UIL Capital Conference 2018

Keys to Building a Successful UIL Science Team

Roumaldo Guerrero

La Feria High School

Attention All Attendees:

Thank you for registering your attendance for **EACH SESSION**:

http://www.uiltexas.org/academics/capital-conference/online

Electronic handouts are available there too.

Welcome to La Feria High School: Home of the Mighty Lions

Keys to Building a Successful UIL Academic Team

My story:

- 1989 Graduated from Progreso High School
  UIL Math/Science, Varsity Football

- 1993 B.S. Chemistry, Angelo State University

- Jan. 1994-June 1994 Midland Freshman Campus
  1994 Midland High School

- 1995 Petrolite Corp, Petrochemical Refining Division

- 1996-Present La Feria High School

My UIL Science (and Math…) Program

- 22 District Science Team Champions
- 10 Regional Team Champions
- 3 State Champion Science Teams
- 3 State Runner-up Science Teams
- 20 Years of at least one student passing AP Chemistry Exam(5-6 avg., 11 twice)
- Many College-Ready Students

My Key Practices for UIL Success

-Care for the kids.

-Set up a meeting with all participants early in the year.

-Get Administration on your side.

-Become the local guru of your subject.

-Lead by example - show the kids that you are willing to work…so must they.

-Recruiting kids: Start early, when a kid agrees to compete ask if they might have a friend. Set expectations and goals at the start. Explain benefits of UIL.

-Baby steps - highlight and celebrate small victories.

-Stay organized.

-Network with other coaches at practice meets.

-Will you be ready for your next superstar?

Care for kids

- The best advice I can give here is to always maintain a professional relationship with students. Kids will respect it.
- You will do anything for your students, but you are not their buddy.

Meeting with students:

- UIL Math and Science Meeting - Mr. G
- I. Available contests
- II. Returning members
- III. Practice
- IV. Practice Meets & Rating
- V. District
- VI. Regionals
- VII. State & Scholarships
- VIII. History of LF Math/Science
- IX. Schedule & Corrections
- X. Permission Slips
- XI. Expectations
- XII. Notes from Biology and Physics writers
- XIII. Sign up Sheets

Buddy up with your Campus Admin…

- “Sir, do you think that it would be OK, if…”
- Dr. Rodriguez: “Guerrero, go for it.”

- AP Courses make a huge impact.

- Try to negotiate some time during the day.

Become the local guru of your subject….

- Incorporate UIL problems, questions into your curriculum
- Seek out additional activities to supplement UIL…
- Team Chemistry Contests
- WEHS Summer Accounting Camp
- Use books (especially lit crit.) and vocabulary from contest in your classroom

Lead by example…”If we are getting up early on a Saturday, I want you to at least have a fighting chance…”

- This builds trust. Kids will do anything for you, if they can trust you.
- Commit to a practice time and review practice problems ahead of time.
- Include Online competitions:
  - Virtual Meets http://virtualchallengemeets.com/
  - Best of Texas https://bestoftexascontest.net/
  - ACS National Chemistry Olympiad https://www.acs.org/content/acs/en/education/students/highschool/olympiad.html
  - Science bowl https://science.energy.gov/wdts/nsb
  - Physics bowl https://www.aapt.org/Programs/PhysicsBowl/

