An Imputed Administrative Fee shall be charged by the City of Huron to every Tax Increment District for which a Project Plan is approved in the amount of $5,000. Such fee shall be paid to the City as a project cost from the tax increment fund balance in year five of the Tax Increment District. For an initial Tax Increment District application that includes phases an additional $1,000 of Imputed Administrative Fee shall be paid to the City. Should subsequent amendment of a Tax Increment District result in a phased Project Plan an additional $2,500 of Imputed Administrative Fee shall be paid to the City.

5. Submission of the final costs certification shall be made to the Finance Office no later than 120 days after acceptance of the final project within the phase and receipt of warranty surety, if required.

APPENDIX A
Statutory Criteria (SDCL Ch. 11-9)

11-9-7. Maximum percentage of taxable property in municipality permitted in districts.

In order to implement the provisions of this chapter, the resolution required by § 11-9-5 shall contain a finding that the aggregate assessed value of the taxable property in the district plus the tax incremental base of all other existing districts does not exceed ten percent of the total assessed value of taxable property in the municipality.

SDCL11-9-8. Findings required as to blighted areas—Likelihood of enhanced value from improvements.

To implement the provisions of this chapter, the resolution required by 11-9-5 shall contain findings that:

(1) Not less than twenty-five percent, by area, of the real property within the district is a blighted area or not less than fifty percent, by area, of the real property within the district will stimulate and develop the general economic welfare and prosperity of the state through the promotion and advancement of industrial, commercial, manufacturing, agricultural, or natural resources; and

(2) The improvements of the area is likely to enhance significantly the value of substantially all of the other real property in the district.

It is not necessary to identify the specific parcels meeting the criteria. No county may create a tax incremental district located, in whole or in part, within a municipality, unless the governing body of such municipality has consented thereto by resolution.

SDCL11-9-9. Areas conducive to disease or crime defined as blighted.
Any area, including slum area, in which the structures, buildings or improvements, by reason of:
(1) Dilapidation, age, or obsolescence;
(2) Inadequate provisions for ventilation, light, air, sanitation, or open spaces;
(2) High density of population and overcrowding;
(4) The existence of conditions which endanger life or property by fire and other causes; or
(5) Any combination of such factors;
are conducive to ill health, transmission of disease, infant mortality, juvenile delinquency, or crime, and which is detrimental to the public health, safety, morals, or welfare, is a blighted area.

SDCL11-9-10. Developed areas impairing growth defined as blighted.
Any area which by reason of:
(1) The presence of a substantial number of substandard, slum, deteriorate, or deteriorating structures;

(2) Predominance of defective or inadequate street layouts;
(3) Faulty lot layout in relation to size, adequacy, accessibility, or usefulness;
(4) Insanitary or unsafe conditions;
(5) Deterioration of site or other improvements;
(6) Diversity of ownership, tax, or special assessment delinquency exceeding the fair value of the land;
(7) Defective or unusual conditions of title;
(8) The existence of conditions which endanger life or property by fire and other causes; or
(9) Any combination of such factors;

substantially impairs or arrests the sound growth of a municipality, retards the provision of housing accommodations, or constitutes an economic or social liability and is a menace to the public health, safety, morals, or welfare in its present condition and use, is a blighted area.

SDCL11-9-11. Open areas impairing growth defined as blighted.
Any area which is predominantly open and which because of obsolete platting, diversity of ownership, deterioration of structures or of site improvements, or otherwise, 'substantially impairs or arrests the sound growth of a municipality, is a blighted area.

KOCH·HAZARD
ARCHITECTS

CHANGE ORDER

PROJECT: (Name, address)	**Madison Elementary School** Addition and Renovation 150 5th Street SW Huron, SD 57350	Contractor shall sign all copies and return all copies to the Architect. (For additional signatures and distribution.)
TO: (Contractor)	**Tellinghuisen, Inc.** 204 Garfield Avenue PO Box 138 Willow Lake, SD 57278	**ARCHITECTS PROJECT #1277** **CONTRACT FOR: General**

3/31/2014

You are directed to make the following changes in this Contract: RFP#'s 79-82, 84-88

See attached back-up sheets for breakdown of change order items.

TOTAL NET ADD TO CONTRACT: $11,308.00

Substantial Completion Dates changed as follows:

Building	10/6/2015
Site Work	12/11/2015

The original Contract Sum was		5,349,000.00
Net change by previous Change Orders		173,244.00
The Contract Sum prior to this Change Order was		5,522,244.00
The Contract Sum will be increased by this Change Order		11,308.00
The new Contract Sum including this Change Order will be		5,533,552.00
The Contract Time will be unchanged by	0 days	

The Date of Completion as of the date of this Change Order therefore is:

It is hereby agreed that the provisions of the contract shall not be otherwise changed or affected by the provisions of this change order.

Recommended by:	Accepted by:	Approved by:
Koch Hazard Architects	Tellinghuisen, Inc.	Huron School District 2-2
431 N. Phillips Avenue, Suite 200 Sioux Falls, SD 57104	204 Garfield Avenue PO Box138 Willow Lake, South Dakota 57278	150 5th Street SE Huron, SD 57350
By, Jeffrey A. Hazard	By, Zane Tellinghuisen	By,
Date : Nov. 25, 2015	Date 12-3-15	Date

DATE OF ISSUANCE: Nov 24, 2015

CHANGE ORDER NO. G-7

KOCH HAZARD ARCHITECTS

Date: 10/14/15
Project: Madison Elementary School Addition & Renovation/ 1277A
Subject: Architect's Proposal/Change Order Log

To: Tellinghuisen, Inc.

Proposals/CO's in Process (Items incorporated in a change order, not approved or voided have been deleted from the list.)	Request for Proposal	Proposal Rec'd	Revised Proposal	A/E Recommendation to Owner	Owner Approval	CO Initiated
Allowances: See RFP 024						
078. Relocate photo sensor.	7/22/15	7/28/15 548.00 0 days		Void		
079. Relocate 4 inch sanitary	8/25/15	9/23/15 1,302.00 0 days		9/23/15 1,302.00 0 days	9/23/15 1,302.00 0 days	11/25/15 G-7 1,302.00 0 days
080. Sidewalk east triangle	8/25/15	8/31/15 4,816.00 0 days		9/8/15 4,816.00 0 days	9/8/15 4,816.00 0 days	11/25/15 G-7 4,816.00 0 days
081. Provide manual window blinds Rms 101, 126, & 128	9/8/15	9/17/15 602.00 0 days		9/17/15 602.00 0 days	9/17/15 602.00 0 days	11/25/15 G-7 602.00 0 days
082. Miscellaneous electrical	9/8/15	9/8/15 1,289.00 0 days		9/10/15 1,289.00 0 days	9/10/15 1,289.00 0 days	11/25/15 G-7 1,289.00 0 days
083. HVAC Cashiers Room 142	9/9/15	9/17/15 1,977.00 0 days		Void		
084. Sidewalk on eastside	9/28/15	9/29/15 627.00 0 days		10/12/15 627.00 0 days	10/12/15 627.00 0 days	11/25/15 G-7 627.00 0 days
085. Raise counter top Room 152	9/28/15	10/14/15 903.00 0 days		10/14/15 903.00 0 days	10/15/15 903.00 0 days	11/25/15 G-7 903.00 0 days
086. Ceiling tile vestibule	9/29/15	10/15/15 3,430.00 0 days		10/15/15 3,430.00 0 days	10/15/15 3,430.00 0 days	11/25/15 G-7 3,430.00 0 days
087. Credit for carpet	10/6/15	10/12/15 (1,379.00) 0 days		10/12/15 (1,379.00) 0 days	10/12/15 (1,379.00) 0 days	11/25/15 G-7 (1,379.00) 0 days
088. Credit for dimmer switches	11/2/15	11/24/15		11/24/15	11/24/15	11/25/15 G-7

