

# Activity Rubric

**Explore:** How can you classify seeds?

Scoring Criteria	1	2	3	4
Student <b>observed</b> the seeds.				
Student analyzed the seeds to determine their properties.				
Student followed instructions to sort seeds into two groups at each step using the property listed.				
Student listed the properties used to <b>classify</b> the seeds.				
Student identified each seed.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance

# Activity Rubric

**Investigate:** What are some characteristics of yeast?

Scoring Criteria	1	2	3	4
Student followed instructions to prepare the watermelon slice and put it inside the bag.				
Student used a hand lens to <b>observe</b> the yeast every hour and <b>recorded data</b> in the chart.				
Student <b>observed</b> a tiny amount of the yeast with a microscope and drew observations.				
Student explained why yeast are not <b>classified</b> in the plant kingdom or the animal kingdom.				
Student made an <b>inference</b> about which bread is made with yeast added to its dough and explained the answer.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance

# Activity Rubric

**Explore:** What do yeast cells need to grow?

Scoring Criteria	1	2	3	4
Student followed instructions to put yeast, water, and sugar in the correct cups.				
Student stayed on task during the activity.				
Student <b>observed</b> each cup every 15 minutes.				
Student described what happened to the contents of each cup.				
Student made an <b>inference</b> about what materials yeast need to grow.				

## Scoring Key

**4 points**

correct, complete, detailed

**3 points**

partially correct, complete, detailed

**2 points**

partially correct, partially complete, lacks some detail

**1 point**

incorrect or incomplete, needs assistance

# Activity Rubric

**Investigate:** How can you make a model arm?

Scoring Criteria	1	2	3	4
Student followed the diagram on the Model Arm Pattern to make a model arm.				
Student moved the model arm by pulling each string.				
Student <b>observed</b> the movements of the model arm.				
Student recorded <b>observations</b> in a chart.				
Student <b>communicated</b> how the model is like a real arm and how it is different.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance

# Activity Rubric

**Explore:** How can you observe your pulse?

Scoring Criteria	1	2	3	4
Student followed instructions to prepare the straw.				
Student followed instructions to place the bottom of the clay on his or her wrist.				
Student <b>observed</b> the movements of the straw.				
Student described the movements of the straw.				
Student <b>inferred</b> what caused the straw to move.				

## Scoring Key

**4 points**

correct, complete, detailed

**3 points**

partially correct, complete, detailed

**2 points**

partially correct, partially complete, lacks some detail

**1 point**

incorrect or incomplete, needs assistance

# Activity Rubric

**Investigate:** What is your lung capacity?

Scoring Criteria	1	2	3	4
Student followed instructions to put bubble solution on a trash bag.				
Student blew into the straw and <b>observed</b> the formation of a bubble.				
Student <b>measured</b> the ring left behind and used the chart to <b>estimate</b> the air exhaled.				
Student recorded the diameter of the ring and lung capacity of each student in the group.				
Student made an <b>inference</b> about why there are differences in the diameters of the rings for different students.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance

# Activity Rubric

**Explore:** What color can come from leaves?

Scoring Criteria	1	2	3	4
Student followed instructions to prepare the cup.				
Student <b>predicted</b> the color that would come from the leaves.				
Student <b>observed</b> the strip after 15 minutes.				
Student explained the reasons for the <b>prediction</b> .				
Student determined whether the <b>prediction</b> was accurate.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance

# Activity Rubric

**Investigate:** Does the direction seeds are planted affect the direction roots grow?

Scoring Criteria	1	2	3	4
Student followed instructions to prepare a cup with seeds in the correct positions.				
Student <b>observed</b> the seeds daily for a week.				
Student drew and described the growth of the roots in the chart.				
Student reported the direction the roots grew.				
Student <b>interpreted data</b> to draw a conclusion about the effect of gravity on the growth of roots.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance



# Activity Rubric

**Explore:** How can you find out how many animals live in an area?

Scoring Criteria	1	2	3	4
Student followed instructions to scatter cereal and guess how many pieces there were.				
Student <b>estimated</b> the total number of pieces of cereal.				
Student counted all of the pieces of cereal on the checkerboard.				
Student concluded which was the easiest method and the most accurate method of finding how many animals live in an area.				
Student drew conclusions about how to make the <b>estimate</b> more accurate.				

