**Ecosystems**

How can you compare the characteristics of several common ecosystems?

What is the relationship between producers, consumers, or decomposers? How can you classify organisms according to these categories?

How are all the organisms in an ecosystem interconnected?

**Force and Motion**

How does gravity affect the motion of all objects?

What is the effect of forces rubbing against each other?

How does a change in mass affect the motion of objects?

How can we model the relationship of position, motion, direction and speed?

**Human Body/Genetics**

How would you analyze the ways simple and complex cells sustain (keep) life?

What are the major systems of the human body and what are their purposes? How are the parts of the human body systems interdependent?

How can you prove that offspring differ from or are similar to their parents?

In what ways can you classify (group) similar traits of parents and offspring as inherited or not inherited?

**Weather**

In what ways do tools aid in comparing changes in weather?

Can you design a way to evaluate data to predict changes in weather?

How can you analyze global weather patterns and their influence on local weather?

**Matter**

Can you create a way to show the water cycle?

What is the relationship between the weight of objects and the sum of their parts?

How can we describe the changes

that take place in matter?

**Energy**

What are the effects of combining warmer objects and cooler objects?

How can you describe conduction?

How is convection at work in the world around you?

How would you explain processes of radiation?

What are the ways that heating and cooling change the properties of materials?