(282.00)		(282.00)	(282.00)	(282.00)
			G-7	11,308.00

Change Orders issued to date: $174,876.00

Sincerely,

KOCH HAZARD ARCHITECTS

Tony Taylor, Project Manager

Koch Hazard Log

Tellinghuisen, Inc.
204 Garfield Ave.
PO Box 138
Willow Lake, SD 57278
Phone: 605-625-5469
Fax: 605-625-5318

PROPOSED CHANGE ORDER
No. 00079

TITLE: RFP #079

DATE: 9/22/2015

PROJECT: Madison Elem School Add/Ren 2014

JOB: 0214

TO: Attn: Kelly Christopherson
Huron School District 2-2
150 5th Street SW
Huron, SD 57350
Phone: 605-353-6990

CONTRACT NO: 1

RE: **To:** **From:** **Number:**

DESCRIPTION OF PROPOSAL

Provide an itemized proposal for relocating the existing 4 inch sanitary sewer around the new library addition as discussed on-site.

Item	Description	Stock#	Quantity	Units	Unit Price	Tax Rate	Tax Amount	Net Amount
00001	Jeremy Thomas		1.000		$1,180.00	2.04%	$24.08	$1,180.00
00002	Overhead/Profit 6%		1.000		$70.94	2.04%	$1.45	$70.94
00003	Bonding 2%		1.000		$25.02	2.04%	$0.51	$25.02

Unit Cost:	**$1,275.96**
Unit Tax:	**$26.04**
Total:	**$1,302.00**

APPROVAL:

By: ______________________
Kelly Christopherson

Date: ______________________

By: ______________________
Stacie G. Rasmussen

Date: ______________________

KOCH · HAZARD
ARCHITECTS

SUBMITTAL REVIEW

TO: Stacie Rasmussen
Tellinghuisen, Inc.
PO Box 138
Willow Lake, SD 57278

DATE: 8/25/2015 JOB NO: 1277A

PROJECT: Madison Elementary School Addition and Renovatio

This submittal has been reviewed for "conformance with information given and the design concept expressed in the Contract Documents". "Review of such submittals is not conducted for the purpose of determining accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents". "The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations" of the General Conditions relative to submittals. Contractor is responsible for field conditions to be confirmed and correlated at the job site.

A. Reviewed, No Exception
B. Reviewed, Exceptions Noted
C. Reviewed, Exceptions Noted, Revise and Resubmit
D. Rejected
E. See attached Consultant's comments.

Item	Section No.	Copies	Action	Comments
Relocate 4 inch sanitary se	Civil	1		

COPY TO:

Koch Hazard - 1

SIGNED: Tony Taylor

Received by: Tony Taylor

IF ENCLOSURES ARE NOT AS NOTED, KINDLY NOTIFY US AT ONCE

431 North Phillips Avenue, Suite 200 Sioux Falls, South Dakota 57104-5933 T: (605) 336-3718 F: (605) 336-0438
www.kochhazard.com

KOCH · HAZARD
ARCHITECTS

REQUEST FOR PROPOSAL (RFP)

RFP 079

DATE: 25 August 2015

TO: Tellinghuisen, Inc.

PROJECT: Madison Elementary School Addition and Renovation/#1277A
Huron School District 2-2
Huron, South Dakota

Owner Requested:________ Contractor Requested:________ Unforeseen Conditions____x____ Design Issue________

Proposal Requests are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
Please submit an itemized cost breakdown, in accordance with the General Conditions, for changes in contract sum and contract time, resulting from the following proposed modification(s) to the Contract Documents.

PLEASE SUBMIT PROPOSAL WITHIN TEN (10) DAYS OR LESS

DESCRIPTION OF WORK:

1. Provide an itemized proposal for relocating the existing 4 inch sanitary sewer around the new library addition as discussed on-site.

ARCHITECT - KOCH HAZARD

Tony Taylor, Associate Principal

REPRESENTATIVE

CC: Kelly Christopherson, Business Manager, Huron School District
Norm deWit, ACEI
Brad Shoup, ACEI
Randy Hoscheid, Pierce & Harris Engineering
Rob Maher, SEA
Tony Taylor, Koch Hazard Architects
Koch Hazard Architects log

PO Box 371
Chamberlain, SD 57325

Invoice

Date	Invoice #
9/21/2015	480

Bill To
Teltihuisen Const madison elementary

P.O. No.	Terms	Project

Quantity	Description	Rate	Amount
	rfp #79		
65	move sewer to out side of addition	12.00	780.00
1	local plumber to camera sewer	400.00	400.00

Total	$1,180.00

Tellinghuisen, Inc.

204 Garfield Ave.
PO Box 138
Willow Lake, SD 57278

Phone: 605-625-5469
Fax: 605-625-5318

PROPOSED CHANGE ORDER
No. 00080

TITLE: RFP #080

DATE: 8/31/2015

PROJECT: Madison Elem School Add/Ren 2014

JOB: 0214

TO: Attn: Kelly Christopherson
Huron School District 2-2
150 5th Street SW
Huron, SD 57350
Phone: 605-353-6990

CONTRACT NO: 1

RE: **To:** **From:** **Number:**

DESCRIPTION OF PROPOSAL

Provide an itemized proposal to install new 5'-0" sidewalk on the east side of existing triangle on the southeast corner of the project site. Include curb-cut with warning pad on south end of sidewalk and curb-cut only on north end of sidewalk. Include cutting in a curb-cut where previous sidewalk was installed. (See attached drawing)

Item	Description	Stock#	Quantity	Units	Unit Price	Tax Rate	Tax Amount	Net Amount
00001	Tellinghuisen Material/Labor		1.000		$4,284.00	2.04%	$87.44	$4,284.00
00002	Overhead/Profit 8%		1.000		$343.14	2.04%	$7.00	$343.14
00003	Bonding 2%		1.000		$92.53	2.04%	$1.89	$92.53

Unit Cost:	**$4,719.67**
Unit Tax:	**$96.33**
Total:	**$4,816.00**

APPROVAL:

By: ______________________
Kelly Christopherson

Date: ______________________

By: ______________________
Stacie G. Rasmussen

Date: ______________________

Primavera ®

KOCH · HAZARD
ARCHITECTS

SUBMITTAL REVIEW

TO: Stacie Rasmussen
Tellinghuisen, Inc.
PO Box 138
Willow Lake, SD 57278

DATE: 8/25/2015 JOB NO: 1277A

PROJECT: Madison Elementary School Addition and Renovatio

This submittal has been reviewed for "conformance with information given and the design concept expressed in the Contract Documents". "Review of such submittals is not conducted for the purpose of determining accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents". "The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations" of the General Conditions relative to submittals. Contractor is responsible for field conditions to be confirmed and correlated at the job site.

