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What School Administrators Can Do to Support K-12 STEM Teachers

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WHAT SCHOOL ADMINISTRATORS CAN DO TO SUPPORT K-12 STEM TEACHERS

DR. BOBBY COSTLOW

ASHLEY CROSBY

RICHARD MCCOMBS



INTRODUCTIONS

- DR. BOBBY COSTLOW – ASSISTANT PRINCIPAL STATESBORO HIGH SCHOOL; FORMER SCIENCE DEPARTMENT CHAIR AND PHYSICS/CHEMISTRY/PHYSICAL SCIENCE TEACHER AT SOUTHEAST BULLOCH HIGH SCHOOL
- ASHLEY CROSBY – SCIENCE DEPARTMENT CHAIR SHS AND LEAD GSU TEACHER
- RICHARD MCCOMBS – PHYSICS, GEOLOGY AND STEM TEACHER SHS



FROM AN ADMINISTRATIVE PERSPECTIVE

- COMMON PLANNING
- FEWER PREPS IF POSSIBLE
- TECHNOLOGY SUPPORT
- REALIZING THAT ADMIN IS A SUPPORT TO THE MAIN GOAL – STUDENT LEARNING – AND THAT TEACHERS ARE THE FRONT LINE
- YES, THERE ARE ‘STAR’ TEACHERS – TREAT THEM FAIRLY (WHICH IS NOT THE SAME AS EQUAL)
- HIRE GOOD PEOPLE – AND THOSE THAT ARE NOT DOING WHAT NEEDS TO BE DONE FOR STUDENT LEARNING NEED TO MOVE ON

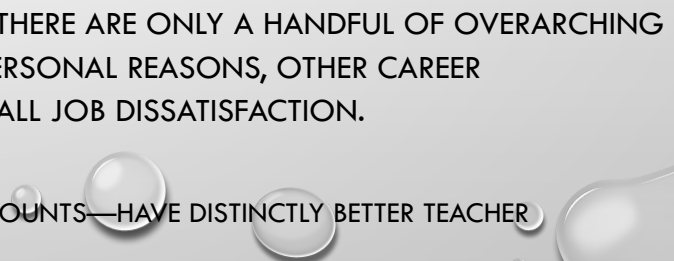


INTERESTING POINTS

- **RECOGNIZE EXCELLENCE PUBLICLY AND FREQUENTLY**
 - DON'T LET SUCCESS BE A SECRET. SET ASIDE 5 TO 10 MINUTES IN REGULAR MEETINGS TO PUBLICLY CELEBRATE TEACHERS. NOTHING DEMORALIZES IRREPLACEABLES MORE THAN FALSE PRAISE FOR MEDIOCRE OR POOR PERFORMANCE.
- **TREAT YOUR IRREPLACEABLES LIKE THEY ARE IRREPLACEABLE**
 - MAKE IT HARD TO LEAVE YOUR SCHOOL. LIST THE TEACHERS WHO ARE MOST CRITICAL TO YOUR SCHOOL'S ACADEMIC SUCCESS AND SPEND TIME WITH THEM. OBSERVE THEM AT WORK AND OFFER REGULAR FEEDBACK. GET TO KNOW THEIR INTERESTS AND DEVELOPMENT NEEDS, HELP THEM ACCESS RESOURCES, AND GIVE THEM OPPORTUNITIES TO GROW THEIR CAREERS AND INCREASE THEIR IMPACT. INVEST THEM IN THE SCHOOL BY INVOLVING THEM IN DECISION-MAKING, AND MAKE SURE OTHER SCHOOL LEADERS TREAT THEM WELL, TOO.
- **START HAVING "STAY CONVERSATIONS" BY THANKSGIVING**
 - MANY TEACHERS USE THE WINTER HOLIDAYS TO THINK ABOUT WHAT'S NEXT. BLOCK OFF TIME AFTER THANKSGIVING TO TALK TO YOUR IRREPLACEABLES AND RISING-STAR TEACHERS ABOUT CONTINUING TO TEACH AT THE SCHOOL NEXT YEAR.
- **LEADERS CAN START BY EXAMINING WHAT PRICE (2003) CALLS THE "FUN AND CARING FACTORS" IN THE SCHOOL.**
 - IS THERE LAUGHTER IN THE SCHOOL? ARE PEOPLE SMILING? DO TEACHERS WANT TO BE HERE? IS THE SCHOOL STAFF UNITED OR ARE THERE CLIQUES? ARE NEW STAFF MEMBERS WELCOMED? DOES THE SCHOOL HAVE CELEBRATIONS? DOES THE SCHOOL TREAT MISTAKES AS LEARNING EXPERIENCES, OR OPPORTUNITIES TO CRITICIZE? DOES THE SCHOOL ENCOURAGE RISK-TAKING?