## Scoring Key

**4 points**

correct, complete, detailed

**3 points**

partially correct, complete, detailed

**2 points**

partially correct, partially complete, lacks some detail

**1 point**

incorrect or incomplete, needs assistance

# Activity Rubric

**Investigate:** How can you show that plants use carbon dioxide?

Scoring Criteria	1	2	3	4
Student followed instructions to <b>investigate</b> whether plants use carbon dioxide.				
Student breathed out gently through the straw and <b>observed</b> the water change color.				
Student added elodea to the cup and <b>observed</b> the water change color.				
Student <b>recorded data</b> about the changes.				
Student drew conclusions about what caused the color changes.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance

# Activity Rubric

**Explore:** How can pollution affect a habitat?

Scoring Criteria	1	2	3	4
Student followed instructions to pour water and vinegar into the cups and add yeast.				
Student <b>observed</b> what happened to the yeast every 5 minutes for 15 minutes.				
Student described what happened to the yeast in each cup.				
Student made an <b>inference</b> about which cup represented polluted habitat.				
Student explained the basis for the <b>inference</b> .				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance

# Activity Rubric

**Investigate:** What happens when a wetland ecosystem changes?

Scoring Criteria	1	2	3	4
Student followed instructions to make a wetland.				
Student stayed on task during the activity.				
Student <b>predicted</b> how the wetland would change and recorded the <b>predictions</b> in the chart.				
Student <b>observed</b> the wetland every two days and recorded the <b>observations</b> in the chart.				
Student compared the changes <b>observed</b> to the <b>predictions</b> .				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
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# Activity Rubric

**Experiment:** How does salt affect the hatching of brine shrimp?

Scoring Criteria	1	2	3	4
Student stated a <b>hypothesis</b> about how the amount of salt affects how many eggs hatch.				
Student followed instructions to test the <b>hypothesis</b> .				
Student <b>observed</b> the results and <b>collected data</b> in a chart.				
Student <b>interpreted the data</b> by ranking the level of salt based on the number of moving shrimp.				
Student <b>communicated</b> a conclusion.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
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# Activity Rubric

**Explore:** How can you make layers of water float on each other?

Scoring Criteria	1	2	3	4
Student followed instructions to add the materials to the cups.				
Student gently added drops of blue water and red water to the first cup.				
Student <b>observed</b> that the layers of water floated on each other.				
Student <b>made an inference</b> about the weights of equal volumes of the water from each layer.				
Student explained how the procedure could be changed to test only 1 variable.				

## Scoring Key

- 4 points** correct, complete, detailed
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- 2 points** partially correct, partially complete, lacks some detail
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# Activity Rubric

## Investigate: What is a cloud?

Scoring Criteria	1	2	3	4
Student followed instructions to <b>make a model</b> to represent cloud formation.				
Student <b>observed</b> the bowls for 1 minute and recorded the observations in the chart.				
Student <b>observed</b> the bowls after 5 and 10 minutes and recorded the observations.				
Student made an <b>inference</b> about the amount of moisture in the air from which clouds form.				
Student used the <b>models</b> to describe some of the conditions necessary for clouds to form.				

### Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
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# Activity Rubric

**Explore:** How does pressure affect an object?

Scoring Criteria	1	2	3	4
Student followed instructions to prepare a marshmallow and put it inside a jar sealed with clay.				
Student followed instructions to change the air pressure by sucking and then blowing.				
Student <b>observed</b> the marshmallow for changes in size.				
Student described how the marshmallow changed when the pressure was increased and decreased.				
Student made an <b>inference</b> about why the size changed when the pressure increased.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance



# Activity Rubric

**Investigate:** How does a thermometer work?

Scoring Criteria	1	2	3	4
Student followed instructions to make a thermometer.				
Student <b>observed</b> the movement of the liquid in the thermometer.				
Student recorded a <b>prediction</b> and <b>observations</b> in the chart.				
Student described the evidence used to help make the <b>prediction</b> .				
Student explained how the student thinks the thermometer works.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance

# Activity Rubric

**Explore:** How can you make a model of the material found deep in the Earth?

Scoring Criteria	1	2	3	4
Student followed instructions to combine cornstarch and water in a cup.				
Student poured the mixture into the student's hands.				
Student told whether the mixture in the student's hand had the properties of a liquid or a solid.				
Student <b>observed</b> how the mixture's properties change when it is squeezed.				
Student <b>communicated</b> reasons for why the mixture acts like both a liquid and a solid.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
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# Activity Rubric

**Investigate:** What buildings are less damaged by an earthquake?

Scoring Criteria	1	2	3	4
Student asked questions about what helps a building survive an earthquake.				
Student designed and built 4 different <b>models</b> of buildings, tested the buildings, and recorded the results.				
Student described the test of the buildings and explained why the test was repeated.				
Student described limits on what could be built.				
Student interpreted data to determine what features might help a building to survive an earthquake. Student discussed the student's ideas with others.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance

# Activity Rubric

**Explore:** How does oil rise through the Earth?

Scoring Criteria	1	2	3	4
Student followed instructions to put the sponge in the cup of oil and squeeze the sponge.				
Student followed instructions to place the sponge in the cup with warm water.				
Student waited 5 minutes and examined the sponge for droplets of oil and for an oily smell and feel.				
Student explained how the oil got to the surface in the <b>model</b> .				
Student made an <b>inference</b> about how people get oil that is trapped in different places deep underground.				

## Scoring Key

- 4 points** correct, complete, detailed
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- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance

# Activity Rubric

## Investigate: How can paper be recycled?

Scoring Criteria	1	2	3	4
Student followed instructions to prepare the newspaper and leave it in the bowl of water for 1 hour.				
Student followed instructions to make paper mush and spread it on the screen to make recycled paper.				
Student <b>collected data</b> about and compared the properties of the newspaper and the recycled paper.				
Student <b>interpreted data</b> to describe how the two kinds of paper were alike and different.				
Student named the natural resource conserved by recycling paper.				

### Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance

# Activity Rubric

**Experiment:** How does temperature affect the growth of crystals?

Scoring Criteria	1	2	3	4
Student stated a <b>hypothesis</b> about how the temperature at which crystals form affects their size.				
Student followed instructions to test the <b>hypothesis</b> and <b>observed</b> the results.				
Student <b>collected data</b> about the size and appearance of the crystals in a chart.				
Student compared the size of the crystals formed at the two different temperatures.				
Student <b>communicated</b> a conclusion.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance

# Activity Rubric

**Explore:** What is one way you can determine density?

Scoring Criteria	1	2	3	4
Student followed instructions to find the volume, mass, and density of a wooden block.				
Student followed instructions to find the volume, mass, and density of $\frac{1}{4}$ stick of clay.				
Student followed instructions to find the volume, mass, and density of $\frac{1}{2}$ stick of clay.				
Student followed instructions to find the volume, mass, and density of a gram cube.				
Student <b>communicated</b> how to find the density of an object.				

## Scoring Key

**4 points**

correct, complete, detailed

**3 points**

partially correct, complete, detailed

**2 points**

partially correct, partially complete, lacks some detail

**1 point**

incorrect or incomplete, needs assistance

# Activity Rubric

**Investigate:** What boat design will carry the most cargo?

Scoring Criteria	1	2	3	4
Student followed instructions to construct a <b>model</b> boat.				
Student tested the boat design by determining how many pennies it would hold.				
Student <b>recorded data</b> in the chart.				
Student sketched the boat design and explained why it sank.				
Student evaluated the design and determined the boat properties that supported the most cargo.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance



# Activity Rubric

**Explore:** What can happen during a chemical change?

Scoring Criteria	1	2	3	4
Student followed instructions to prepare the cups.				
Student <b>measured</b> the temperature of the water in cup A before and after adding the tablets.				
Student <b>measured</b> the temperature of the water in cup B before and after adding the chemicals.				
Student recorded the measurements in the chart.				
Student <b>inferred</b> in which reaction energy was lost.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance

# Activity Rubric

**Investigate:** How does temperature affect reaction rate?

Scoring Criteria	1	2	3	4
Student followed instructions to add Alka-Seltzer® tablets to water of different temperatures.				
Student <b>measured</b> the number of seconds required to complete the chemical reaction.				
Student recorded data in the chart.				
Student thought of a way to show the different times required to complete the chemical reaction.				
Student <b>inferred</b> how temperature affects the rate of a chemical reaction.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance

# Activity Rubric

**Explore:** How can you learn about the motion of a pendulum?

Scoring Criteria	1	2	3	4
Student followed instructions to make and <b>observe</b> a pendulum.				
Student timed 5 short swings and <b>predicted</b> the time needed for a long swing.				
Student compared the <b>prediction</b> to the results.				
Student made an <b>inference</b> about how the distance a pendulum swings affects the time a swing takes.				
Student <b>predicted</b> how shortening the string would affect the time a swing takes. Students explained the reasoning that led to the prediction.				

## Scoring Key

**4 points**

correct, complete, detailed

**3 points**

partially correct, complete, detailed

**2 points**

partially correct, partially complete, lacks some detail

**1 point**

incorrect or incomplete, needs assistance

# Activity Rubric

**Investigate:** How can you describe motion?

Scoring Criteria	1	2	3	4
Student followed instructions to construct a Starting Line and an Ending Line.				
Student followed instructions to roll the ball and <b>observe</b> its motion.				
Student constructed a chart to <b>record data</b> and a graph to <b>interpret data</b> .				
Student used <b>measurements</b> to calculate the ball's speed.				
Student made an <b>inference</b> about whether the ball moved at a steady speed. Student explained the reasoning that led to the inference.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance

# Activity Rubric

**Explore:** How can energy change its form?

Scoring Criteria	1	2	3	4
Student followed instructions to fill a jar $\frac{1}{2}$ full with sand.				
Student put a thermometer in the jar and recorded the temperature after 1 minute.				
Student shook the jar as hard as possible for 10 minutes.				
Student <b>measured</b> the temperature of the sand again and recorded it.				
Student made <b>inferences</b> about whether thermal energy was produced and what the source was.				

## Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance

# Activity Rubric

## Investigate: How does light move?

Scoring Criteria	1	2	3	4
Student followed instructions to set up the cup and <b>observed</b> the light from above.				
Student <b>collected data</b> by graphically showing the processes observed.				
Student described what happens to the light that shines on the foil.				
Student <b>interpreted data</b> to explain what happens to the light when it moves from air to water.				
Student explained how the different processes affected the color of the light.				

### Scoring Key

- 4 points** correct, complete, detailed
- 3 points** partially correct, complete, detailed
- 2 points** partially correct, partially complete, lacks some detail
- 1 point** incorrect or incomplete, needs assistance