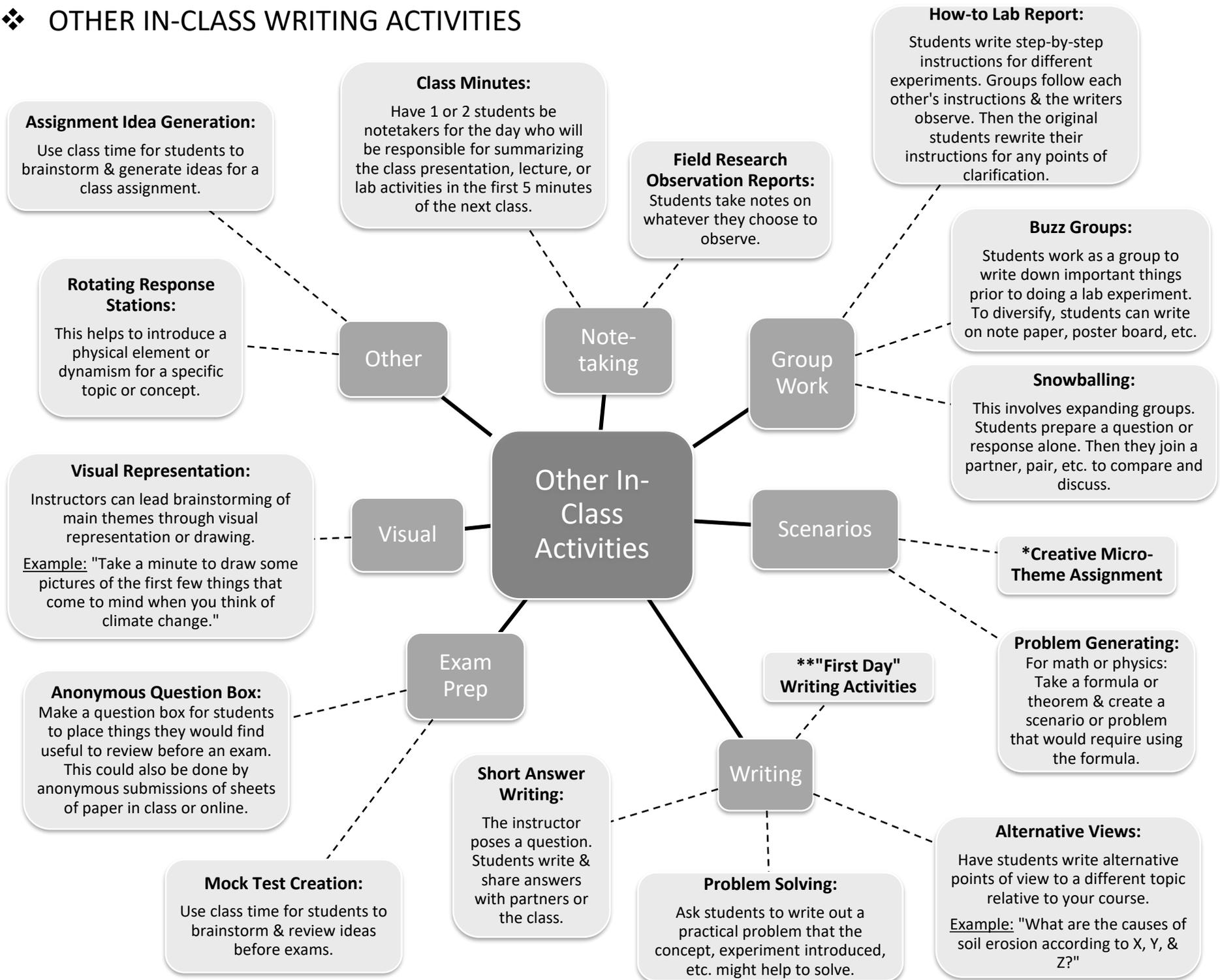


# 'WRITE TO LEARN' ACTIVITIES – SCIENCES

## ❖ IN-CLASS WRITING (Five Common Activities)

Type of Activity	Objective	When to use it	Examples
(1) Free Writes	To activate prior knowledge or generate ideas by free association.	<ul style="list-style-type: none"> <li>works as a good warm-up at the beginning of class</li> <li>instructors can pose an opening/introduction question related to the day's topic</li> </ul>	<p>"What do you know about X?"</p> <p>"In your opinion, should scientists feed polar bears to save them from starvation? Take 3 minutes to write out your ideas. Then read and share your ideas with a partner."</p>
	Students write about a predetermined topic for a brief, specified number of minutes (1-5 minutes) as fast as they can and put words on paper.	<ul style="list-style-type: none"> <li>can be used for introductions to lab work</li> </ul>	"Write down what you recall in the lab manual, what is to be done in lab today, any procedures that confuse you, and the purpose of the experiment."
		<ul style="list-style-type: none"> <li>can be used to wrap up the day's topic or lecture or to help connect ideas</li> </ul>	<p>"What did you learn today about X?" "What questions are left unanswered in regards to X?"</p> <p>"What did you learn today about the potential applications of the laws of thermodynamics?"</p> <p>"What questions are left unanswered in regards to the kinds of tissue in the human body?"</p> <p>"Summarize concept X or concepts XYZ that we've been discussing in class today."</p> <p>"What part of this concept/these concepts confuse(s) you?"</p> <p>"Explain what we learned today in your own words."</p> <p>"What is the relationship between last day's topic and today's?"</p>
		<ul style="list-style-type: none"> <li>can be used to supplement reading content</li> </ul>	<p>"What questions do you have about the last reading?"</p> <p>"What were the most important points in the last reading?"</p>
(2) Paragraph Writing	Students write, read and share their paragraphs.	<p>Can be used to:</p> <ul style="list-style-type: none"> <li>Define a concept you've presented</li> <li>Apply a principle to the students' experience</li> <li>Make connections with previous learning</li> <li>Summarize or synthesize important points from a lecture or assigned reading</li> <li>Translate a principle into a word problem</li> </ul>	<p><b>Sample Paragraph Writing Prompt Based on Assigned Reading:</b></p> <p><b>A.</b> Read or skim the abstract, introduction (p.1-2) &amp; conclusion (p.9-10) sections for the Molnar, Derocher, Thiemann, &amp; Lewis (2010) article.</p> <p><b>B.</b> In a free writing paragraph, answer:</p> <p>"What do Molnar, Thiemann, &amp; Lewis (2010) suggest is absolutely necessary for the survival, reproduction, and abundance of polar bears? Take 5 minutes to write your paragraph. Then read and share your paragraph with your group."</p>
(3) One-Sentence Summaries	Have students write one-sentence summaries of a lecture, lab assignment, reading assignment or discussion		<p><b>Sample Topic:</b></p> <p>"Using the same text source for our last activity on "Paragraph Writing," write a 1-sentence summary of the reading assignment. Then share your ideas with someone from another discipline (outside of your area of Social Sciences, Humanities, or Science)."</p>