MORE INTERESTING POINTS

- DON'T FORGET TO TELL THOSE TEACHERS WHO ARE DOING AN EXTRAORDINARY JOB THAT YOU APPRECIATE THEM.
 - WE ARE DEVELOPING TRAINING FOR ADMINISTRATORS THAT FOCUSES ON THEIR RESPONSIBILITY FOR TEACHER GROWTH AND DEVELOPMENT,” SHERBAN-KLINE SAYS. “EVERYBODY IS HELD ACCOUNTABLE FOR STUDENT LEARNING GROWTH.”
 - ONE OF THE BIG REASONS I QUIT WAS SORT OF INTANGIBLE,” INGERSOLL SAYS. “BUT IT’S VERY REAL: IT’S JUST A LACK OF RESPECT,” HE SAYS. “TEACHERS IN SCHOOLS DO NOT CALL THE SHOTS. THEY HAVE VERY LITTLE SAY. THEY’RE TOLD WHAT TO DO; IT’S A VERY DISEMPOWERED LINE OF WORK.”
 - WITH THE EXCEPTION OF RETIREMENT, [STUDIES SUGGEST](#) THAT THERE ARE ONLY A HANDFUL OF OVERARCHING FACTORS THAT PUSH TEACHERS OUT THE DOOR—FAMILY OR PERSONAL REASONS, OTHER CAREER OPPORTUNITIES, SALARY, ADMINISTRATIVE SUPPORT AND OVERALL JOB DISSATISFACTION.
 - WHAT CAN WE CONTROL?
 - BUILDINGS IN WHICH TEACHERS HAVE MORE SAY—THEIR VOICE COUNTS—HAVE DISTINCTLY BETTER TEACHER RETENTION
- 



MORE INTERESTING POINTS

- **PROVIDE LEADERSHIP AND GROWTH OPPORTUNITIES FOR TEACHERS.**
 - MANY TEACHERS DON'T WANT TO BE PRINCIPALS, BUT THEY DO WANT TO STRETCH, LEARN AND GROW. PROVIDE TEACHERS WITH MEANINGFUL OPPORTUNITIES FOR LEADERSHIP THAT ARE PAID, CHALLENGING AND ENRICHING, SUCH AS CURRICULUM PLANNING, MENTORING, ACADEMIC COACHING, ACTION RESEARCH, TECHNOLOGY INTEGRATION AND PROFESSIONAL DEVELOPMENT LEADERSHIP. OPPORTUNITIES LIKE THESE HAVE BEEN SHOWN TO INCREASE TEACHER RETENTION AND INVESTMENT.
- **CULTIVATE COLLABORATION IN SCHOOLS.** ISOLATION BREEDS TROUBLE IN TEACHING.
- **PLAN FOR A BETTER WORK/LIFE BALANCE**
 - SCHOOL LEADERSHIP CAN HELP BY STREAMLINING CUMBERSOME PAPERWORK PROCESSES, AND PROVIDING AS MUCH CLERICAL SUPPORT AS POSSIBLE. MAKE SURE THE SCHOOLWIDE DUTIES ARE SHARED EQUALLY BY CLASSROOM TEACHERS AND OTHER SCHOOL STAFF, BECAUSE OFTEN THE BURDEN (AND MOST OF THE PRESSURE) SITS PRIMARILY WITH CLASSROOM AND ACADEMIC SUBJECT TEACHERS.
- **VALIDATE TEACHER UNCERTAINTY.**
 - THE COMPLEXITY OF TEACHING OFTEN MAKES TEACHERS UNCERTAIN ABOUT THE CHOICES THEY MAKE TO BEST SERVE THEIR STUDENTS. ADMINISTRATORS WHO ACKNOWLEDGE THEIR OWN UNCERTAINTY CREATE A SCHOOL CULTURE WHERE IT'S SAFE FOR TEACHERS TO EXPERIMENT AND LEARN FROM EACH OTHER. RESULTS OF A [STUDY](#) THAT INVOLVED 55 INTERVIEWS OF LEADERS SHOWED THAT LEADERS WHO ADMITTED THEY DID NOT HAVE ALL ANSWERS VALIDATED THEIR OWN FOLLOWERS' UNCERTAINTY WHICH LED TO A CULTURE OF EXPERIMENTATION AND OPEN DIALOGUE.