A. Reviewed, No Exception
B. Reviewed, Exceptions Noted
C. Reviewed, Exceptions Noted, Revise and Resubmit
D. Rejected
E. See attached Consultant's comments.

Item	Section No.	Copies	Action	Comments
Sidewalk east side of trian	Civil	1		

COPY TO:

Koch Hazard - 1

SIGNED: Tony Taylor

Received by: Tony Taylor

IF ENCLOSURES ARE NOT AS NOTED, KINDLY NOTIFY US AT ONCE

KOCH • HAZARD
ARCHITECTS

REQUEST FOR PROPOSAL (RFP)

RFP 080

DATE: 25 August 2015

TO: Tellinghuisen, Inc.

PROJECT: Madison Elementary School Addition and Renovation/#1277A
Huron School District 2-2
Huron, South Dakota

Owner Requested: x Contractor Requested:____ Unforeseen Conditions____ Design Issue____

Proposal Requests are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
Please submit an itemized cost breakdown, in accordance with the General Conditions, for changes in contract sum and contract time, resulting from the following proposed modification(s) to the Contract Documents.

PLEASE SUBMIT PROPOSAL WITHIN TEN (10) DAYS OR LESS

DESCRIPTION OF WORK:

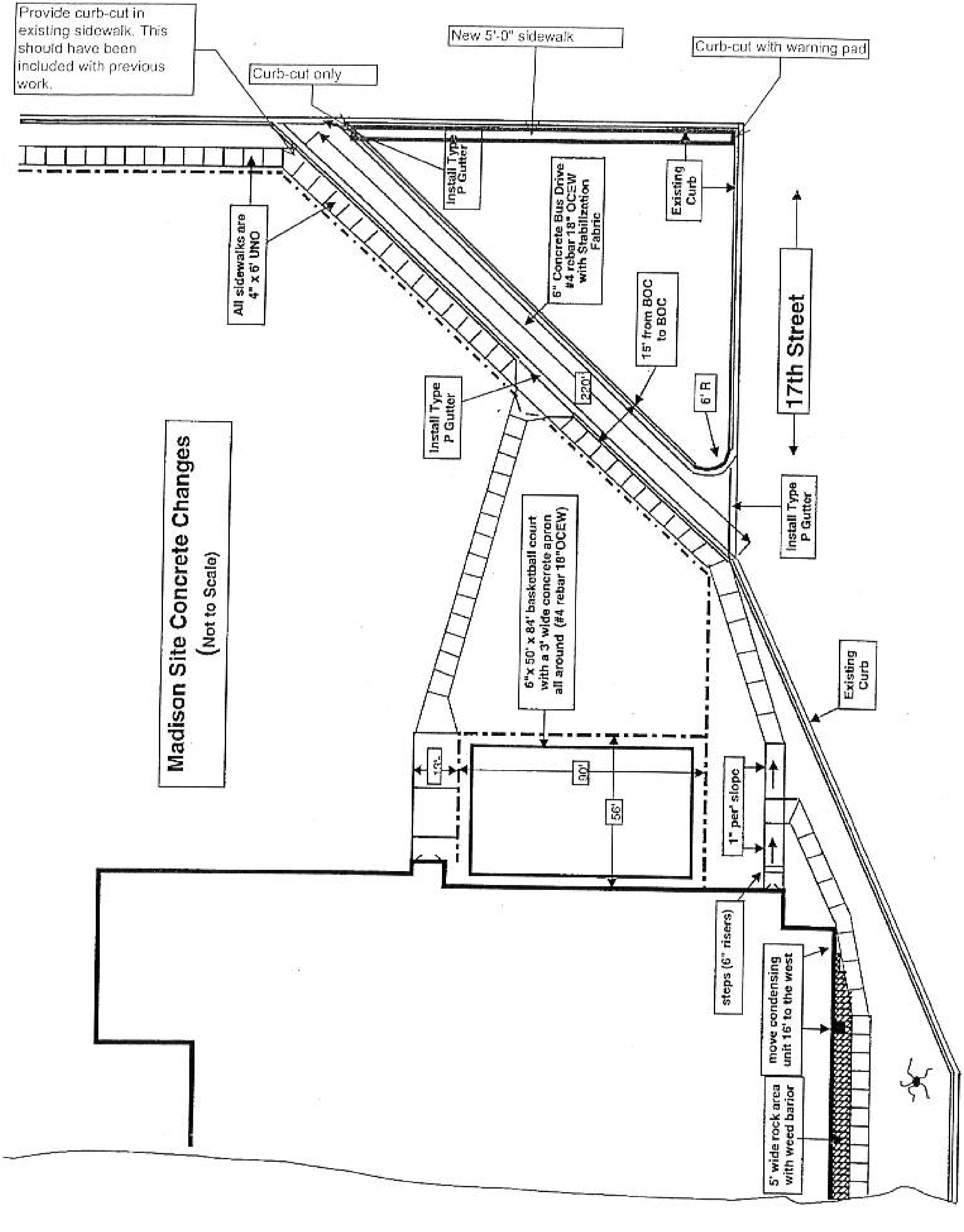
1. Provide an itemized proposal to install new 5'-0" sidewalk on the east side of existing triangle on the southeast corner of the project site. Include curb-cut with warning pad on south end of sidewalk and curb-cut only on north end of sidewalk. Include cutting in a curb-cut where previous sidewalk was installed.
2. See attached drawing.

ARCHITECT - KOCH HAZARD

Tony Taylor, Associate Principal

REPRESENTATIVE

CC: Kelly Christopherson, Business Manager, Huron School District
Norm deWit, ACEI
Brad Shoup, ACEI
Randy Hoscheid, Pierce & Harris Engineering
Rob Maher, SEA
Tony Taylor, Koch Hazard Architects
Koch Hazard Architects log


Madison Site Concrete Changes
(Not to Scale)
Provide curb-cut in existing sidewalk. This should have been included with previous work.
Curb-cut only
New 5'-0" sidewalk
Curb-cut with warning pad
Install Type P Gutter
6" Concrete Bus Drive #4 rebar 18" OCEW with Stabilization Fabric
Existing Curb
17th Street
All sidewalks are 4" x 6' UNO
15' from BOC to BOC
220'
6' R
Install Type P Gutter
Install Type P Gutter
6"x 50' x 84' basketball court with a 3' wide concrete apron all around (#4 rebar 18"OCEW)
Existing Curb
10'
90'
56'
1" per' slope
steps (6" risers)
move condensing unit 16' to the west
5' wide rock area with weed barior

Tellinghuisen, Inc.

