

## **“Bess Beetles” Part 1**

### **Teacher’s Guide**

*Part 1 of “Bess Beetles” focuses on inquiry. Part 2 focuses on life science concepts. The assessment can be given independently, or in conjunction with the STC Organisms unit. Bess Beetles can be purchased from Carolina Biological or some other small animal could be substituted.*

**Materials for each child:** White tray, Bess Beetle, ruler, magnifying glass, recording sheet, & pencil

**Recommendations:** This assessment works best when given in a small group consisting of four or five children. Appropriate accommodations should be made for children who have difficulty writing.

**Set-Up:** Put one Bess Beetle in each tray and stack the white trays on top of one another. Place an empty tray on the top. This will allow the teacher to read the scenario, yet still have quick access to the Bess Beetles. Once children have the Bess Beetles, it is harder to get their attention. The rest of the materials should be close by.

**Teacher Directions:** Give each child a copy of the Bess Beetle/Alaska assessment. Read the scenario about children in Alaska who are studying Bess Beetles. Check to make sure that students understand the task.

Pass out the Bess Beetles along with the rulers, pencils, and magnifying glasses. Allow children a couple of minutes to get acquainted with their Bess Beetle. Have children point to question number one and read the question with them. Encourage children to write down what they observe about the Bess Beetles rather than what they may have learned about Bess Beetles (Students may have learned that Bess Beetles do not have bones, but observed that they have a hard shell.) Children can write a list rather than a sentence for this first question. Continue reading questions on the assessment for children. Record any information that might be necessary for understanding children’s answers.

When children measure the Bess Beetles, they can decide whether to use centimeters or inches. Children should be encouraged to label their measurement appropriately.

The Bess Beetle drawing should be done with a pencil only. Encourage children to include as many details as possible.

### **Standards**

#### **VT Grade Level Expectations for Inquiry (grades 1 and 2)**

- Pose observational questions that compare things in terms of number, shape, texture, size, weight, color, motion, etc. (how fast does a Lady Beetle move compared to a Bess Beetle?)
- Describe observations using senses rather than feelings (the snail has a hard shell with wavy, brown lines, rather than the snail is awesome).
- Record observations of similarities and differences.
- Draw scientifically:
  - Record relative proportion (i.e.: eyes are approximately the right size when compared to the head), include focus on finer details, and differentiate all parts observed.
  - Label significant aspects of a scientific drawing or diagram with words provided.

#### **Grade Expectations:**

**S: 1 Scientific Inquiry –Questioning**

**S: 31 Life Science –Reproduction/Life Cycle**

**S: 34 Life Science Energy Flow**

### Score Guide:

1.) Look carefully at your Bess Beetle. Write down three things that you notice about your Bess Beetle.

**Key Elements:**

- Observations reflect using the senses rather than “feelings.”
- Response includes three observations.

2.) How long is your Bess Beetle?

**Key Elements:**

- Accurately measures length in centimeters or inches.

3.) Draw and label a picture of a Bess Beetle.

**Key Elements:**

- Records relative proportion (i.e.: eyes are approximately the right size when compared to the head), includes focus on finer details, and differentiates all parts observed,
- Labels significant aspects of a scientific drawing or diagram with words provided.

4.) What do you still wonder about Bess Beetles?

**Key Elements:**

- Response indicates a new question that could be explored regarding Bess Beetles.

### “Bess Beetles” Part 2

#### Teacher’s Guide

**Materials for each child:** Recording Sheet and pencil.

**Teacher Directions:** This assessment works well when given in small groups consisting of about five children. Read the questions along with your students. Teachers may prompt students with questions during this assessment. Some appropriate questions might be: *What do all animals need to live? What do all plants need to live? How does the Bess Beetle (plant) change over time? What will the Bess Beetle look like in one hundred years? Why do you think that? Did you include all of the things that plants and animals need to live and stay healthy?*

#### Standards

**VT Framework:**

7.13 a, b, c

*Developed at Barre Town Middle and Elementary School*

**NSES:**

Life Science (K-4) The Characteristics of Organisms LS 1.1, LS 1.2  
Life Cycles of Organisms LS 2.1

**Score Guide**

1 & 2. Write down everything that a Bess Beetle would need to live and be healthy on one side and everything a plant would need to live and be healthy on the other side. Anything that is the same about both of them, write in the middle.

**Key Elements:**

- Writes at least four of the basic survival needs of animals (water, air, food, space, and/or shelter).
- Writes at least three of the essential needs of plants (light, water, air, and/or nutrients from the soil).

3. Draw the life cycle of a seed in the cups below. Make sure that you draw all of the parts of the seed's life cycle.

- Demonstrates an understanding that plants and animals live, grow, and die. May include knowledge that plants reproduce.

4. I am like a Bess Beetle because I need:

5. I am not like a Bess Beetle because:

- Identifies at least one similarity and one difference between people and other animals.

6. I am like a bean seed because I need:

7. I am not like a bean seed because:

- Identifies at least one similarity and one difference between people and plants

8. Think about everything that you know about plants. What do you think happened to the plant in this picture?

- Identifies a cause and effect relationship between at least one need of the plant and the plant's ability to live.