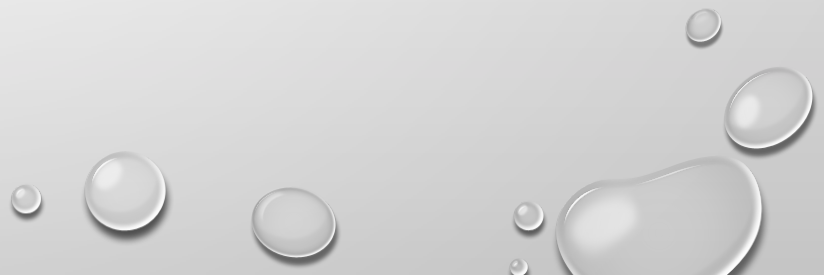
RICHARD MCCOMBS

- LISTEN TO IDEAS
- SUPPORT MULTIPLE FIELD TRIPS
- SUPPORT GUEST STEM SPEAKERS (EX: HOW SHS SUPPORTED)
- ALL ABOUT STUDENT ENGAGEMENT – LISTEN AND SUPPORT
- ‘GIVE ME WHAT I NEED AND GET OUT OF MY WAY’





ASHLEY CROSBY

- SUPPORT IN NETWORKING
 - WORKING WITH PROFESSORS AT GSU
 - LABS WITH GSU
 - TA'S COMING TO TALK AND WORK WITH LABS
 - TA'S ALSO TEACHING A LESSON
 - SUPPORT INNOVATION
 - TRYING NEW THINGS
 - DON'T FEAR TRY SOMETHING NEW
 - SUPPORT EVEN IF IT FAILS – NO FEAR OF FAILURE
 - GOOD COMMUNICATION WITH SCHOOL AND COMMUNITY
 - SNEAK PEEKS
 - CALL-OUTS
 - CALENDAR SENT AT THE BEGINNING OF THE MONTH
- 

Greetings from Crosby's Chem Cave

March 3-7

This Weeks Agenda

Monday—Calculating Protons, Neutrons, and Electrons Quiz; Isotopes; Bohr Atoms Activity; Notes on Scientists

Tuesday—Ions

Wednesday—Quiz on Atomic Structure

Thursday—Notes on Ions

Friday—Review Atomic Structure

How Can You Help?

- Make sure they attend tutoring (on Tuesdays or by appt) if they are confused
- Make sure you are signed up for Parent Portal
- Have they signed up to retake a test if they need to?
- Make sure Facebook Project is saved in their network folder or emailed to me by Thursday
- Flexible groups will be assigned Monday (ask your child which group they are in and what their group is doing)
- Ask them if they have had to

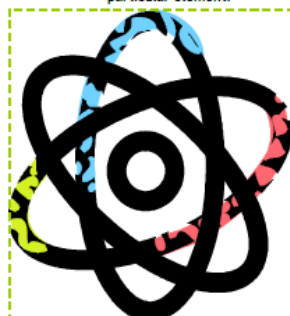
Chemistry GPS Week 7:

SC3 Students will use the modern atomic theory to explain the characteristics of atoms.

