

“Get Animated About Chemistry”

S.T.E.M. Based

Grade 9-12

Overview	Students learn about the elements of the Periodic Table and create an animation to represent one of the elements.
Objectives	Students will <ul style="list-style-type: none">• Explore the periodic table of elements and discuss the concept of chemical compounds.• Evaluate the chemical makeup of one element.• Learn what animations are and how they're created.• Learn how to use animation software.• Create a short animation representing one element on the periodic table.
Learning Environment	Students will need to have access to a computer lab for the majority of the project, but they may possibly need access to other resources from a library as well.
Description of Students	High school aged students with in either a chemistry course or some sort of technology course that allows form some freedom of subject matter. It's a very cross-curriculum assignment.
National Standards	NS.9-12.2 Physical Science NS.9-12.5 Science and Technology NT.K-12.3 Technology Productivity tools
Materials	<ul style="list-style-type: none">• An animation software program, such as Serif's DrawPlus. Serif provides all educational users with several online resources, as well as a CD of lesson suggestions, worksheets, and other materials. Most programs provide tutorials to get you going quickly.• Your own example animation. Creating your own animation will enable you to give better support to students when they create theirs and will provide demonstration material to use during the main lesson activity.• A storyboard template for each student; or provide students with a sheet of paper with squares or cells to help them plan their designs.
Procedure	<ol style="list-style-type: none">1. Introduce students to the periodic table of elements and discuss the concept of chemical compounds. A fantastic site to really get kids excited about this topic is The Periodic Table of Videos. Assign, or have students choose, an element or compound and evaluate its chemical makeup or equation. Discuss the basic characteristics of elements and compounds. What do they do? What reactions do they have when mixed with other elements? ***Have students keep all of their research and information about the element in a Google Notebook for easy organization.***2. Play your demonstration animation several times (on a computer screen or projected onto a screen). Explain that in animation, action is an illusion in which still drawings appear to move. Examine your animation frame-by-frame and ask them to spot the changes from one frame to another, e.g., the main character

	<p>moved his foot up or down, the color changed, or something was deleted. Ask students if they can guess what element or compound you have illustrated. Ask them what idea or concept they believe the animation is trying to communicate.</p> <p>3. Ask students to consider how they might illustrate and animate the elements and compounds they've chosen. This could be an in-class brainstorming session, a homework assignment, or both. A main character, such as a stick-figure drawing, animal or other image, would work best to tell a story in the animation. <i>For example, a basic animation of nitrous oxide, commonly known as laughing gas due to the exhilarating effects of inhaling it, could show an animated figure of the compound's symbol, N₂O, and send the words "nitrous oxide" bouncing around the computer screen followed by the words "ha, ha" popping up against a solid or multicolored background.</i></p> <p>4. Start a new animation and introduce pupils to the animation software with a brief overview of the interface, main menus, features, and tools. Demonstrate how to create a figure using a ready-made shape. (More advanced lessons might examine how to create an original shape.) Model how to duplicate a frame and alter it slightly from the previous frame. Show them how to insert words and alert colors and fonts. Keep up a running commentary as you create the new animation, introducing new language as you go. Show students how to save and preview their work. A simple project could work well with a total of 10 frames to demonstrate movement. Talk to students about how changes in the timing of different frames affects the appearance of the action.</p>
Application	Students will better understand the characteristics of the elements and also gain a general understanding about using technology for practical educational purposes.
Evaluation	Students' grades should be based on their ability to understand and communicate the concepts of the lesson's content; on whether they use correct terminology to discuss the subject matter; and on whether they have shown movement in their animation.

Taken from http://www.education-world.com/a_tech/techlp/techlp061.shtml (with slight modifications)