204 Garfield Ave.
PO Box 138
Willow Lake, SD 57278

Phone: 605-625-5469
Fax: 605-625-5318

PROPOSED CHANGE ORDER
No. 00081

TITLE: RFP #081

DATE: 9/17/2015

PROJECT: Madison Elem School Add/Ren 2014

JOB: 0214

TO: Attn: Kelly Christopherson
Huron School District 2-2
150 5th Street SW
Huron, SD 57350
Phone: 605-353-6990

CONTRACT NO: 1

RE: **To:** **From:** **Number:**

DESCRIPTION OF PROPOSAL

Provide an itemized proposal for manual window blinds in the following rooms:

a. Room 101, window Type D
b. Room 126, window Type C
c. Room 128, window Type C

Item	Description	Stock#	Quantity	Units	Unit Price	Tax Rate	Tax Amount	Net Amount
00001	Bandstra Blinds		1.000		$545.90	2.04%	$11.14	$545.90
00002	Overhead/Profit 6%		1.000		$32.49	2.04%	$0.66	$32.49
00003	Bonding 2%		1.000		$11.57	2.04%	$0.24	$11.57

Unit Cost:	**$589.96**
Unit Tax:	**$12.04**
Total:	**$602.00**

APPROVAL:

By: ______________________
Kelly Christopherson

Date: ______________________

By: ______________________
Stacie G. Rasmussen

Date: ______________________

Primavera ®

KOCH · HAZARD
ARCHITECTS

SUBMITTAL REVIEW

TO: Stacie Rasmussen
Tellinghuisen, Inc.
PO Box 138
Willow Lake, SD 57278

DATE: 9/8/2015 JOB NO: 1277A

PROJECT: Madison Elementary School Addition and Renovatio

This submittal has been reviewed for "conformance with information given and the design concept expressed in the Contract Documents". "Review of such submittals is not conducted for the purpose of determining accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents". "The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations" of the General Conditions relative to submittals. Contractor is responsible for field conditions to be confirmed and correlated at the job site.

A. Reviewed, No Exception
B. Reviewed, Exceptions Noted
C. Reviewed, Exceptions Noted, Revise and Resubmit
D. Rejected
E. See attached Consultant's comments.

Item	Section No.	Copies	Action	Comments
Provide window blinds Rm	Architectura	1		

COPY TO:

Koch Hazard - 1

SIGNED: Tony Taylor

Received by: Tony Taylor

IF ENCLOSURES ARE NOT AS NOTED, KINDLY NOTIFY US AT ONCE

KOCH - HAZARD
ARCHITECTS

REQUEST FOR PROPOSAL (RFP)

RFP 081

DATE: 08 September 2015

TO: Tellinghuisen, Inc.

PROJECT: Madison Elementary School Addition and Renovation/#1277A
Huron School District 2-2
Huron, South Dakota

Owner Requested: x Contractor Requested: ____ Unforeseen Conditions ____ Design Issue ____

Proposal Requests are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
Please submit an itemized cost breakdown, in accordance with the General Conditions, for changes in contract sum and contract time, resulting from the following proposed modification(s) to the Contract Documents.

PLEASE SUBMIT PROPOSAL WITHIN TEN (10) DAYS OR LESS

DESCRIPTION OF WORK:

1. Provide an itemized proposal for manual window blinds in the following rooms:
   a. Room 101, window Type D.
   b. Room 126, window Type C.
   c. Room 128, window Type C.

ARCHITECT - KOCH HAZARD

Tony Taylor, Associate Principal

REPRESENTATIVE

CC: Kelly Christopherson, Business Manager, Huron School District
Norm deWit, ACEI
Brad Shoup, ACEI
Randy Hoscheid, Pierce & Harris Engineering
Rob Maher, SEA
Tony Taylor, Koch Hazard Architects
Koch Hazard Architects log

Bandstra's Blinds

A shade above the rest....

3710 S Westport Avenue # A
Sioux Falls, SD 57106
Phone: 605-335-9903
Fax: 605-335-9907
E-mail: bandstrablinds@qwestoffice.net
Website: www.bandstrablinds.com

"Your window blinds specialist"
"In business to save you time & money"

CERTIFICATE OF LIABILITY INSURANCE PROVIDED UPON REQUEST
LICENCED IN - SOUTH DAKOTA – IOWA - NORTH DAKOTA- NEBRASKA, MINNESOTA

PROJECT: ***MADISON ELEMENTARY ADDITION/RENOVATION***

RFP # 81

Provide an itemized proposal for manual window blinds in the following rooms

a. Room 101, window type D
b. Room 126, window type C
c. Room 128, window type C

Total change order amount

Hunter Douglas CD60 horizontal 1" metal blinds

BLINDS & MEASURING & INSTALLATION = $515.00

TAX = $30.90
TOTAL = $545.90

THANK YOU!
BRUCE BANDSTRA
COMMERCIAL SALES

Tellinghuisen, Inc.
204 Garfield Ave.
PO Box 138
Willow Lake, SD 57278

Phone: 605-625-5469
Fax: 605-625-5318

PROPOSED CHANGE ORDER
No. 00082

TITLE: RFP #082

DATE: 9/8/2015

PROJECT: Madison Elem School Add/Ren 2014

JOB: 0214

TO: Attn: Kelly Christopherson
Huron School District 2-2
150 5th Street SW
Huron, SD 57350
Phone: 605-353-6990

CONTRACT NO: 1

RE: **To:** **From:** **Number:**

DESCRIPTION OF PROPOSAL

Provide an itemized proposal for the following electrical items:

a. (9) Mogul to Mogul Extensions.
b. (1) Extra LED Retrofit.
c. Pulling the backbone cable off the rack.
d. Installing (2) data cables in janitor room 111.

Item	Description	Stock#	Quantity	Units	Unit Price	Tax Rate	Tax Amount	Net Amount
00001	TK Electric		1.000		$1,167.98	2.04%	$23.84	$1,167.98
00002	Overhead/Profit 6%		1.000		$70.48	2.04%	$1.44	$70.48
00003	Bonding 2%		1.000		$24.76	2.04%	$0.51	$24.76

Unit Cost:	**$1,263.22**
Unit Tax:	**$25.78**
Total:	**$1,289.00**

APPROVAL:

By: ______________________
Kelly Christopherson

Date: ______________________

By: ______________________
Stacie G. Rasmussen

Date: ______________________

Prolaven ®

KOCH · HAZARD
ARCHITECTS

SUBMITTAL REVIEW

TO: Stacie Rasmussen
Tellinghuisen, Inc.
PO Box 138
Willow Lake, SD 57278

DATE: 9/8/2015 JOB NO: 1277A
PROJECT: Madison Elementary School Addition and Renovatio

This submittal has been reviewed for "conformance with information given and the design concept expressed in the Contract Documents". "Review of such submittals is not conducted for the purpose of determining accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents". "The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations" of the General Conditions relative to submittals. Contractor is responsible for field conditions to be confirmed and correlated at the job site.

A. Reviewed, No Exception B. Reviewed, Exceptions Noted C. Reviewed, Exceptions Noted, Revise and Resubmit	D. Rejected E. See attached Consultant's comments.

Item	Section No.	Copies	Action	Comments
Miscellaneous electrical	Electrical	1		

COPY TO:
Koch Hazard - 1

SIGNED: Tony Taylor
Received by: Tony Taylor

IF ENCLOSURES ARE NOT AS NOTED, KINDLY NOTIFY US AT ONCE

KOCH • HAZARD
ARCHITECTS

REQUEST FOR PROPOSAL (RFP)

RFP 082

DATE: 08 September 2015

TO: Tellinghuisen, Inc.

