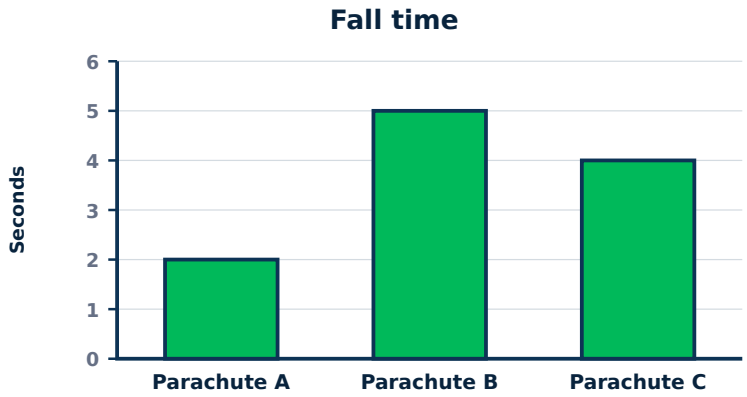
Compare Engineering Solutions

Grade 3 Science Worksheet - Challenge Me

Name _____ Date _____

Circle the answer.

1. The goal is a parachute that takes at least 4 seconds to fall. Use the graph. Which parachutes meet the goal?



all three B and C B only A and C

2. Design A held 10, 12 and 11 washers in three tests. Design B held 15, 4 and 14. The goal is a bridge that holds at least 10 washers every time. Which is better?

Design B, because its total is higher

Design B, because it held the most once

both, because each held 10 once

Design A, because every test met the goal

3. Slide A is faster, but children bump at the end. Slide B is slower, and children stop safely. If safety is the most important criterion, which is better?

Slide A Slide B neither slide both slides

4. Why might engineers combine the best parts of two designs?

to avoid testing either design

to use more materials than allowed

to make sure neither design is used

to make a new design that meets more criteria

5. A kite must stay up at least 5 minutes and cost less than $5. Kite A stayed up 6 minutes and costs $4. Kite B stayed up 7 minutes and costs $6. Which kites meet all the rules?

neither kite both kites Kite B only Kite A only

6. Which order shows how engineers usually compare and improve solutions?

build once, skip testing, keep the first design

compare to the goal, redesign, then test

redesign, test each design, then compare to the goal

test each design, compare results to the goal, redesign if needed

7. Design A meets every criterion but breaks the material limit. Design B meets the limit but misses one criterion. What should engineers do next?

choose A and ignore the limit

choose B and ignore the missing goal

build both again without changes

improve the designs so one meets both

8. A wind-powered car goes farther with bigger sails but tips over more easily. What tradeoff does this show?

sail size versus cost

speed versus distance

sail size versus stability

speed versus wheel size

9. Two solutions both meet the criteria and constraints. What is a reasonable next step before choosing one?

test both again to see which works more reliably

pick the one built first

assume they perform the same

choose one without more testing

10. A class has three ramp designs and time to test only two. Which two should they test first?

the two with the most parts

the two finished last

the two most likely to meet the distance goal

the two made of the same material

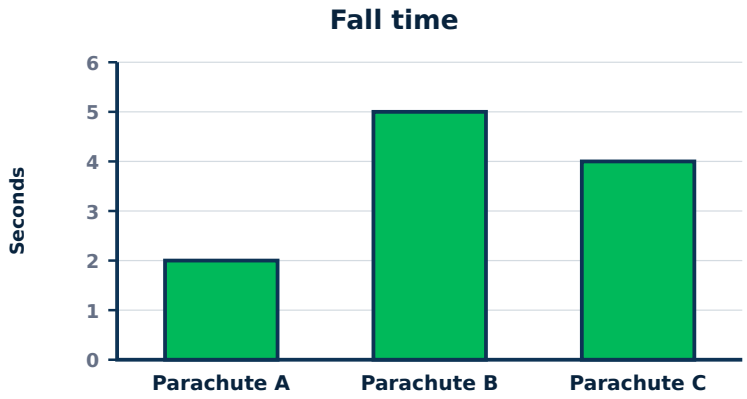
Scan to get this marked free. No screen time for your child.
Print it · do it in pencil · scan it · PencilGo picks the next sheet.

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Answer Key - Grade 3 Science Worksheet - Challenge Me

Circle the answer.

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