Compare Engineering Solutions

Grade 3 Science Worksheet

Name _____ Date _____

Circle the answer.

1. 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?

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

2. 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?

   both boxes Box A only Box B only neither box

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

   height versus build time height versus stability stability versus cost

   cost versus build time

4. Which data table would help compare parachute designs fairly?

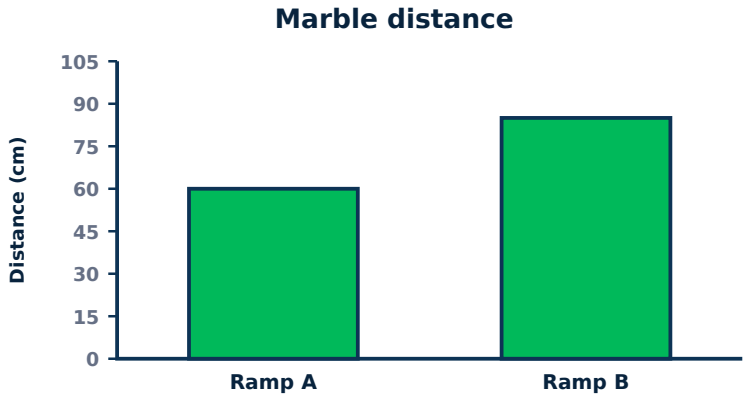
   fall time for each parachute from the same height

   fall time for each parachute from different heights

   the size of each parachute only

   how many students built each one

5. The goal is a ramp that rolls a marble at least 75 cm. Use the graph. Which ramp meets the goal?



   neither ramp Ramp A both ramps Ramp B

6. Design X uses expensive material and holds the most weight. Design Y uses cheap material, holds a little less, and still meets the goal. Which better balances cost and performance?

   Design X Design Y both are equally good neither should be used

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

- washer count does not show strength
- the bridge needs more washers
- folding the paper made the beams stronger
- the bridge became weaker

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

- the parachutes were the same design
- parachutes fall the same from any height
- the students used the same conditions
- the drop heights were not the same

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

- the rafts are in different tubs
- the rafts are tested on different days
- the rafts get different numbers of pennies
- both rafts are tested the same way

10. 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 is finished
- the cup holder needs fewer tests
- the design does not yet meet the real goal
- the flat-table test proves it works on a bus

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Answer Key - Grade 3 Science Worksheet

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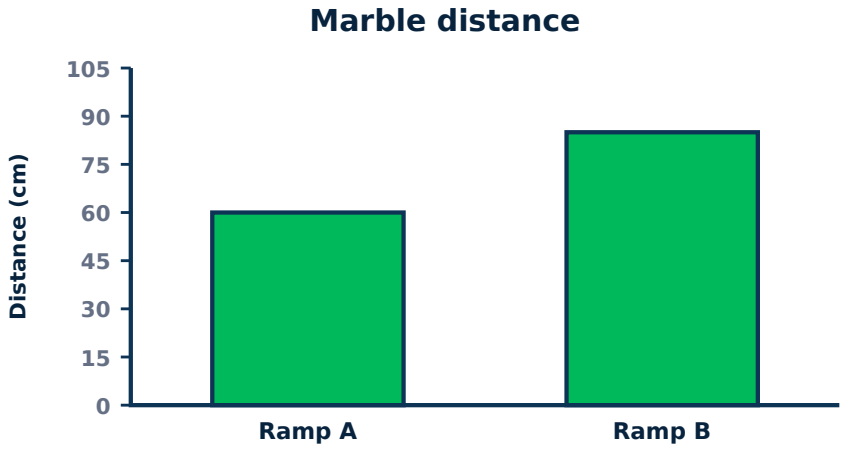
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