A. Discriminate between the relative size, charge and position of protons, neutrons and electron in the atom.

C. Explain the relationship of the proton number to the element's identity.

D. Explain the relationship of isotopes to the relative abundance of atoms of a particular element.



Have your signed up for FREE and SAFE text reminders?? If not, see how below:
3rd block—Text (803)443-0782 with the message—@misscrosby

Important Dates:

3/5—Quiz on Atomic Structure
3/10—pg. 87-90 due;
3/11—ATOMIC STRUCTURE TEST

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GIVE THEM SUPPORT AND A VOICE

- MY OWN EXPERIENCE BORE THIS PHENOMENON OUT. THE CULTURE AT MY FIRST SCHOOL DID NOT ENCOURAGE SEEKING ADVICE OR SUPPORT, LET ALONE IDEA EXCHANGE BETWEEN COLLEAGUES. IN FACT, I WAS MADE TO FEEL LIKE A BOTHER FOR EVEN ASKING QUESTIONS. WHEN I BROUGHT A PARTICULARLY CHALLENGING SITUATION TO THE ATTENTION OF THE PRINCIPAL, I WAS TOLD TO WORK IT OUT ON MY OWN. AFTER THREE YEARS, I STILL FELT LIKE A NEW TEACHER WITH VERY LITTLE HANDLE ON CREATING EFFECTIVE LESSONS OR DEALING WITH THE EVER-LOOMING CHALLENGE OF CLASSROOM MANAGEMENT. THE FOLLOWING YEAR I CHANGED SCHOOLS AND WAS PLEASANTLY SHOCKED BY A SUPPORTIVE STAFF AND PRINCIPAL. I FELT SAFE TO MAKE MISTAKES, ASK FOR HELP, AND TAKE RISKS. MY ROLE AS A TEACHER WAS RESPECTED AND MY TRIUMPHS AND TRIALS VALIDATED. AS A RESULT, **I GAINED CONFIDENCE IN MY ABILITY TO TEACH, AND, MOST IMPORTANTLY, MY STUDENTS WERE SHOWING GREATER ACADEMIC PROGRESS THAN AT MY PREVIOUS SCHOOL.**

GOOD ARTICLES

- [HTTP://TNTP.ORG/ASSETS/DOCUMENTS/TNTP_IRREPLACEABLES_PRINCIPALGUIDE_WEB.PDF](http://TNTP.ORG/ASSETS/DOCUMENTS/TNTP_IRREPLACEABLES_PRINCIPALGUIDE_WEB.PDF)
- [HTTP://TEACHING.ABOUT.COM/OD/ADMIN/A/CHARACTERISTICS-OF-A-PRINCIPAL.HTM](http://TEACHING.ABOUT.COM/OD/ADMIN/A/CHARACTERISTICS-OF-A-PRINCIPAL.HTM)
- [HTTP://WWW.SCHOLASTIC.COM/BROWSE/ARTICLE.JSP?ID=3758000](http://WWW.SCHOLASTIC.COM/BROWSE/ARTICLE.JSP?ID=3758000)
- [HTTP://WWW.THEATLANTIC.COM/EDUCATION/ARCHIVE/2013/10/WHY-DO-TEACHERS-QUIT/280699/](http://WWW.THEATLANTIC.COM/EDUCATION/ARCHIVE/2013/10/WHY-DO-TEACHERS-QUIT/280699/)
- [HTTP://SCHOOLSOFTHOUGHT.BLOGS.CNN.COM/2012/06/19/MY-VIEW-SIX-WAYS-TO-RETAIN-GREAT-TEACHERS/](http://SCHOOLSOFTHOUGHT.BLOGS.CNN.COM/2012/06/19/MY-VIEW-SIX-WAYS-TO-RETAIN-GREAT-TEACHERS/)
- [HTTP://GREATERGOOD.BERKELEY.EDU/ARTICLE/ITEM/3_WAYS_ADMINISTRATORS_CAN_FOSTER_TEACHERS_GROWTH](http://GREATERGOOD.BERKELEY.EDU/ARTICLE/ITEM/3_WAYS_ADMINISTRATORS_CAN_FOSTER_TEACHERS_GROWTH)
- [HTTP://WWW.P12.NYSED.GOV/SPECIAL/ED/PUBLICATIONS/PERSPREP/QUALITYTEACHERS/Administrator.HTM](http://WWW.P12.NYSED.GOV/SPECIAL/ED/PUBLICATIONS/PERSPREP/QUALITYTEACHERS/Administrator.HTM)
- [HTTP://WWW.EDUTOPIA.ORG/GROUPS/REFORM-STARTS-HERE/25314](http://WWW.EDUTOPIA.ORG/GROUPS/REFORM-STARTS-HERE/25314)



QUESTIONS?