

Science 6-12	Notes
<p>For links to all of the resources discussed and demonstrated today, please direct your attention to my Symbaloo Webmix entitled: Fall Institute 2016-Sci</p> <p><u>Curriculum Documents, Unpacked Standards, Assessment examples</u></p> <p>NC – Science Wiki – up to date information on curriculum changes, unpacked standards, and instructional modules.</p> <p>Released Test Items – previously released assessments (EOG, EOC)</p> <p>AAAS Science assessment – searchable database of high-end test items to use with many science disciplines.</p> <p>NAEP Question Tool – another high-end database of science questions</p> <p><u>Test Specifications for EOC/EOC</u></p> <p>Test Specifications & Weights – download test specifications (i.e. which objectives are represented on exams)</p> <p>NC Final Exam Specs – download test specifications for non-EOC/EOG tested subjects. Also, download sample final exam items.</p> <p><u>Instructional Resources</u></p> <p>Science Modules – features thematic units to assist in the preparation of science instruction. Follows the 5-E model of science inquiry (engage, explore, explain, elaborate, & evaluate).</p>	

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<p>Discourse Tools – provides ideas for teachers to promote science discourse in the classroom. Also, features video case studies of early career teachers promoting discourse in their teaching.</p> <p>Cool Tools for Schools – Dynamic collection of tech-based resources to assist teachers in using technology to enhance instruction.</p> <p>PhET – science-based simulations to help model abstract scientific phenomena.</p> <p>PHSchool – simulations for students to practice model labs that are common in teaching Biology</p> <p><u>Resources for Teachers</u> – essential science content for teachers who wish to brush up.</p> <p>Benchmarks Online – essential content for science teachers seeking to narrow the scope of science content</p> <p>Science Content – from Annenberg Learner – a video-based lecture series intended for teachers brushing up on science content</p> <p>NSDL Science Literacy Maps – map organizing how science content articulates through grade levels and across disciplines. Also contains lesson plans.</p>	

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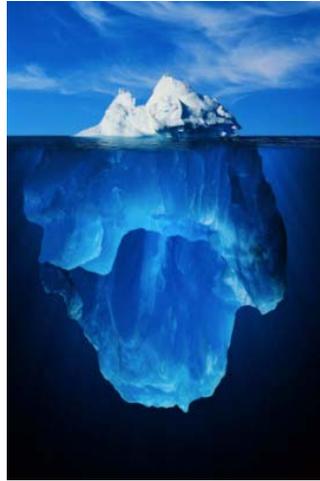
Rivet is a pre-reading activity. Its purpose is to expose students to unfamiliar vocabulary terms that might affect reading fluency and thus inhibit comprehension when reading the text. It can be used across all disciplines. Students typically love this activity!

Steps:

- The teacher will choose approximately 6 - 8 difficult vocabulary words or important names from the text that may inhibit students from comprehending the text when they read
- The teacher puts blanks on board or transparency representing the number of letters in the vocabulary word
- Teacher fills in one letter at a time for students to guess the word from left to right. Teacher encourages students to guess the word
- Students shout out possible words
- When a student guesses the word, finish writing it. (ask students to try to finish spelling it for you)
- Collaboratively talk about its meaning once word is discovered
- Repeat process until all words are identified
- Then, give students the title of the story or chapter being introduced
- In journals, ask students to write a summary predicting what the text will be about using 6 or more of the vocabulary words
- Read predictions aloud
- List predictions on chart paper
- Read text
- Verify and refute initial predictions as students progress through story or chapter

NOTE: *Unlike Hangman, students are NOT guessing the letters. Their eyes are “riveted” to the board as you write the letters, and they are trying to guess the word based on the letters you have written and the number of remaining blanks.*

Give student 30 seconds to write down scientific principals about the picture they are viewing.



Examples:

I see water in three phases: solid, liquid, and gas.

I see properties of density, buoyancy, and displacement.

I see light diffraction.

I can explain why the iceberg and the sky appear blue.

I see a solution and pure water.

I like to give students a short amount of time to work on this task and then extend it if things are going well. To scaffold this assignment, you might provide clues (e.g. I see water as a solid...) and to make it more challenging, you can assign student to make five observations, and as you circulate to find popular answers, ask that students remove the obvious ones and think more deeply (e.g. the sky and the water appear blue because blue light in the visible spectrum travels farthest).