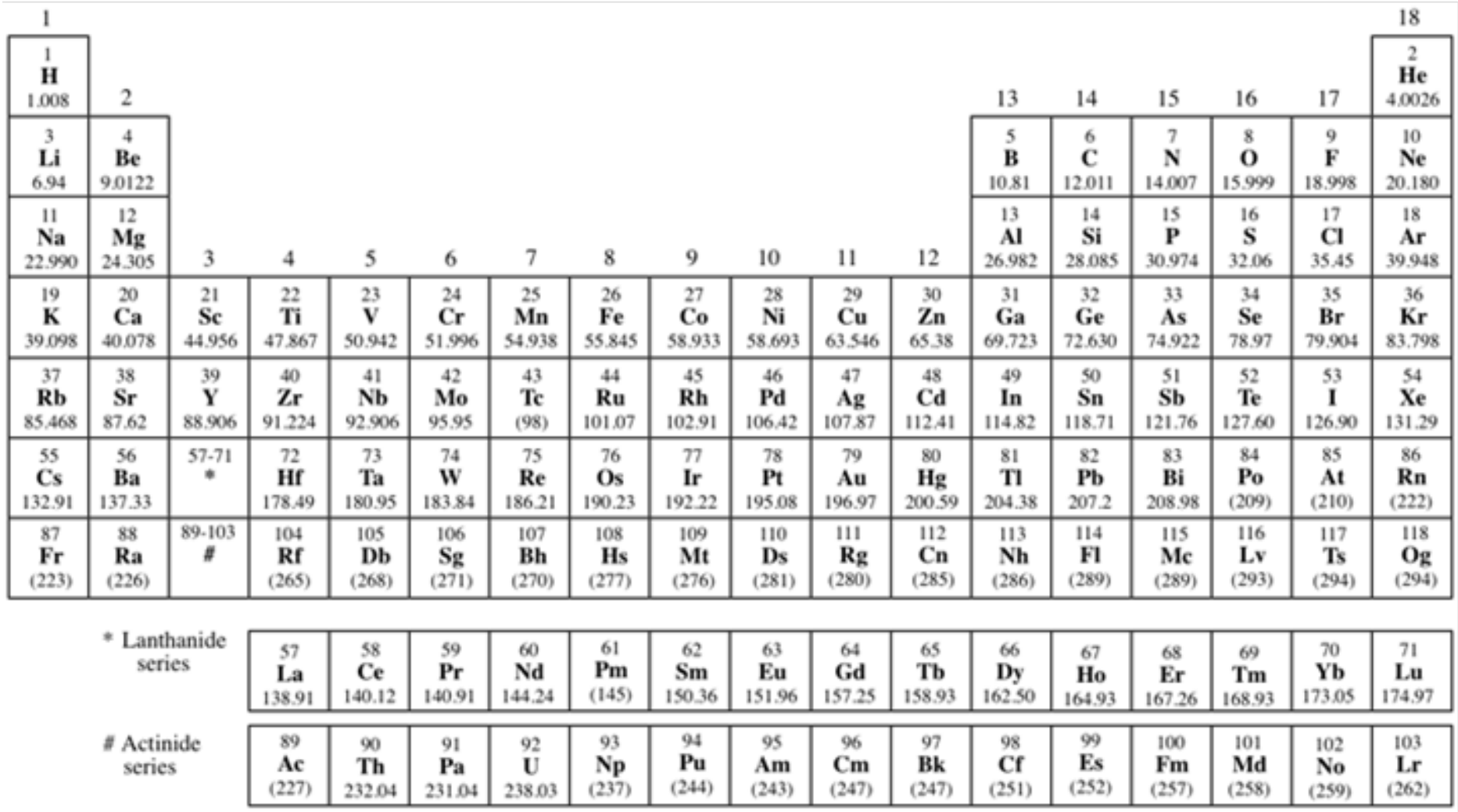
TEAM CHEMISTRY
CONTEST
LA FERIA HIGH SCHOOL
UIL MEET

January 14, 2016

Rules:

1) You may work in groups of two
2) Indicate your answers in ALL CAPITAL LETTERS!
3) Each correct answer is awarded 8 points, each skipped or incorrect answer will not be counted.
4) In the event of a tie, the team with the most correct answers in the written portion of the test will be declared the winner. If a tie still exists, first missed and so on will be used to break it.
5) You will have 45 minutes to complete this test.
6) All answers for questions 41-50 require a written answer. Credit will only be awarded in this section if the answer has appropriate units and significant digits, where applicable.
7) GOOD LUCK!!!!!!!!!!

