

## INSPIRE GK12 Lesson Plan



<b>Lesson Title</b>	Chemistry: Basic Formulas
<b>Length of Lesson</b>	One (50 minute) class period
<b>Created By</b>	Bo Cherry, Will McBryde, Rob Thornton
<b>Subject</b>	General Science
<b>Grade Level</b>	8 <sup>th</sup> grade
<b>State Standards</b>	8 <sup>th</sup> : 1b, d (Inquiry); 2a,b (Physical Science)
<b>DOK Level</b>	DOK 3
<b>DOK Application</b>	Identify, Participate, Relate, Categorize
<b>National Standards</b>	5-8: A (Inquiry); B (Physical Science)
<b>Graduate Research Element</b>	Chemistry is a fundamental part of geology, and more specifically, it plays an important role in water quality and mineralogy.

### **Student Learning Goal:**

#### MS 8th Grade:

(Inquiry) 1(b) Distinguish between qualitative and quantitative observations make inferences based on observations. (d) Analyze evidence that is used to form explanations and draw conclusions; 2 (a) Identify patterns found in chemical symbols, formulas, reactions, and equations that apply to the law of conservation of mass. (b) Predict the properties and interactions of given elements using the periodic table of elements.

#### National Science Education Standards of Content 5-8:

(Inquiry - A) Abilities necessary to do scientific inquiry, Understandings about scientific inquiry; (Physical Science - B) Properties and changes of properties in matter.

### **Materials Needed (supplies, hand-outs, resources):**

PowerPoint file (INSPIRE\_Cherry\_01.15.11\_PP); Worksheet file (INSPIRE\_Cherry\_01.15.11\_HO); laptop; projector; index cards

### **Lesson Performance Task/Assessment:**

This lesson is an introductory lesson into chemistry to inform students of basics for everyday life. Students will observe a PowerPoint presentation presented by the instructor. Questions will be asked throughout the PowerPoint to keep the students engaged. During the PowerPoint presentation, students will fill out a guided handout. This will encourage students to stay on task during the lecture. The assessment will be done through student participation during the PowerPoint and the note-taking handout.

### **Lesson Relevance to Performance Task and Students:**

The PowerPoint presentation will teach students the basics of chemistry including how to read the periodic table and some important chemical formulas. The PowerPoint presentation will also show the students how chemistry affects their daily lives.



**Anticipatory Set/Capture Interest:**

Students will play the element guessing game. The instructor will ask for volunteer students to participate in the element guessing game. The ten volunteers will have a card taped to their back with the element name written on the back. The volunteer student will then turn and let the class see what is written on their back. This is done so that the students (audience) can give clues to volunteer as to what is written on their back. Eventually the volunteer will correctly guess what word is written on their back.

**Guided Practice:**

The PowerPoint presentation on Chemistry basics will be guided. The students will be instructed to fill out the handout that accompanies the lesson.

**Independent Practice:**

Students will participate as a class to complete the handout. The instructor will engage students by asking and answering questions throughout the lesson. Having the students participate as a group causes discussions and inquiry because the whole class usually never agrees on one single answer.

**Remediation and/or Enrichment:**

Remediation- Individual IEP; PowerPoint and handout will be made available to resource teacher; Enrichment - Have students research a career in chemical industry they would like to have. Also, have students find some of the common chemicals in their own homes.

**Check(s) for Understanding:**

Observe students during PowerPoint presentation. Observe students participation during the capture activity. The instructor may also observe the students' handouts to check for completion.

**Closure:**

Question 1: What is an example of an important acid? Base?

Question 2: Distinguish between atomic number and atomic mass.

**Possible Alternate Subject Integrations:**

Physics, Math, Geology

**Teacher Notes:**

<http://science.pppst.com/periodictable.html>