

Activities for Hands-on Science – Carlin Howe

Weeks	Teacher Tasks	Materials	Teaching Strategies	Learning Activities
<p>Week 1 Objective:</p> <ul style="list-style-type: none"> • Students will be able to demonstrate the movement of tectonic plates <p>(Assess: observation/ rubric)</p>	<ul style="list-style-type: none"> -Prepare materials and provide directions -Show students simulation of continents colliding (video) -Show students simulation of earth's plates moving over the years (video) 	<ul style="list-style-type: none"> -Cut-up maps -Construction Paper -Glue -World map on wall -Graham crackers -Wax paper -Tape -Frosting -Spoon -Bowl of water -Journals 	<ul style="list-style-type: none"> - Provide instructions for students -Use probing and helping questioning strategies -Walk the room to provide assistance, but let students use discovery approach (student-led activity) 	<ul style="list-style-type: none"> -Fourth grade students will demonstrate what happens when two continents collide by making a model using graham crackers, wax paper, tape, frosting, spoon and a bowl of water. -Fifth grade students will demonstrate how the earth's plates have moved using cut-up maps and construction paper.
<p>Week 2 Objective:</p> <ul style="list-style-type: none"> • Students will be able to construct a simple circuit. <p>(Assess: observation/ rubric)</p>	<ul style="list-style-type: none"> -Prepare materials and provide directions 	<p>For each group of 3 students:</p> <ul style="list-style-type: none"> -One C cell battery -2 copper wires -1 battery holder -2 brass battery clips -1 small flashlight bulb and socket -Computer for each student with Internet access -LCD projector 	<ul style="list-style-type: none"> - Provide instructions for students -Use probing and helping questioning strategies -Walk the room to provide assistance, but let students use discovery approach (student-led activity) -Use LCD projector to show students how to click and drag various items to the circuit board 	<ul style="list-style-type: none"> -Fourth grade students will construct a simple circuit using circuit materials listed to the left. -Fifth grade students will construct a simple circuit using the interactive website, <i>Ohm Zone</i> http://www.article19.com/shockwave/oz.htm.
<p>Week 3 Objective:</p> <ul style="list-style-type: none"> • Students will be able to record data accurately when given the appropriate format (ex: table, chart, graph) 	<ul style="list-style-type: none"> -Prepare materials and provide directions- 	<ul style="list-style-type: none"> -Thermometers -Data Sheets -Seeds -Paper Towel -Plastic Ziploc bags -Water -Graph paper 	<ul style="list-style-type: none"> - Provide instructions for students in using the scientific method -Discuss correctly measuring temperature with students -Discuss plotting growth on a graph -Walk around checking each students temperature measurement/ drawings for first few days -Check observations sheets daily and provide feedback 	<ul style="list-style-type: none"> -Fourth grade students will observe, measure and record data on air temperature over a period of one week. -Fifth grade students will make detailed drawings and measurements of germinating seeds and they will plot the growth rate on a graph.

<p>Week 4 Objective:</p> <ul style="list-style-type: none"> • Students will be able to explain scientific concepts and principles using models, words and/or pictures. 	<ul style="list-style-type: none"> -Prepare materials and provide directions -Preview videos/ photographs 	<ul style="list-style-type: none"> -Journals -Photographs of the earth and moon from space -Small styrofoam balls for each pair of students (size of tennis ball) -sharp pencil for each pair -Markers -Flashlight for each pair of students 	<ul style="list-style-type: none"> -Show students photographs of the earth and moon from space and videos of earth's rotation -Demonstrate earth's rotation using a globe and a bright light. -Provide instructions for students 	<ul style="list-style-type: none"> -Fourth grade students will describe the appearance of the Earth and moon in terms of shape and physical appearance as viewed from space. -Fifth grade students will use a model of earth to demonstrate that the Earth rotates on its axis once every 24 hours to make day and night.
<p>Week 5 Objective:</p> <ul style="list-style-type: none"> • Students will be able to plan and conduct simple experiments. 	<ul style="list-style-type: none"> -Prepare materials and provide directions 	<ul style="list-style-type: none"> -Plants -Measuring cups - Vinegar -Fertilizer -Tin Foil -Vaseline -Seeds -Soil -Chart paper -Markers 	<ul style="list-style-type: none"> -Provide instructions for experiments/ review using the scientific method -Discuss various options for investigations and instruct students to only change one variable -Monitor students as they work at science stations & provide feedback 	<ul style="list-style-type: none"> -Fourth grade students will plan and carry out an investigation on plants and prepare a written conclusion. -Fifth grade students will design an investigation, construct a chart, and collect data depicting the life cycles of a plant.
<p>Week 6 Objective:</p> <ul style="list-style-type: none"> • Students will be able to solve problems by applying science principles and procedures. 	<ul style="list-style-type: none"> -Prepare materials and provide directions 	<ul style="list-style-type: none"> -Various types of rocks -Data sheets -Journals -Magnifying glass -Test Tubes of same size -Water -Observation sheets -Bowl of vinegar -Paper towels 	<ul style="list-style-type: none"> -Provide instructions for experiments/ review using the scientific method -Walk the room to provide assistance, but let students use discovery approach (student-led activity) 	<ul style="list-style-type: none"> -Fourth grade students will sort rocks by appearance according to three basic types: sedimentary, igneous and metamorphic. -Fifth grade students will explain the relationship between the length of an air column to the pitch of the sound produced.

<p>Week 7 Objective:</p> <ul style="list-style-type: none"> • Students will be able to draw and label parts of a cell. 	<ul style="list-style-type: none"> -Prepare materials and provide directions -Preview videos/ photographs 	<ul style="list-style-type: none"> -Ziploc bag -Salt -Water -Floating object -Gelatin -Pasta shapes 	<ul style="list-style-type: none"> -Provide photographs of cells and parts, books, Internet -Show video about cells and parts -Provide instructions for experiments -Walk the room to provide assistance, but let students use discovery approach (student-led activity) 	<ul style="list-style-type: none"> -Fourth grade students will build and label simple three-dimensional models of typical cells (nucleus, cell wall). -Fifth grade students will build more complex three-dimensional models of typical cells and label the parts.
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