Team Chemistry Contest



1																	18
1 H 1.008	2											13	14	15	16	17	2 He 4.0026
3 Li 6.94	4 Be 9.0122											5 B 10.81	6 C 12.011	7 N 14.007	8 O 15.999	9 F 18.998	10 Ne 20.180
11 Na 22.990	12 Mg 24.305	3	4	5	6	7	8	9	10	11	12	13 Al 26.982	14 Si 28.085	15 P 30.974	16 S 32.06	17 Cl 35.45	18 Ar 39.948
19 K 39.098	20 Ca 40.078	21 Sc 44.956	22 Ti 47.867	23 V 50.942	24 Cr 51.996	25 Mn 54.938	26 Fe 55.845	27 Co 58.933	28 Ni 58.693	29 Cu 63.546	30 Zn 65.38	31 Ga 69.723	32 Ge 72.630	33 As 74.922	34 Se 78.97	35 Br 79.904	36 Kr 83.798
37 Rb 85.468	38 Sr 87.62	39 Y 88.906	40 Zr 91.224	41 Nb 92.906	42 Mo 95.95	43 Tc (98)	44 Ru 101.07	45 Rh 102.91	46 Pd 106.42	47 Ag 107.87	48 Cd 112.41	49 In 114.82	50 Sn 118.71	51 Sb 121.76	52 Te 127.60	53 I 126.90	54 Xe 131.29
55 Cs 132.91	56 Ba 137.33	57-71 *	72 Hf 178.49	73 Ta 180.95	74 W 183.84	75 Re 186.21	76 Os 190.23	77 Ir 192.22	78 Pt 195.08	79 Au 196.97	80 Hg 200.59	81 Tl 204.38	82 Pb 207.2	83 Bi 208.98	84 Po (209)	85 At (210)	86 Rn (222)
87 Fr (223)	88 Ra (226)	89-103 #	104 Rf (265)	105 Db (268)	106 Sg (271)	107 Bh (270)	108 Hs (277)	109 Mt (276)	110 Ds (281)	111 Rg (280)	112 Cn (285)	113 Nh (286)	114 Fl (289)	115 Mc (289)	116 Lv (293)	117 Ts (294)	118 Og (294)

* Lanthanide series	57 La 138.91	58 Ce 140.12	59 Pr 140.91	60 Nd 144.24	61 Pm (145)	62 Sm 150.36	63 Eu 151.96	64 Gd 157.25	65 Tb 158.93	66 Dy 162.50	67 Ho 164.93	68 Er 167.26	69 Tm 168.93	70 Yb 173.05	71 Lu 174.97
# Actinide series	89 Ac (227)	90 Th 232.04	91 Pa 231.04	92 U 238.03	93 Np (237)	94 Pu (244)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (262)

1) Diego bought a 1.80gram ring. The ring is 50% gold and 50% copper alloy, by mass. How many total atoms are in his ring?

A) 1.13×10^{22} B) 2.62×10^{21} C) 1.13×10^{21} D) 7.94×10^{22} E) N. O. T.

2) What is the molecular geometry of a CH_4 molecule?

A) linear B) tetrahedral C) bent D) trigonal planar E) N. O. T.

3) Which neutral atom has only 3 valence electrons?

A) oxygen B) neon C) lithium D) nitrogen E) N.O.T.

4) Omar has 800. ml of lemonade, which is 0.010M citric acid, it's too tart. He dilutes it until it is 0.003M. How much water did he add?

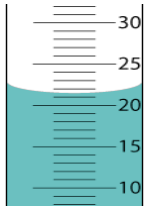
A) 2670ml B) 1870ml C) 1470ml D) 1270ml E) N. O. T.

5) 4.48g + 32.1g + 1.052g =

A) 37g B) 37.6g C) 37.63g D) 37.632g E) N. O. T.

6) (4.295m)(2.7m) / 7.86s =

A) 2 m^2/s B) 1.5 m^2/s C) 1.48 m^2/s D) 1.475 m^2/s E) N. O. T.