(4) Writing Questions	Have students write 2 or 3 questions concerning the main ideas or concepts in a reading		<p><b>Topic Prompt:</b></p> <p>"Using the same text source as above, jot down 2 or 3 questions you have concerning the main ideas or concepts in the reading. Then share your ideas with another new person from another discipline (outside of your area of Social Sciences, Humanities, or Science)."</p>
(5) The One-Minute Paper	Students summarize the most important or most useful point(s) from the lecture, lab, reading assignment, or discussion; Students can write questions that remain as well. Instructors can modify topics.		<p><b>Sample One-Minute Writing Prompt from Today's Presentation:</b></p> <p>"What are the basic ideas behind the concept "Writing Across the Curriculum" (WAC) that we learned today?"</p>

## ❖ OTHER IN-CLASS WRITING ACTIVITIES



### \*Creative Micro-Theme Assignment:

This example comes from p. 14-15 of the Hedengren (2004) TA textbook. It is an example of a creative activity, which can help students to understand the physical states or phases of matter and intermolecular forces (especially of hydrogen bonding).

#### Scenario:

“You are a single water molecule among many in a hot water heater. All of a sudden, you are released from the water heater tank and violently expelled through the nozzle of a showerhead. Before you recover, however, you are alone for a period of time, until you meet a group of your water molecule friends on the surface of a bathroom mirror.

#### Writing Assignment:

“On the surface of the mirror, you and your friends all share similar stories. Since you are the most scientifically inclined of the group, you are assigned to write a short report, based on sound fundamental molecular reasoning explaining what happened to you all. Your report to the group should include a discussion of the forces that kept you all together and then reunited you. You should also explain why you each found yourselves alone for a period of time and how you ended up together again on the surface of the mirror. A couple of good paragraphs should suffice.”

### \*\*“First Day” Writing Activities:

#### Some ideas for short writing prompts:

- Give students a general question to introduce them to the general material on the first day.
- Ask them to write a short response to submit to you; you can return it to the students at the end-of term as a reflective exercise.
- Toss out a “playground” question for them to answer in groups, or for you to put answers on the board. Ease them into contributing with a friendly assignment.
- Have students jot down any fears or anxieties they have as they enter your course.

## ❖ ONLINE WRITE-TO-LEARN OPTIONS

Many of the activities can be tailored to online formats:

#### E-journals, course websites, or email

- Students can respond to certain topics or prompts in these forums and instructors can highlight interesting or relevant posts.

#### Discussion boards

- Students can post provocative questions, queries, or summary/analysis of labs or lectures on an electronic bulletin board or Web forum for class comment.

#### Puzzlemaker

- This is a fun tool for students or instructors to create crosswords, word searches, etc. for key concepts and ideas.
- Link:  
[http://www.discoveryeducation.com/free-puzzlemaker/?CFID=3208214&CF\\_TOKEN=18370909](http://www.discoveryeducation.com/free-puzzlemaker/?CFID=3208214&CF_TOKEN=18370909)

## ❖ OUT-OF-CLASS WRITING ACTIVITIES

