

Earth Science

Baseline Cornerstone Assessment

The Cornerstone Assessments were developed with support through the VDOE Mathematics and Science Partnership Grant Program NCLB Title II, Part B program by high school teachers as a part of the Old Dominion University Learning Enhanced through the Nature of Science (LENS) project.

2012 – 2013

This assessment consists of two parts.

DIRECTIONS to provide to read to students:

Today you will be taking the Earth Science Cornerstone Assessment to find out your skills in scientific investigation, data analysis and interpretation, and scientific reasoning. Read each question carefully and provide your *best* answer or response.

Record your answers directly on the spaces provided in the assessment. Be sure your work and responses are legible.

Name _____

Earth Science Baseline Cornerstone Assessment: Part A. Scientific Investigation

Directions: Read the paragraph below and then respond to the questions.

Sam spent the summer as a lifeguard at the beach and observed that the sand was hotter than the water. He wondered how the absorption of heat was affected by different types of materials. He decided to perform an experiment for the science fair. Sam decides to test water, sand and potting soil.

1a. What is the **independent variable**? _____

1b. Why did you choose this answer?

2a. What is the **dependent variable**? _____

2b. Why did you choose this answer?

Design a science experiment to determine which material gets the hottest throughout a 30 minute time period. You may use some or all of the following:

- Sand
- Potting Soil
- Water
- Heat lamp
- Timer
- Q-tips
- Ruler
- stirring rod
- thermometers
- balance
- paper and pencil to record data
- Pyrex beakers
- Salt
- Balloons

3a. What is your **hypothesis**?