7) Which is the best estimate of the volume above?

A) 20 ml B) 21 ml C) 21.4 ml D) 21.48 ml E) 21.483 ml

8) If the electronegativity difference of a bond is 2.2, the bond formed will be mostly _____ bond character.

A) ionic B) nonpolar covalent C) polar covalent D) double E) N. O. T.

FREE RESPONSE SECTION

41) How many total elements have isotopes with an angular quantum number = 1 in their valence shell, that have non-radioactive isotopes?

42) What is the molar mass of a gas that has a density of 5.66 g/L at 35°C and 745 mm Hg?

43) For the reaction,

$H_{2(g)} + I_{2\,(g)} \rightarrow 2HI_{(g)}$ $K_p = 50.0$ **at 721 K.**

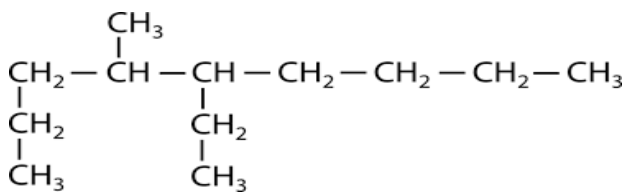
What is the value of ΔG° for this reaction (per mole of H_2) at 721 K?

44) $HNO_{2(l)} + NaCl_{(s)} \rightarrow HCl_{(g)} + NaNO_{2(s)}$

Calculate the ΔH° value for the reaction above from the information below.

Reaction	ΔH° kJ•mol^{-1}
$NO_{(g)} + NO_{2(g)} + Na_2O_{(s)} \rightarrow 2NaNO_{2(s)}$	– 427.0
$NO_{(g)} + NO_{2(g)} \rightarrow N_2O_{(g)} + O_{2(g)}$	– 43.0
$2NaCl_{(s)} + H_2O_{(l)} \rightarrow 2HCl_{(g)} + Na_2O_{(s)}$	507.0
$2HNO_{2(l)} \rightarrow N_2O_{(g)} + O_{2(g)} + H_2O_{(l)}$	34.0

45) Give the IUPAC name for:



46) How many chiral carbons are found in the hydrocarbon in question 45?

KEY—LA FERIA HIGH SCHOOL TEAM CHEMISTRY FEB. 6, 2016
WRITTEN BY: ROUMALDO GUERRERO

1 A	11 E (tetrahedral)	21 D	31 E (22.2 min.)
2 B	12 D	22 B	32 B
3 E	13 C	23 E(1.54 mol)	33 D
4 B	14 E	24 B	34 B
5 B	15 B	25 A	35 E(12.78)
6 B	16 A	26 C	36 A
7 C	17 C	27 D	37 D
8 A	18 D	28 B	38 B
9 D	19 C	29 E(80.3%)	39 A
10 D	20 A	30 E(carboxylic acid)	40 B

41) 26

42) 146 g/mol

46) 2

47) square pyramidal

Names:_____ **Team Chemistry Answer sheet** **Final Score:**_____

_____

School:_____ **Division: OPEN CLOSED** **Rank:**_____

1 .____	**11.**____	**21.**____	**31.**____
2.____	**12.**____	**22.**____	**32.**____
3.____	**13.**____	**23.**____	**33.**____
4.____	**14.**____	**24.**____	**34.**____
5.____	**15.**____	**25.**____	**35.**____
6.____	**16.**____	**26.**____	**36.**____
7.____	**17.**____	**27.**____	**37.**____
8.____	**18.**____	**28.**____	**38.**____
9.____	**19.**____	**29.**____	**39.**____
10.___	**20.**____	**30.**____	**40.**____

41._____	**46.**_____
42._____	**47.**_____
43._____	**48.**_____
44._____	**49.**_____
45._____	**50.**_____

Number Correct =_____ **X 8 =** _____**(Grader 1)**
(Score)

Number Correct =_____ **X 8 =** _____**(Grader 2)**
(Score)

Mr. Gumercindo Laurel, Weslaco East HS
UIL Accounting Summer Enrichment Camp

Mr. Gumercindo Laurel, Weslaco East HS
UIL Accounting Summer Enrichment Camp

- I conducted an Accounting Competition Camp during our WISD Enrichment Week (the final week of school). The Enrichment Week activities were completely attended on a voluntary basis by our students.

