NUMBER 1 NOVEMBER 1, 2017

Stepping into STEM

"The best teachers are those who show you where to look, but don't tell you what to see." - Alexandra K. Trenfor

Here's the M in STEM!

Have you had the opportunity to check out the awesome math resource, youcubed.org? This website is a gold mine of math tasks and lesson ideas. Specifically, the tasks are classified by concepts, grades (Kindergarten through 12th grade including "low floor/ high ceiling") and math topics. They are highly engaging and encourage students to use their critical thinking skills, as well as communicate their mathematical reasoning. So... you've got math talk and cooperative learning opportunities you and your class will love! #goforit

youcubed

MATH ON TWITTER

Twitter can be a valuable place for professional development. Each month we will highlight a person or hashtag that supports math education.

@joboaler

SCIENCE ON TWITTER

Twitter can be a valuable place for professional development. Each month we will highlight a person or hashtag that supports science education.

@ngss_tweeps

Tech Corner

Are your "Tech Help" documents lost in the abyss that is the Google Drive Shared Folder? Are you looking for new lesson ideas to use with your students? Do you wish there was a one-stop shop for it all? Well you are in luck! We have launched a new website, The Tech Desk, to address your needs. Check it out with the link below:

https://sites.google.com/llcsd.net/techdesk

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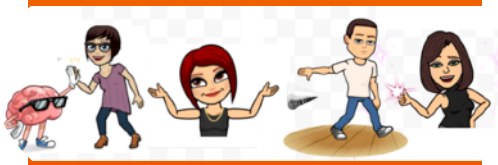
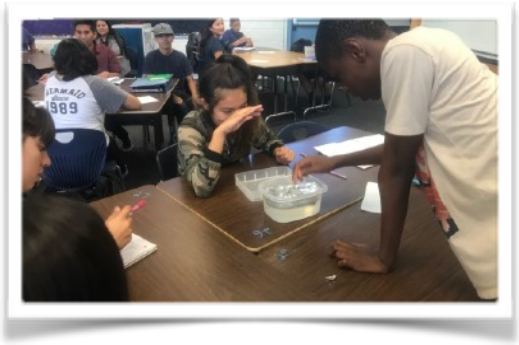


Science Talks

Why are science talks important? How do we implement them?

Research has shown learning happens through talking. However, in most science classrooms student talk takes up less than 20% of class time. This means the teacher (the expert) is spending the majority of the time talking. When students do talk, it usually does not focus on sense-making. Reflect on your own classroom: do students share their thinking or simply share their answers? The science and engineering practices themselves are highly social and require students to talk. They ask students to reason with others to reach a shared understanding of science concepts. We also know scientists and engineers routinely communicate through talk, not only about the final product, but to make sense of their work and gather feedback.

Science talk is important for many reasons. First, it provides a window to student thinking that allows teachers to informally assess students and identify misconceptions. Science talks also require deeper reasoning and encourage students to use evidence. By participating in science talks, students make associations, develop social skills, and increase language development. Science talks are particularly beneficial for our English learners. When students talk to each other they are more likely to connect to personal sources of knowledge, take risks with a new language, and use classroom linguistic practices that support science learning.



"Talk forces students to think about and articulate their ideas. Talk can also provide an impetus for students to reflect on what they do - and do not - understand."

-Ready, Set, SCIENCE!

So how do we support science talks in the classroom? When beginning science talks in your classroom it is important to develop classroom norms that will support talk and provide a safe place for sharing and refining ideas. Here are a few ideas to get science talks started in your classroom. First, have a discussion with your students about the different meanings of argumentation. Next, have students observe how scientists actually use argumentation here. Finally, begin a talk by having students discuss any type of open-ended question that focuses on the strength of the evidence used to generate a claim.

I have placed several resources to support science talks in this google file. One especially helpful resource offers specific science talk activities and a flow map for choosing the one that meets your needs.

ENGINEERING ZONE (EARTH SCIENCE)

Each month I will share an engineering project for one of the three disciplines. Earth Science will be the focus of November. This month the engineering challenge asks students to apply their knowledge of earthquakes in order to build a stable house or building.

Click HERE and click the copy button to access the materials.