PROJECT: Madison Elementary School Addition and Renovation/#1277A
Huron School District 2-2
Huron, South Dakota

Owner Requested:_______ Contractor Requested: x Unforeseen Conditions_______ Design Issue_______

Proposal Requests are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
Please submit an itemized cost breakdown, in accordance with the General Conditions, for changes in contract sum and contract time, resulting from the following proposed modification(s) to the Contract Documents.

PLEASE SUBMIT PROPOSAL WITHIN TEN (10) DAYS OR LESS

DESCRIPTION OF WORK:

1. Provide an itemized proposal for the following electrical items:
   a. (9) Mogul to Mogul Extensions.
   b. (1) Extra LED Retrofit.
   c. Pulling the backbone cable off the rack.
   d. Installing (2) data cables in janitor room 111.

ARCHITECT - KOCH HAZARD

Tony Taylor, Associate Principal

REPRESENTATIVE

CC: Kelly Christopherson, Business Manager, Huron School District
Norm deWit, ACEI
Brad Shoup, ACEI
Randy Hoscheid, Pierce & Harris Engineering
Rob Maher, SEA
Tony Taylor, Koch Hazard Architects
Koch Hazard Architects log

09/02/15
Tellinghuisen Construction
Attn: Stacie
Re: Extensions to LEDs & Extra LED, Extra DATA Work

(9) Mogul to Mogul Extensions @16.25 each	146.25
(1) Extra LED Retrofit	310.70
6% Sales Tax	27.42
6% Profit	29.06
Total	$513.43

DLH Extras:

Pulling the backbone cable off the rack, it so it is out of the large open & reterminating	210.00
TK Labor to help DLH 1.5 Hrs x 65.00	97.50
Installing (2) data cables in janitor room 111 after area was complete	310.00
6% Over Head	37.05
Total	$654.55

Sincerely,

Tim Kummer
TK Electric

Tellinghuisen, Inc.
204 Garfield Ave.
PO Box 138
Willow Lake, SD 57278
Phone: 605-625-5469
Fax: 605-625-5318

PROPOSED CHANGE ORDER
No. 00084

TITLE: RFP #084

DATE: 9/29/2015

PROJECT: Madison Elem School Add/Ren 2014

JOB: 0214

TO: Attn: Kelly Christopherson
Huron School District 2-2
150 5th Street SW
Huron, SD 57350
Phone: 605-353-6990

CONTRACT NO: 1

RE: **To:** **From:** **Number:**

DESCRIPTION OF PROPOSAL

Provide an itemized proposal for adding 5'-0" wide sidewalk from new sidewalk on Utah Ave. SE to street across from Madison Blvd.

Item	Description	Stock#	Quantity	Units	Unit Price	Tax Rate	Tax Amount	Net Amount
00001	Tellinghuisen Material/Labor		1.000		$558.00	2.04%	$11.39	$558.00
00002	Overhead/Profit 8%		1.000		$44.41	2.04%	$0.91	$44.41
00003	Bonding 2%		1.000		$12.05	2.04%	$0.25	$12.05

Unit Cost:	**$614.46**
Unit Tax:	**$12.54**
Total:	**$627.00**

APPROVAL:

By: ______________________
Kelly Christopherson

Date: ______________________

By: ______________________
Stacie G. Rasmussen

Date: ______________________

Primavera ®

KOCH · HAZARD
ARCHITECTS

SUBMITTAL REVIEW

TO: Stacie Rasmussen
Tellinghuisen, Inc.
PO Box 138
Willow Lake, SD 57278

DATE: 9/28/2015 JOB NO: 1277A

PROJECT: Madison Elementary School Addition and Renovatio

This submittal has been reviewed for "conformance with information given and the design concept expressed in the Contract Documents". "Review of such submittals is not conducted for the purpose of determining accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents". "The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations" of the General Conditions relative to submittals. Contractor is responsible for field conditions to be confirmed and correlated at the job site.

A. Reviewed, No Exception B. Reviewed, Exceptions Noted C. Reviewed, Exceptions Noted, Revise and Resubmit	D. Rejected E. See attached Consultant's comments.

Item	Section No.	Copies	Action	Comments
Add sidewalk on eastside	Civil	1		

COPY TO:

Koch Hazard - 1

SIGNED: Tony Taylor

Received by: Tony Taylor

IF ENCLOSURES ARE NOT AS NOTED, KINDLY NOTIFY US AT ONCE

KOCH • HAZARD
ARCHITECTS

REQUEST FOR PROPOSAL (RFP)

RFP 084 DATE: 28 September 2015

TO: Tellinghuisen, Inc.

PROJECT: Madison Elementary School Addition and Renovation/#1277A
Huron School District 2-2
Huron, South Dakota

Owner Requested: x________ Contractor Requested:________ Unforeseen Conditions________ Design Issue______________

Proposal Requests are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
Please submit an itemized cost breakdown, in accordance with the General Conditions, for changes in contract sum and contract time, resulting from the following proposed modification(s) to the Contract Documents.

PLEASE SUBMIT PROPOSAL WITHIN TEN (10) DAYS OR LESS

DESCRIPTION OF WORK:

1. Provide an itemized proposal for adding 5'-0" wide sidewalk from new sidewalk on Utah Ave. SE to street across from Madison Blvd.

ARCHITECT - KOCH HAZARD

Tony Taylor, Associate Principal

____

REPRESENTATIVE

CC: Kelly Christopherson, Business Manager, Huron School District
Norm deWit, ACEI
Brad Shoup, ACEI
Randy Hoscheid, Pierce & Harris Engineering
Rob Maher, SEA
Tony Taylor, Koch Hazard Architects
Koch Hazard Architects log

Tellinghuisen, Inc.
204 Garfield Ave.
PO Box 138
Willow Lake, SD 57278

Phone: 605-625-5469
Fax: 605-625-5318

PROPOSED CHANGE ORDER
No. 00085

TITLE: RFP #85

DATE: 10/14/2015

PROJECT: Madison Elem School Add/Ren 2014

JOB: 0214

TO: Attn: Kelly Christopherson
Huron School District 2-2
150 5th Street SW
Huron, SD 57350
Phone: 605-353-6990

CONTRACT NO: 1

RE: **To:** **From:** **Number:**

DESCRIPTION OF PROPOSAL

Provide an itemized proposal for raising the counter top in Room 152 as discussed on-site with Heather.
Coordinate height with student wheel chair.

Item	Description	Stock#	Quantity	Units	Unit Price	Tax Rate	Tax Amount	Net Amount
00001	Midwestern Mechanical		1.000		$0.00	0.00%	$0.00	$0.00
00002	TK Electric		1.000		$207.00	2.04%	$4.23	$207.00
00003	Overhead/Profit 6%		1.000		$12.59	2.04%	$0.26	$12.59
00004	Tellinghuisen		1.000		$600.00	2.04%	$12.25	$600.00
00005	Overhead/Profit 8%		1.000		$48.00	2.04%	$0.98	$48.00
00006	Bonding 2%		1.000		$17.35	2.04%	$0.35	$17.35

Unit Cost:	$884.94
Unit Tax:	$18.06
Total:	$903.00

APPROVAL:

By: ______________________
Kelly Christopherson

Date: ______________________

By: ______________________
Stacie G. Rasmussen

Date: ______________________

KOCH · HAZARD
ARCHITECTS

SUBMITTAL REVIEW

TO: Stacie Rasmussen
Tellinghuisen, Inc.
PO Box 138
Willow Lake, SD 57278

DATE: 9/28/2015 JOB NO: 1277A
PROJECT: Madison Elementary School Addition and Renovatio

This submittal has been reviewed for "conformance with information given and the design concept expressed in the Contract Documents". "Review of such submittals is not conducted for the purpose of determining accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents". "The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations" of the General Conditions relative to submittals. Contractor is responsible for field conditions to be confirmed and correlated at the job site.