- Attached is a PDF copy of the UIL Accounting District Level concepts that I covered with my students. I had a total of 7 different students attend; most of them attended each day but some of the students were out 1 day to attend other enrichment week activities. I was able to cover most of the concepts, but did not cover item numbers IX, X, and XII.

- About three years ago I began putting together a Summer Study Binder, at my students request. This year was the first time that I conducted the Accounting Competition Camp. During the course of the year I usually make time to meet with my students during Christmas Break, Spring Break, and usually meet on Saturdays between District, Regional, and State contests.

- Gumercindo Laurel
- WEHS CTE Department Chair
- Boys Golf - Assistant Coach/UIL Accounting Coach

Mr. Gumercindo Laurel, Weslaco East HS
UIL Accounting Summer Enrichment Camp

- ..\..\Desktop\UIL Conference 2018\UIL Capitol Conf, 2018.pdf

- For Mr. Laurel's Accounting Summer Camp lesson plan, please request directly to his email, tell him I sent you.

glaurel@wisd.us

Baby steps…..

- Jr. High Teachers are your best recruiters.
- Attend competitions early in the year.
- Instruct students to ask for answer keys/solutions from grading room right after contest. Circle all correct answers on your test & find out (google it) why you missed the problem.
- Always practice your last test during the week. Practice last year's corresponding test at the meet, if time permits.
- Any ribbon won, kid gets his/her name in announcements.
- District, Regional, State Plaques are all on display
- Banners
- Former students' biopics outside my door
- All Team Trophies are in front of classroom
- Periodic Table Pens

Jr. High Science Teachers, my recruiting team…

Recruiting 8th Graders for science

- 1) Ask 8th Grade Science Teachers to nominate top students (3-4)
- 2) Invite students/parents to meet in my classroom toward the end of the school year.
- 3) Explain benefits of UIL Science Competition (Scholarships, College Ready, etc.)
- 4) Students/parents are asked to commit to (no contract):

