Compare Engineering Solutions

Grade 3 Science Worksheet

Name _____ Date _____

Circle the answer.

1. After a redesign, a paper bridge holds the same number of washers as before. What does this suggest?
   washers cannot test strength
   the change made the bridge much stronger
   the change did not make the bridge stronger
   the change made the bridge weaker

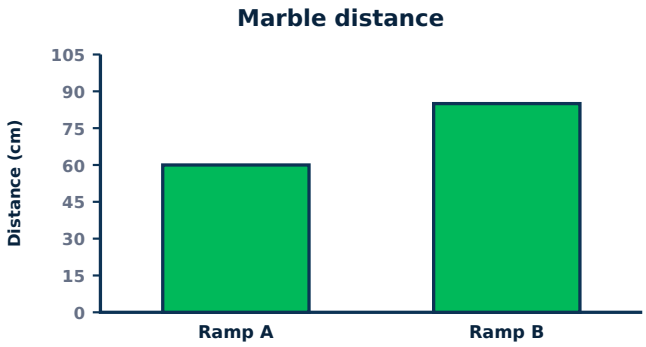
2. Filter A cleans 1 liter of water in 10 minutes. Filter B cleans 1 liter in 4 minutes. Both make the water equally clear. Which better meets a goal of cleaning water quickly?
   neither cleans water Filter A both are the same speed Filter B

3. 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 A only both boxes Box B only neither box

4. A tall tower tips over. A shorter tower stays standing. What tradeoff does this show?
   stability versus cost height versus build time height versus stability
   cost versus build time

5. Which data table would help compare parachute designs fairly?
   how many students built each one
   the size of each parachute only
   fall time for each parachute from the same height
   fall time for each parachute from different heights

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



   Ramp A neither ramp both ramps Ramp B

7. 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

8. 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
   washer count does not show strength
   the bridge needs more washers

9. 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
   the parachutes were the same design
   parachutes fall the same from any height
   the students used the same conditions

10. 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 in different tubs
   the rafts are tested on different days
   the rafts get different numbers of pennies

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Answer Key - Grade 3 Science Worksheet

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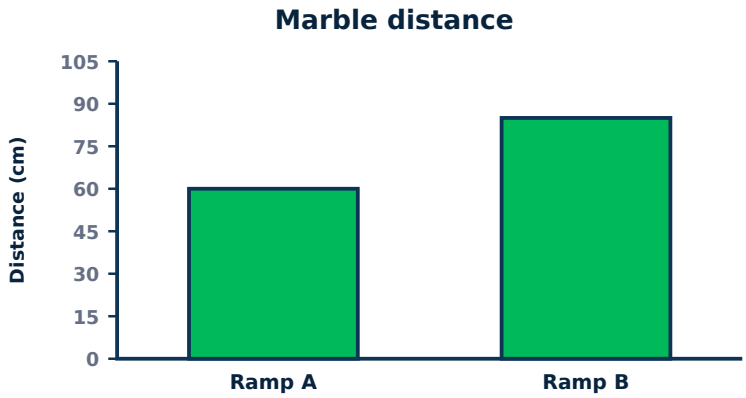
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