A. Reviewed, No Exception B. Reviewed, Exceptions Noted C. Reviewed, Exceptions Noted, Revise and Resubmit	D. Rejected E. See attached Consultant's comments.

Item	Section No.	Copies	Action	Comments
Raise counter top Room 1	Architectura	1		

COPY TO:
Koch Hazard - 1

SIGNED: Tony Taylor
Received by: Tony Taylor

IF ENCLOSURES ARE NOT AS NOTED, KINDLY NOTIFY US AT ONCE

KOCH · HAZARD
ARCHITECTS

REQUEST FOR PROPOSAL (RFP)

RFP 085

DATE: 28 September 2015

TO: Tellinghuisen, Inc.

PROJECT: Madison Elementary School Addition and Renovation/#1277A
Huron School District 2-2
Huron, South Dakota

Owner Requested: x Contractor Requested: _____ Unforeseen Conditions _____ Design Issue _____

Proposal Requests are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
Please submit an itemized cost breakdown, in accordance with the General Conditions, for changes in contract sum and contract time, resulting from the following proposed modification(s) to the Contract Documents.

PLEASE SUBMIT PROPOSAL WITHIN TEN (10) DAYS OR LESS

DESCRIPTION OF WORK:

1. Provide an itemized proposal for raising the counter top in Room 152 as discussed on-site with Heather.
2. Coordinate height with student wheel chair.

ARCHITECT - KOCH HAZARD

Tony Taylor, Associate Principal

____

REPRESENTATIVE

CC: Kelly Christopherson, Business Manager, Huron School District
Norm deWit, ACEI
Brad Shoup, ACEI
Randy Hoscheid, Pierce & Harris Engineering
Rob Maher, SEA
Tony Taylor, Koch Hazard Architects
Koch Hazard Architects log

10/05/2015

Tellinghuisen Construction

Attn: Stacie
RE: RFP#85 Raise Counter Top Room #152

We have a bid of $207.00 to furnished material and labor to raise the counter top in room #152 as per RFP#85

Note: We will need to open Drywall (this will need to be repaired by other)

Not included in bid:
Repair of Drywall

Sincerely,

Tim Kummer
TK Electric 605-995-0595

Tellinghuisen, Inc.

204 Garfield Ave.
PO Box 138
Willow Lake, SD 57278

Phone: 605-625-5469
Fax: 605-625-5318

PROPOSED CHANGE ORDER
No. 00086

TITLE: RFP #086

DATE: 10/15/2015

PROJECT: Madison Elem School Add/Ren 2014

JOB: 0214

TO: Attn: Kelly Christopherson
Huron School District 2-2
150 5th Street SW
Huron, SD 57350
Phone: 605-353-6990

CONTRACT NO: 1

RE: **To:** **From:** **Number:**

DESCRIPTION OF PROPOSAL

Provide an itemized proposal for installing soffit around duct work in vestibule 100 & acoustical ceiling tile.
See attached drawing.

Item	Description	Stock#	Quantity	Units	Unit Price	Tax Rate	Tax Amount	Net Amount
00001	Dakota Drywall & Stone		1.000		$1,925.00	2.04%	$39.29	$1,925.00
00002	Dakota Acoustical		1.000		$1,434.00	2.04%	$29.27	$1,434.00
00003	Bachman Painting		1.000		($250.00)	2.04%	($5.10)	($250.00)
00004	Overhead/Profit 6%		1.000		$186.48	2.04%	$3.81	$186.48
00005	Bonding 2%		1.000		$65.91	2.04%	$1.35	$65.91

Unit Cost:	**$3,361.39**
Unit Tax:	**$68.61**
Total:	**$3,430.00**

APPROVAL:

By: ______________________
Kelly Christopherson

Date: ______________________

By: ______________________
Stacie G. Rasmussen

Date: ______________________

Primavera ®

KOCH · HAZARD
ARCHITECTS

SUBMITTAL REVIEW

TO: Stacie Rasmussen
Tellinghuisen, Inc.
PO Box 138
Willow Lake, SD 57278

DATE: 9/29/2015 JOB NO: 1277A

PROJECT: Madison Elementary School Addition and Renovatio

This submittal has been reviewed for "conformance with information given and the design concept expressed in the Contract Documents". "Review of such submittals is not conducted for the purpose of determining accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents". "The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations" of the General Conditions relative to submittals. Contractor is responsible for field conditions to be confirmed and correlated at the job site.

A. Reviewed, No Exception B. Reviewed, Exceptions Noted C. Reviewed, Exceptions Noted, Revise and Resubmit	D. Rejected E. See attached Consultant's comments.

Item	Section No.	Copies	Action	Comments
Ceiling tile vestibule	Architectura	1		

COPY TO:

Koch Hazard - 1

SIGNED: Tony Taylor

Received by: Tony Taylor

IF ENCLOSURES ARE NOT AS NOTED, KINDLY NOTIFY US AT ONCE

431 North Phillips Avenue, Suite 200 Sioux Falls, South Dakota 57104-5933 T: (605) 336-3718 F: (605) 336-0438
www.kochhazard.com

KOCH · HAZARD
ARCHITECTS

REQUEST FOR PROPOSAL (RFP)

RFP 086 DATE: 29 September 2015

TO: Tellinghuisen, Inc.

PROJECT: Madison Elementary School Addition and Renovation/#1277A
Huron School District 2-2
Huron, South Dakota

Owner Requested: x Contractor Requested:_______ Unforeseen Conditions_______ Design Issue__________

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PLEASE SUBMIT PROPOSAL WITHIN TEN (10) DAYS OR LESS

DESCRIPTION OF WORK:

1. Provide an itemized proposal for installing soffit around duct work in vestibule 100 and acoustical ceiling tile.
2. See attached drawing.