    accelerated science courses

        9th Grade: Pre-AP Biology, Pre-AP Chemistry

        10th Grade: AP Chemistry, AP Physics

        11th Grade: AP Physics 2, AP/Dual Enrollment Biology, Advanced Topics in Science

        12th Grade: Anatomy and Physiology, Advanced Topics in Science

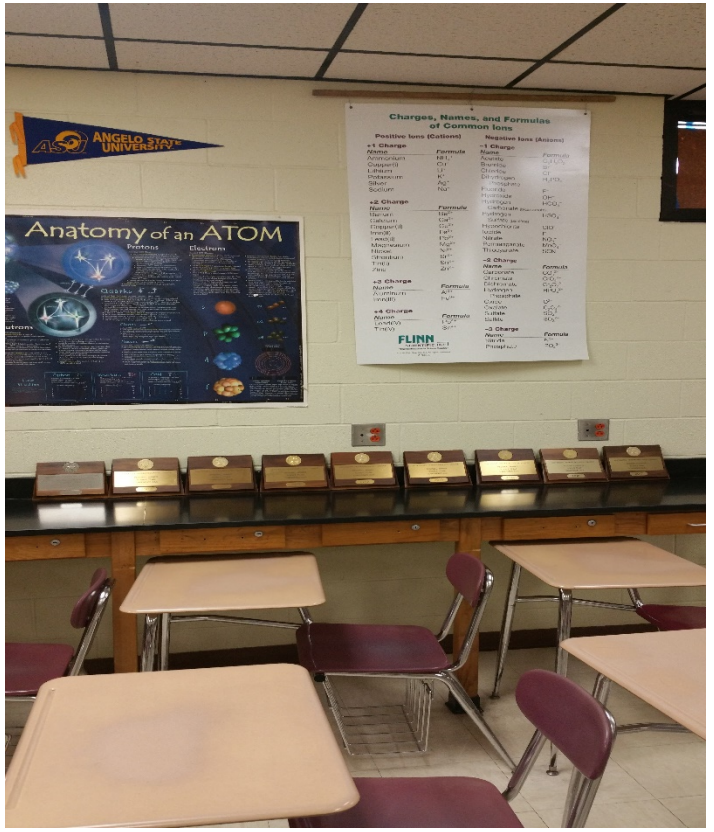
    practice

    compete in early meets

    5 meets = TMSCA State Championship Meet

    All students are eligible to compete for a district spot (see spreadsheet)

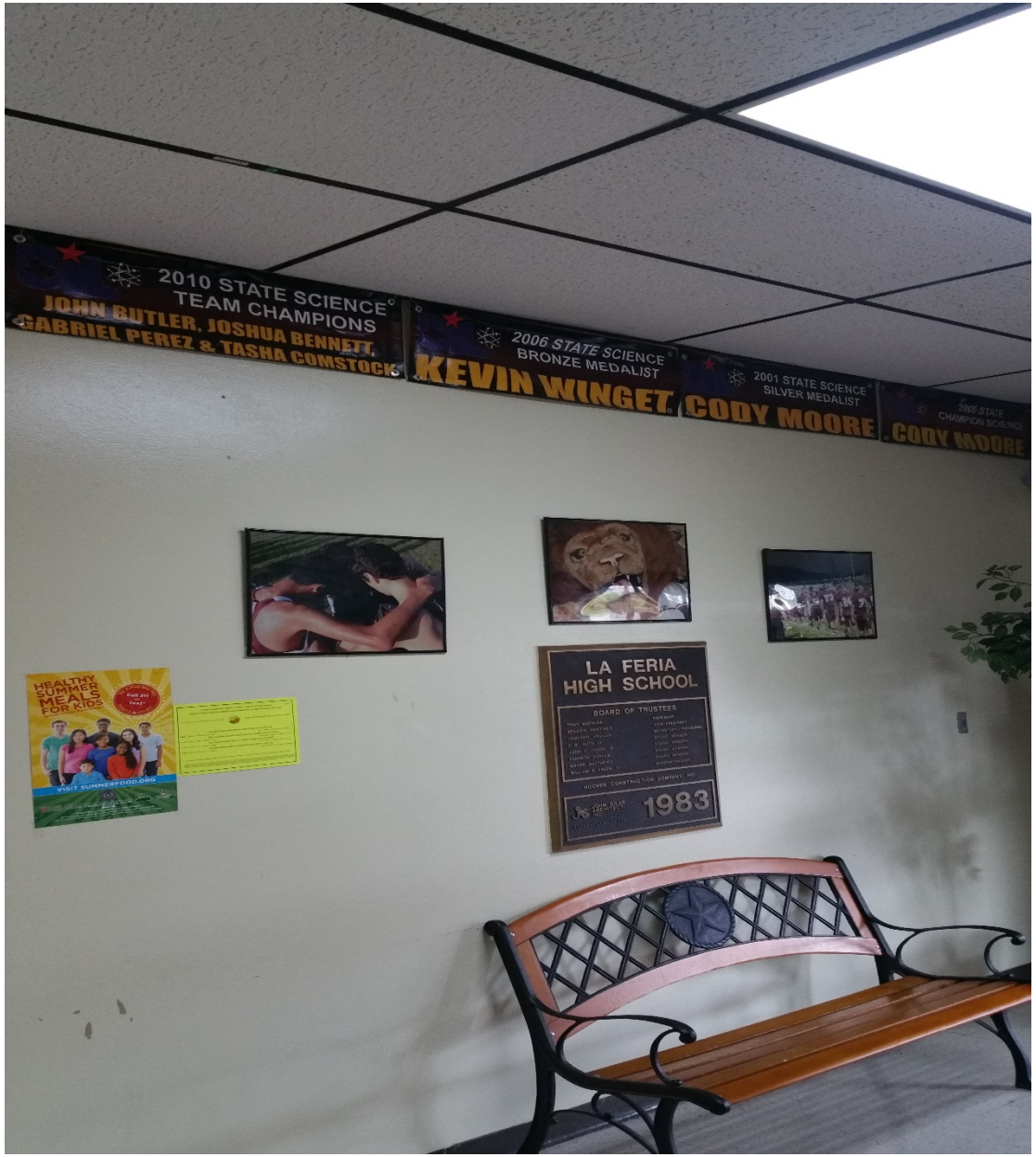
Display success in your classroom….



