Newburyport Public Schools
The Port Where Tradition and Innovation Converge

Newburyport Science Curriculum Framework Guide -Grade 4

Focus Areas
In Grade 4 the focus on student learning in Science is on the following areas:
1. Earth's Place in the Universe
2. Earth's Systems
3. Earth and Human Activity
4. Engineering Design
5. From Molecules to Organisms: Structures and Processes
6. Waves and their Applications in Technologies for Information Transfer

Guiding Principles for Grade 4 Science

Earth and Space Science

•Explaining that erosion and deposition over time result in rock and landscape formations

•Collecting data showing that Earth's matter is broken down and moved •Interpreting maps to describe patterns of land formations, volcanoes, and earthquakes

•Obtaining information about human use of renewable and nonrenewable energy resources

•Evaluating a design solution to reduce impact of natural disasters

Life Science

•Constructing an argument that plants and animals have structures that support key life functions

Physical Science

•Explaining the relationship of an object's speed to its energy

•Observing energy transfer

•Predicting changes in energy when objects collide

• Testing and refining a device that converts motion into electrical, light, or sound energy

•Using a model to show wave patterns

•Describing how the reflection of light allows objects to be seen

•Comparing ways to send information through a coded pattern

Technology/Engineering

•Planning and carrying out tests to a model or prototype

•Evaluating design features when developing a model for a problem

•Recognizing that technology is any modification to fulfill a need or want

Science and Engineering Practices:

1. Ask Questions and Define Problems

2. Develop and Use Models

3. Plan and Carry Out Investigations

4. Analyze and Interpret Data 5. Use Mathematical and Computational Thinking

6. Construct Explanations and Design Solutions

7. Engage in Argument from Evidence

8. Obtain, Evaluate, and Communicate Information