

How to Use the Oregon 4-H STEM Activity Template

Skill Level: Choose either or both as appropriate to the activity: Elementary (age 6–11), Middle School (age 12–14)

NGSS

All of the Science and Engineering Practices and the Crosscutting Concepts are listed on the chart below in their columns. On the activity sheet list ONLY those practices and concepts which the youth will actually experience in the activity. If only using science practices edit the text in the purple box to read “Science Practices.” If only using engineering practices edit the text in the purple box to read “Engineering Practices.” For help aligning your lesson use tools on the web site <http://www.nextgenscience.org/>.

Science and Engineering Practices	Disciplinary Core Ideas**	Crosscutting Concepts
<ol style="list-style-type: none"> 1. Asking questions (for science) & Defining problems (for engineering) 2. Developing and using models 3. Planning and carrying out investigations 4. Analyzing and interpreting data 5. Using mathematics and computational thinking 6. Constructing explanations (for science) and designing solutions (for engineering) 7. Engaging in argument from evidence 	<p>Example Only**:</p> <p>PS1: Matter and its interactions</p> <p>PS2: Motion and stability: Forces and interactions</p> <p>LS1: From molecules to organisms: Structures and processes</p>	<ol style="list-style-type: none"> 1. Patterns 2. Cause and effect: Mechanism and explanation 3. Scale, proportion, and quantity 4. Systems and system models 5. Energy and matter: Flows, cycles, and conservation 6. Structure and function 7. Stability and change

**To determine which Disciplinary Core Ideas the activity is aligned with go to this link: <http://www.nap.edu/read/18290/chapter/11>.

Objective

In this activity, students will.....

About the Scientist (if appropriate)- provide interesting information about the type of scientist who would use the information in the lesson and/or these science and/or engineering practices in their everyday work

The Science of _____

Provide useful and interesting information about the topic. Provide and define science vocabulary. Use italics for the key vocabulary words.

Safety Information –For any materials used in the activity that may be any kind of hazard list the material and direct activity users to download the applicable Materials Safety Data Sheet at this link <http://www.msds.com/>