Display success in your classroom….

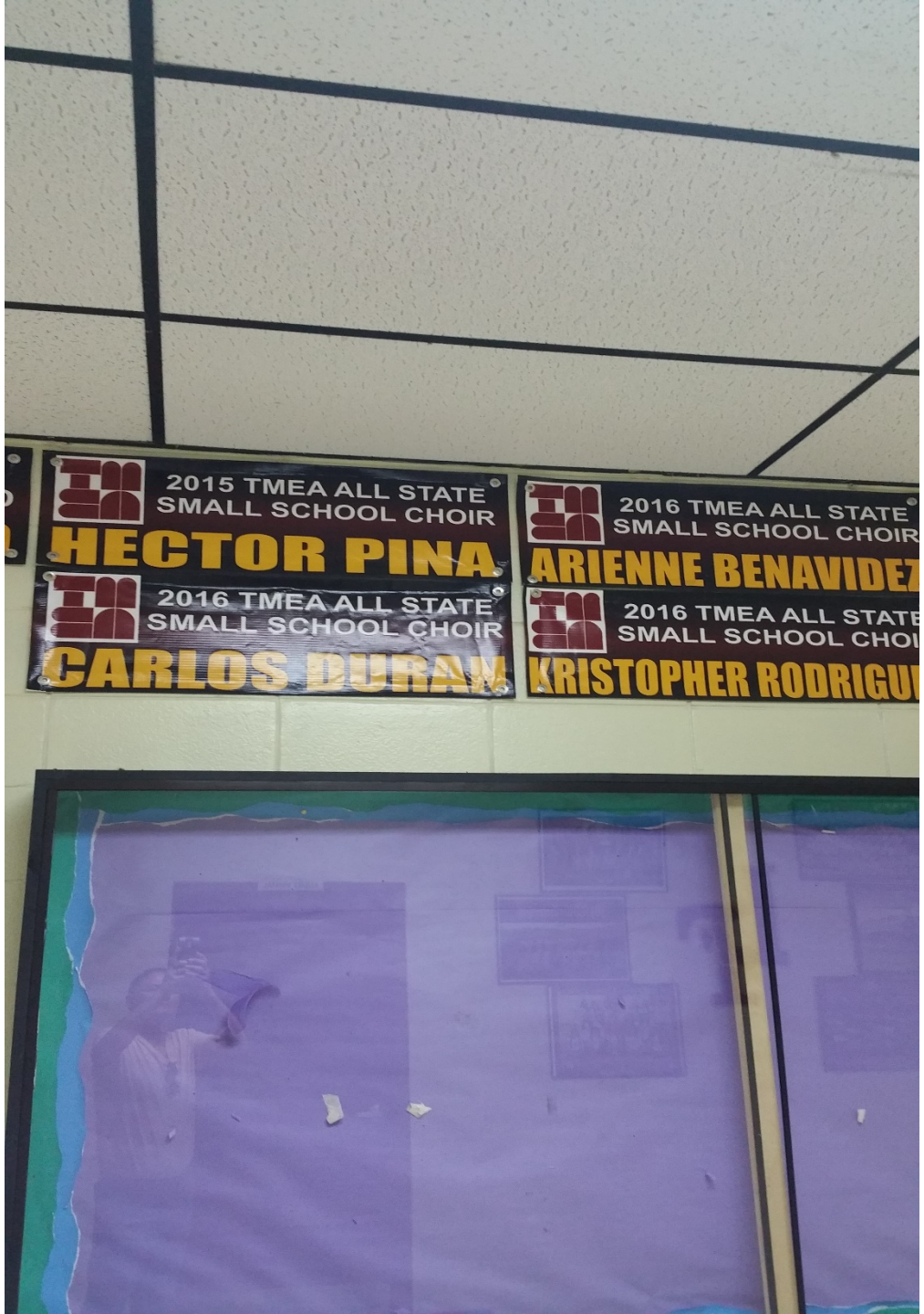
Display Success on campus, Cafeteria banners