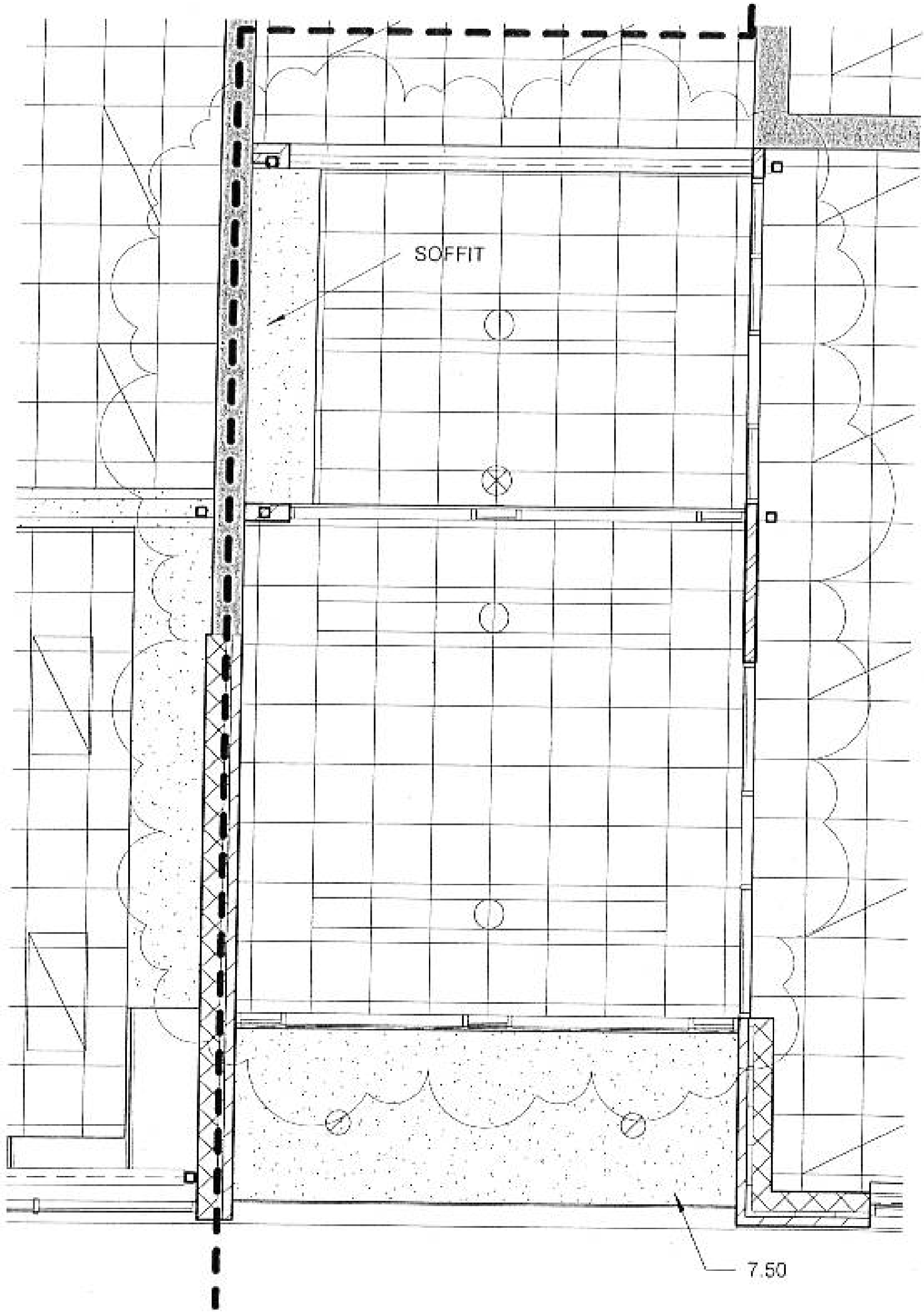
ARCHITECT - KOCH HAZARD

Tony Taylor, Associate Principal

____

REPRESENTATIVE

CC: Kelly Christopherson, Business Manager, Huron School District
Norm deWit, ACEI
Brad Shoup, ACEI
Randy Hoscheid, Pierce & Harris Engineering
Rob Maher, SEA
Tony Taylor, Koch Hazard Architects
Koch Hazard Architects log



1 ENTRY VEST.- MODIFIED CEILING
3/16" = 1'-0"

AREA B - ENTRY - CEILING MODIFICATION

Huron School District
Madison 2 - 3 Center Addition & Renovation
Huron, SD

PROJECT NO:	DRAWN BY
1277A	CJB
DATE:	COPYRIGHT
09/29/15	2013

RFP
86

KOCH HAZARD
ARCHITECTS
431 North Phillips 200 Sioux Falls, SD 57104 T 605-336-3718 F 605-336-0438 W kochhazard.com

Stacie Rasmussen

From:	Sean McDannel <dakotadrywallandstone@hotmail.com>
Sent:	Monday, October 05, 2015 1:12 PM
To:	Stacie Rasmussen
Subject:	Rfp 86, two others

Pricing for rfp86.......$1175
Chase wall in nurses office..$275
Chase wall in room 103.......$475

Total $1925.00

Sent from my iPhone

JOB NAME			
LOCATION	MADISON ELEM		
CHANGE NUMBER	HURON, SD		
DESCRIPTION OF CHANGE	RFP 86		
	ADD CEILING IN VESTIBULE 100		
ATTN: STACIE			
GENERAL: TELLINGHUISEN CONSTRUCTION			
LABOR			
	MAN HOURS	RATE	EXTENSION
CARPENTER ACOUST TILE CLGS			
CARPENTER ACOUSTICAL C.	12	$30.00	
TAPER		$0.00	$360.00
		$0.00	$0.00
SUBTOTAL			$0.00
FUI/SUI			$0.00
WORKER'S COMP.		8.50%	$0.00
FICA		11.00%	$30.60
		7.65%	$39.60
SUBTOTAL LABOR			$27.54
PER DIEM			$0.00
	4	$30.00	$457.74
MATERIALS			$120.00
	QUANTITY	UNIT COST	EXTENSION
CALSBM154 2X2 SAND MICRO TEG			
CMC211-01 2X2 GRID	540	$0.700	
MISC ATTACHMENTS	540	$0.420	$378.00
	540	$0.120	$226.80
WALL ANGLE 12'	0	$0.000	$64.80
	132	$0.290	$0.00
		$0.000	$38.28
		$0.000	$0.00
		$0.000	$0.00
		$0.000	$0.00
			$0.00
		$0.000	$0.00
			$0.00
			$0.00
			$0.00
			$0.00
			$0.00
			$0.00
			$0.00
SUBTOTAL MATERIALS			$0.00
STATE & LOCAL TAXES			
TOTAL MATERIALS		6.00%	$707.88
TOTAL LABOR			$42.47
SUBTOTAL MATERIALS & LABOR			$750.35
OVERHEAD			$577.74
SUB-TOTAL			$1,328.09
FEE		8.00%	$106.25
TOTAL QUOTE (ROUND OFF)			$1,434.34
		0.00%	$0.00
			$1,434

Bachman Parking & Painting, LLC

P.O. BOX 85
WATERTOWN, SD 57201
605-881-5851,FAX 605 886-4264

Estimate

Date	Estimate #
9/30/2015	1010

Name / Address
TELLINGHUISEN CONSTRUCTION PO BOX 138 210 GARFIELD ST. WILLOW LAKE, SD 57278

P.O. No.	Project
	RFP 86

Item	Description	Total
RFP	RFP # 86 TO ELIMINATE PAINTING IN VESTIBULE AND PAINT SOFFITT DEDUCT 250.00	0.00

THANK YOU FOR ALLOWING US TO BID THIS PROJECT

Subtotal	$0.00
Sales Tax (2.041%)	$0.00
Total	$0.00

Signature ______________________

Tellinghuisen, Inc.

