

## **3<sup>rd</sup> Grade Earth's Changes Unit**

### **Benchmarks**

#### **Chapter 1: The Nature of Science**

##### **The Scientific World View**

1A(3-5)#1: Results of similar scientific investigations seldom turn out exactly the same. Sometimes this is because of unexpected differences in the things being investigated, sometimes because of unrealized differences in the methods used or in the circumstances in which the investigation is carried out, and sometimes just because of uncertainties in observations. It is not always easy to tell which.

##### **Scientific Inquiry**

1B(3-5)#2: Results of similar scientific investigations are seldom exactly the same, but if the differences are large, it is important to try to figure out why. One reason for following directions carefully and for keeping records of one's work is to provide information on what might have caused the differences.

1B(3-5)#4: Scientists do not pay much attention to claims about how something they know about works unless the claims are backed up with evidence that can be confirmed and with a logical argument.

##### **The Scientific Enterprise**

1C(3-5)#1: Science is an adventure that people everywhere can take part in, as they have for many centuries.

1C(3-5)#2: Clear communication is an essential part of doing science. It enables scientists to inform others about their work, expose their ideas to criticism by other scientists, and stay informed about scientific discoveries around the world.

1C(3-5)#3: Doing science involves many different kinds of work and engages men and women of all ages and backgrounds.

## **Chapter 3: The Nature of Technology**

### **Technology and Science**

3A(3-5)#3: Measuring instruments can be used to gather accurate information for making scientific comparisons of objects and events and for designing and constructing things that will work properly.

3A(3-5)#4: Technology extends the ability of people to change the world: to cut, shape or put together materials; to move things from one place to another; and to reach farther with their hands, voices, senses, and minds. The changes can be for survival needs such as food, shelter, and defense, for communication and transportation, or to gain knowledge and express ideas.

## **Chapter 4: The Physical Setting**

### **The Earth**

4B(3-5)#1: Things on or near the earth are pulled toward it by the earth's gravity.

### **Processes That Shape the Earth**

4C(3-5)#1: Waves, wind, water and ice shape and reshape the earth's land surface by eroding rock and soil in some areas and depositing them in other areas, sometimes in seasonal layers.

## **Chapter 11: Common Themes**

### **Models**

11B(3-5)#1: Seeing how a model works after changes are made to it may suggest how the real thing would work if the same were done to it.

## **Chapter 12: Habits of the Mind**

### **Values and Attitudes**

12A(3-5)#2: Offer reasons for their findings and consider reasons suggested by others.

### **Manipulation and Observation**

12C(3-5)#3: Keep a notebook that describes observations made, carefully distinguishes actual observations from ideas and speculations about what was observed, and is understandable weeks or months later.

### **Communication Skills**

12D(3-5)#2: Make sketches to aid in [describing observations and] explaining procedures or ideas.

12D(3-5)#3: Use numerical data in describing and comparing objects and events.

### **Critical-Response Skills**

12E(3-5)#2: Recognize when comparisons might not be fair because some conditions are not kept the same.