Compare Engineering Solutions

Grade 3 Science Worksheet

Name _____ Date _____

Circle the answer.

1. A bridge redesign replaces flat paper beams with folded beams and holds twice as many washers. What does this show?

   the bridge became weaker

   folding the paper made the beams stronger

   the bridge needs more washers

   washer count does not show strength

2. Two students test the same parachute but drop it from different heights. Why are their results hard to compare?

   the drop heights were not the same

   parachutes fall the same from any height

   the students used the same conditions

   the parachutes were the same design

3. Two raft designs are tested in the same tub, with pennies added one at a time to each. Why is this a useful comparison?

   both rafts are tested the same way

   the rafts are tested on different days

   the rafts get different numbers of pennies

   the rafts are in different tubs

4. A cup holder keeps a cup upright on a flat table but not on a bumpy bus ride, which was the real goal. What does this show?

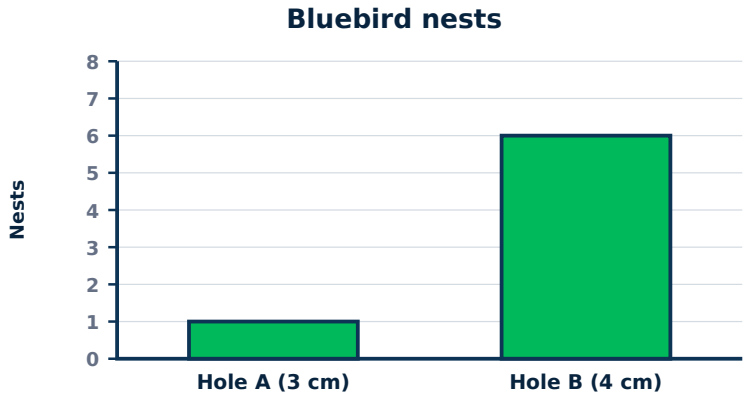
   the design does not yet meet the real goal

   the design is finished

   the cup holder needs fewer tests

   the flat-table test proves it works on a bus

5. Two birdhouses with different hole sizes were put outside for a season. Use the graph. Which hole size worked better for bluebirds?



both worked equally well Hole A (3 cm) neither hole was used Hole B (4 cm)

6. Design A meets 3 of 5 criteria and costs less. Design B meets all 5 criteria and costs more, but it is within the budget. Which should be chosen?

Design A Design B both designs equally neither design

7. After a redesign, a paper bridge holds the same number of washers as before. What does this suggest?

the change did not make the bridge stronger

washers cannot test strength

the change made the bridge much stronger

the change made the bridge weaker

8. Filter A cleans 1 liter of water in 10 minutes. Filter B cleans 1 liter in 4 minutes. Both make the water equally clear. Which better meets a goal of cleaning water quickly?

Filter B both are the same speed Filter A neither cleans water

9. Lunch is 4 hours after packing. Box A keeps milk cold for 6 hours. Box B keeps it cold for 3 hours. Which meets the need?

Box B only Box A only both boxes neither box

10. A tall tower tips over. A shorter tower stays standing. What tradeoff does this show?

height versus stability stability versus cost cost versus build time

height versus build time

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Answer Key - Grade 3 Science Worksheet

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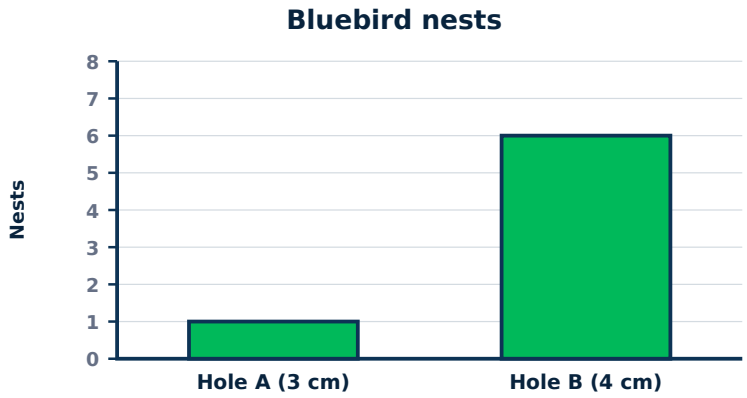
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