Banners… School Main Entrance



Athletics got jealous…

So did Band & Choir….



Celebrate former Student Success…
Biopics outside my door

Recruiting Kids…

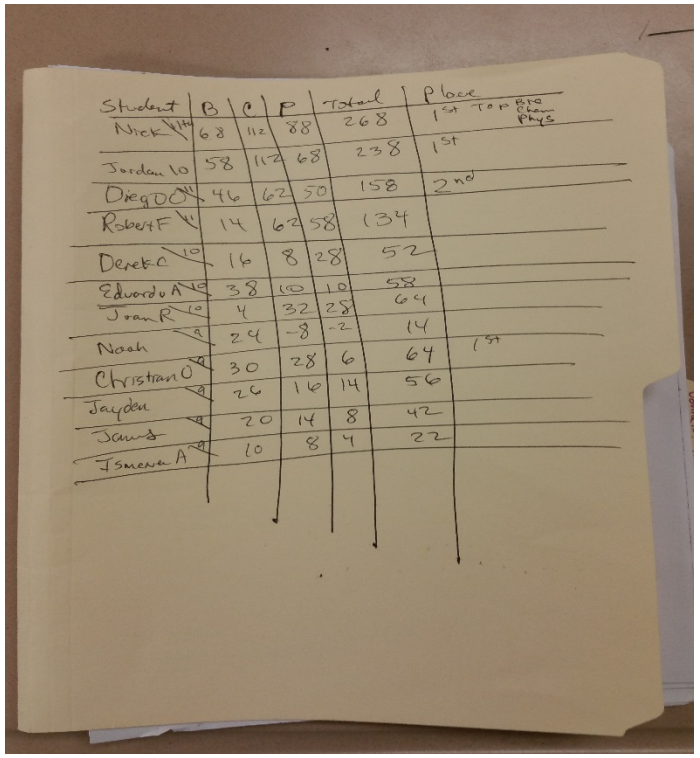
Once you've created a little success…

- talented students will seek you out over other events
- talented students will seek out your courses
- chances are likely they will bring their little siblings around.
- T-shirts, Yes, it's OK if you wear it, too.

  (Students create the front, back: always state medalists)

Stay organized…

- Scan/email your tests on Monday Mornings
- Maintain Website http://www.mrguerrero.weebly.com
- District Team Candidates Spreadsheet..\..\Desktop\district_teams 2-10-18.xls
- Manila Folders are your best friend



Networking

- Always offer to help grade
- Always offer to assist host school
- Be positive
- Win or lose with grace. Be humble when you win and congratulate others when you don’t. Never talk about yourself or team, unless asked.

Remember, everyone will eventually get a natural superstar student. Will you be ready when yours comes around?

- Gabriel Perez
- https://www.tilfoundation.org/news-and-events/blog/tilf-success-stories-meet-gabriel-perez/

Finally, obviously it takes time and effort…duh

- Understanding Family, especially my wife. Thank you Anna.

Q &A

My contacts:

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mrguerrero.weebly.com