204 Garfield Ave.
PO Box 138
Willow Lake, SD 57278

Phone: 605-625-5469
Fax: 605-625-5318

PROPOSED CHANGE ORDER
No. 00087

TITLE: RFP #87

DATE: 10/11/2015

PROJECT: Madison Elem School Add/Ren 2014

JOB: 0214

TO: Attn: Kelly Christopherson
Huron School District 2-2
150 5th Street SW
Huron, SD 57350
Phone: 605-353-6990

CONTRACT NO: 1

RE: **To:** **From:** **Number:**

DESCRIPTION OF PROPOSAL

Provide an itemized proposal for a credit in lieu of the extra carpet for the project.

Item	Description	Stock#	Quantity	Units	Unit Price	Tax Rate	Tax Amount	Net Amount
00001	School Specialty		1.000		($1,250.00)	2.04%	($25.51)	($1,250.00)
00002	Overhead/Profit 6%		1.000		($74.92)	2.04%	($1.53)	($74.92)
00003	Bonding 2%		1.000		($26.50)	2.04%	($0.54)	($26.50)

Unit Cost:	**($1,351.42)**
Unit Tax:	**($27.58)**
Total:	**($1,379.00)**

APPROVAL:

By: ______________________
Kelly Christopherson

Date: ______________________

By: ______________________
Stacie G. Rasmussen

Date: ______________________

KOCH · HAZARD
ARCHITECTS

SUBMITTAL REVIEW

TO: Stacie Rasmussen
Tellinghuisen, Inc.
PO Box 138
Willow Lake, SD 57278

DATE: 10/6/2015 JOB NO: 1277A

PROJECT: Madison Elementary School Addition and Renovatio

This submittal has been reviewed for "conformance with information given and the design concept expressed in the Contract Documents". "Review of such submittals is not conducted for the purpose of determining accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents". "The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations" of the General Conditions relative to submittals. Contractor is responsible for field conditions to be confirmed and correlated at the job site.

A. Reviewed, No Exception B. Reviewed, Exceptions Noted C. Reviewed, Exceptions Noted, Revise and Resubmit	D. Rejected E. See attached Consultant's comments.

Item	Section No.	Copies	Action	Comments
Credit for carpet	Architectura	1		

COPY TO:

Koch Hazard - 1

SIGNED: Tony Taylor

Received by: Tony Taylor

IF ENCLOSURES ARE NOT AS NOTED, KINDLY NOTIFY US AT ONCE

KOCH • HAZARD
ARCHITECTS

REQUEST FOR PROPOSAL (RFP)

RFP 087

DATE: 06 October 2015

TO: Tellinghuisen, Inc.

PROJECT: Madison Elementary School Addition and Renovation/#1277A
Huron School District 2-2
Huron, South Dakota

Owner Requested:_______ Contractor Requested:__x_____ Unforeseen Conditions_______ Design Issue____________

Proposal Requests are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
Please submit an itemized cost breakdown, in accordance with the General Conditions, for changes in contract sum and contract time, resulting from the following proposed modification(s) to the Contract Documents.

PLEASE SUBMIT PROPOSAL WITHIN TEN (10) DAYS OR LESS

DESCRIPTION OF WORK:

1. Provide an itemized proposal for a credit in lieu of the extra carpet for the project.

ARCHITECT - KOCH HAZARD

Tony Taylor, Associate Principal

____

REPRESENTATIVE

CC: Kelly Christopherson, Business Manager, Huron School District
Norm deWit, ACEI
Brad Shoup, ACEI
Randy Hoscheid, Pierce & Harris Engineering
Rob Maher, SEA
Tony Taylor, Koch Hazard Architects
Koch Hazard Architects log

Stacie Rasmussen

From:	Patrick, Lori <Lori.Patrick@schoolspecialty.com>
Sent:	Thursday, September 24, 2015 8:06 AM
To:	Stacie Rasmussen
Subject:	Madison - Extra Carpet Stock

Good Morning

It appears we do not have enough extra carpet to provide the owner the required Extra material. School Specialty would like to offer them a credit in lieu of the material. I would be happy to order/provide the carpet but it would be a different dyelot and would not benefit them.
A credit of $1,250 would be issued in the form a Change Order. Please advise if this is acceptable.

Respectfully,

Lori Patrick
SSI CA Custodial of Records/Contract PSA

School Specialty Inc.
100A Paragon Parkway / Mansfield, OH 44903
Phone: 419-589-1591 / Fax: 419-520-4859

Tellinghuisen, Inc.

204 Garfield Ave.
PO Box 138
Willow Lake, SD 57278

Phone: 605-625-5469
Fax: 605-625-5318

PROPOSED CHANGE ORDER
No. 00088

TITLE: RFP #88

DATE: 11/23/2015

PROJECT: Madison Elem School Add/Ren 2014

JOB: 0214

TO: Attn: Kelly Christopherson
Huron School District 2-2
150 5th Street SW
Huron, SD 57350
Phone: 605-353-6990

CONTRACT NO: 1

RE: **To:** **From:** **Number:**

DESCRIPTION OF PROPOSAL

Provide an itemized proposal for a credit for using standard switches in lieu of dimmer switches in Room 137 - Gymnasium.

Item	Description	Stock#	Quantity	Units	Unit Price	Tax Rate	Tax Amount	Net Amount
00001	TK Electric		1.000		($255.70)	2.04%	($5.22)	($255.70)
00002	Overhead/Profit 6%		1.000		($15.24)	2.04%	($0.31)	($15.24)
00003	Bonding 2%		1.000		($5.42)	2.04%	($0.11)	($5.42)

Unit Cost:	**($276.36)**
Unit Tax:	**($5.64)**
Total:	**($282.00)**

APPROVAL:

By: ______________________
Kelly Christopherson

Date: ______________________

By: ______________________
Stacie G. Rasmussen

Date: ______________________

KOCH · HAZARD
ARCHITECTS

REQUEST FOR PROPOSAL (RFP)

RFP 088

DATE: 03 November 2015

TO: Tellinghuisen, Inc.

PROJECT: Madison Elementary School Addition and Renovation/#1277A
Huron School District 2-2
Huron, South Dakota

Owner Requested:___x___ Contractor Requested:_______ Unforeseen Conditions_______ Design Issue__________

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PLEASE SUBMIT PROPOSAL WITHIN TEN (10) DAYS OR LESS

DESCRIPTION OF WORK:

1. Provide an itemized proposal for a credit for using standard switches in lieu of dimmer switches in Room 137 – Gymnasium.

ARCHITECT - KOCH HAZARD

Chris Brockevelt, Project Developer

____

REPRESENTATIVE

CC: Kelly Christopherson, Business Manager, Huron School District
Norm deWit, ACEI
Brad Shoup, ACEI
Randy Hoscheid, Pierce & Harris Engineering
Rob Maher, SEA
Tony Taylor, Koch Hazard Architects
Koch Hazard Architects log

11/23/15
Tellinghuisen inc
Attn: Stacie
Re: RFP#088 Credit for Dimmers in Gym

We have a Deduct of for not supplying(3) LED Dimmers for Gym Lights

(3) LED Dimmers x $65.00 *After Restocking Fee	195.00
%6 Profit	11.70
Labor .75 x 65.00	49.00
Total	$255.70

Sincerely,

Tim Kummer
TK Electric