Performance-Based Assessment

FORM A HYPOTHESIS

1 Sample answer: A collection of buttons can be put into “classes” if we firstlook at the buttons carefully and then decide which characteristics somebuttons share and which characteristics make other buttons distinct.

ANALYZE THE RESULTS

1 Sample answer: I have three classes of buttons.
2 Sample answer: Class 1: Duodicus – buttons with two holes. Class 2:Quadrophenius – buttons with four holes. Class 3: Solidicus – buttons withno holes
3 Sample answer: No; all of my buttons fit into at least one of the classes.
4 Sample answer: I have four families of buttons.
5 Sample answer: Rojo – red buttons; Blanco – white buttons; Azul – bluebuttons; Anaranjado – orange buttons

DRAW CONCLUSIONS

6 The next classification level is called *genus*.
7 Sample answer: The next division could be decided by button size or thickness.

Shape Island

Students’ answers may vary, but students should demonstrate an understanding of the key provided. Each name should consist of two words. The first describes the organism generally, and the second describes it more specifically. Sample answer: 1. *Cycloplast quadantennae;* 2.*Cycloplast biantennae;* 3.*Quadankylosplast monoantenna;* 4.*Quadankylosplast bipod;* 5. *Triankylosplast triantennae;* 6. *Cycloplast stoma;* 7. *Triankylosplast stoma;* 8. *Quadankylosplast periantennae;* 9.*Cycloplast monopod;* 10.*Triankylosplast uromonopod;* 11. *Triankylos macroplast;* 12.*Quadankylos microplast;* 13. *Cycloplast uro*

ANALYZE RESULTS

1 1. no; Five species have round faces and lack noses.
2 Sample answer: All have geometric shapes and two eyes. All are the same color. All are animals. All are living organisms.

DRAW CONCLUSIONS

3 Answers may vary. Students should demonstrate an understanding of bino-mial nomenclature.

APPLYING YOUR DATA

Mertensia virginica, commonly known as the *Virginia bluebell*, is a plant. Other common names for this species include *Virginia-cowslip*, *Roanokebells*, *lungwort*, and oysterleaf. These wildflowers are found in April and May in shady areas, mostly in moist spots near streams. Flower buds are pink but turn blue when the flower is fully opened**.** This wildflower is very common in western Kentucky. *Porcellio scaber* is a species of wood louse. Common names for *Porcellio scaber* include *dooryard sowbug* and *common rough woodlouse*. Wood lice are crustaceans related to shrimps, crabs, and lobsters, and they belong to a class of arthropods called *Isopoda*.

Voyage of the USS Adventure

ANALYZE THE RESULTS

3. There are no right or wrong answers for this activity. The objective is to allow students an opportunity to recognize that organisms may be more alike than they are different. However, you should make sure that students provide good reasons why they grouped certain life-forms together. There are several ways in which these seven organisms are similar. For example, four of them are segmented and have no legs. Three of them are geometrically shaped, and three others have mouths. Have students examine them for less observable characteristics, such as what kind of body plan or symmetry they have, how they might obtain food, or whether they might be land dwelling or aquatic.

DRAW CONCLUSIONS

4 Answers will depend on how students grouped the life-forms in this lab, and which characteristics the students used to classify life-form CC9.

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APPLYING YOUR DATA

The Galápagos tortoise can have a shell length of 1.3 m, a mass of 180 kg, and live to be 150 years old.

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