What is Science Coaches?

Educational outreach initiative dedicated to enhancing science skills
Science Coaches

• One-on-One
  – In person
  – 1 teacher, 1 coach
  – Meet at least 6 times

• Teams
  – Virtual
  – 3 teachers, 1 coach
  – Post questions, comments

• Teacher must be an AACT teacher member
One-on-One

• Partnered for one school year with one K-12 teacher
• In the classroom
  – With students
• Behind the scenes
  – With just the teacher
What Can a Coach Do?

- Demos, experiments, lessons
- Organize or clean stockrooms
- Mentor students or clubs
- Incorporate NGSS into lessons and presentations
- Answer content questions
- Give presentations about your job or field of study
What have coaches done in the past?

- Demos for one class, several classes, and entire school
- Lab experiments
- Career discussions with HS students
- Field trips
- Q&A with students
- Teaching a chemistry lesson
Testimonials

• ‘My coach helped me to be confident that I am preparing my students for college chemistry.’

• ‘My coach gave me more examples that could be used in the classroom in terms of NGSS, hands-on, and inquiry lessons.’
Testimonials

• ‘My coach completed lab activities with my students and served as a science role model at our ‘lunch with a scientist’ event. She brought life to some of our less engaging topics in the classroom.’
Testimonials

‘Science is not my primary subject so she was a great resource. She was also able to provide job examples for my students which made what we were doing feel more relevant.’
Testimonials

• ‘My coach would sit with me and help me enrich my lessons with a demo.’
• ‘Helped demonstrate how chemical concepts are applied in the real world.’

Photo courtesy of Jan Hermansen
Testimonials

• ‘My coach made me willing to cover more difficult material knowing I had the support and knowledge of my coach behind me.’

• ‘Answered specific questions from my students.’
Funding

• $500 donation from ACS to go towards science education in your classroom

OR

• $550 gift certificate from Flinn Scientific
Teams

• Partnered for one school year
• Virtual, private, discussion-based setting
• Special webinars, presentations, and other opportunities for participants
My students are curious if hair will still turn green in salt water pools and why that happens? Have you heard anything about this?

2 Comments

STEPHANIE
Posted 11 days ago

cool!

JACOB
Posted 15 days ago

Yes, I have heard of this! This can happen when you have a lot of copper contamination in the water (from pipes), and the chlorine in pools (in the form of hypochlorous acid HOCl) oxidizes this copper to Cu(2+), which binds to proteins in your hair and turns it green!
Ideas for Chemical Kinetics

I'm looking for something that I could give to the students that allows them to see the idea that the nature of the reactants changes how quickly a reaction can occur. My only idea that is safe for the kids to use would be comparing the speed of dissolving between sugar and sodium chloride. Any other ideas?

1 Comment

MICHAEL

Posted 1 day ago

One of the things I do for my students is that I burn lycopodium powder as a demo to show how surface area affects rate. I first pour out a pile of powder and try to light it with a match and show that it just scorches/chars a little. I then light a bunsen burned and pull some powder up in to a plastic pipette. When you expel the powder as a fine mist through the flame of the bunsen burner it creates a nice fireball.

As for how concentrations of reactants affects rate I do the lab that i'm attaching to this post.

I hope this helps.

Rate Reaction.doc
TEACHING METHODS

Equilibrium in honors chem
Started about 1 month ago by Loyola Pasiewicz.

We are about to start the equilibrium unit in my honors level chemistry class. Each year, students struggle with this unit and the math that goes along with it. In the unit we look at: what is equilibrium, which way will equilibrium shift, Q compared to K and we use RICE (or ICE) tables. We also look at Ksp and molar solubility and I like the Ksp Phet simulation. Often students get lost in the math and forget to connect it back to what it all means for the particles in the system.

What are your favorite equilibrium activities that allow students to not only conceptually understand equilibrium but also to get them better at understanding and connecting the math needed for the problem?

2 Comments

KALEB UNDERWOOD
Posted 20 days ago
What Can a Coach Do?

• Answer chemistry questions
• Develop lesson plans
• Facilitate discussions
• Advise on real-world applications
• Virtual lab tour
Why Participate?

- Benefit to teachers
- Benefit to coaches
- Benefit to students
Benefit to Students

- Real world applications for lessons
- Enhancing science skills
- New lesson, lab, demo, activity ideas
- Science role model
Why Be a Coach?

- It’s rewarding!
- It enhances chemistry education!
- It’s easy and fun!
Who Can Be a Coach?

• Professionals
• Graduate students
• Professors
• Retired or semi-retired
• Former or retired teachers
Effective Partnerships

- Talk with your teacher or coach
- Goals
- Open communication
- Open to new ideas
- Be flexible
Matching

- Apply together with a teacher or coach
  - Make sure you both apply with each other’s info
- We will attempt to match you
  - Someone geographically close to you
Restrictions

- One coach per teacher, one teacher per coach
- Must be an AACT teacher member
- Can only be in Teams or One-on-One
- One-on-One: must reside in USA
- A current teacher can not be a coach
- Coach-teacher partners may not share finances
- Teams must be fluent in English
Applications are Open!!

- Links on our website
- Close 9/1
- Notify you by 10/1
Contact Information

Jackie Meyer
Education Projects Manager
J_meyer@acs.org
202-912-3432

teachchemistry.org
To complete a brief survey about this webinar, and to generate your certificate of attendance, visit: http://bit.ly/AACT-PD

To Download Resources: