Define Engineering Problems

Grade 3 Science Worksheet - Building Confidence

Name _____ Date _____

Circle the answer.

1. Which sentence names an engineering problem?

   Students need a way to keep cups from tipping on desks.

   Cups come in many colors.

   Our classroom has twenty desks.

2. Students get too hot in the sun at recess. What problem should a design solve?

   giving students more swings

   keeping students cool at recess

   making recess longer

3. Which is a constraint for a classroom tower challenge?

   use only 20 straws stand at least 30 cm tall hold a small flag

4. Which is a criterion for a classroom tower challenge?

   use only 20 straws be built in 15 minutes stand at least 30 cm tall

5. A garden path floods after storms. Which need should the design address?

   make the path longer

   move extra water away from the path

   add more stones in the low spot

6. An umbrella stand must hold an umbrella upright without tipping. What need does it solve?

   keeping an umbrella dry inside

   making an umbrella open faster

   keeping an umbrella from falling over

7. A greenhouse must keep plants warmer than the outside air in winter. What problem does it solve?

making plants grow without soil

keeping plants from needing water

protecting plants from the cold

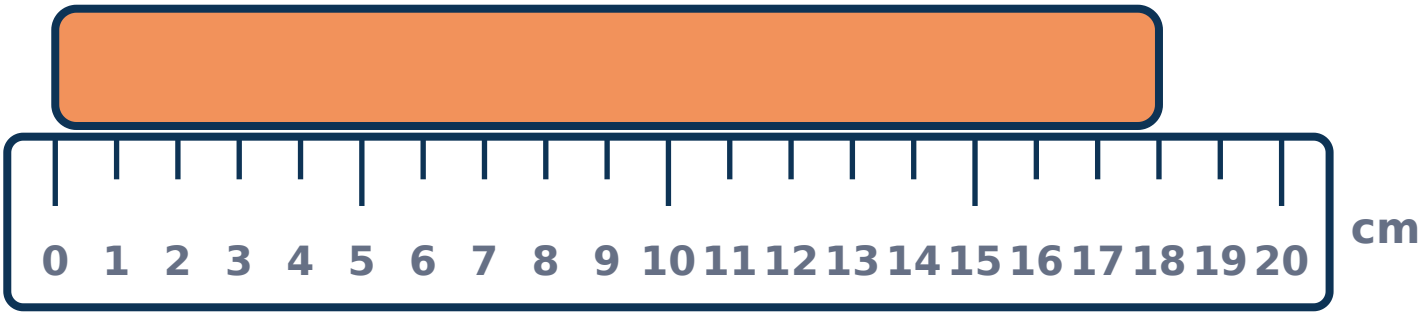
8. A backpack strap keeps hurting a student's shoulder. Which need should a new strap design address?

spread the weight so it does not hurt

make the zipper bigger

fit more books inside

9. A tower must be at least 15 cm tall. This tower measures 18 cm. Does it meet the goal?



no, it is shorter than 15 cm

no, it must be exactly 15 cm

yes, it is taller than 15 cm

10. A doghouse must keep rain out and fit in a small yard. It fits in the yard, but rain drips through gaps in its roof. Does it solve the problem?

no, because rain still gets in

yes, because it fits in the yard

yes, because it has a roof

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Answer Key - Grade 3 Science Worksheet - Building Confidence

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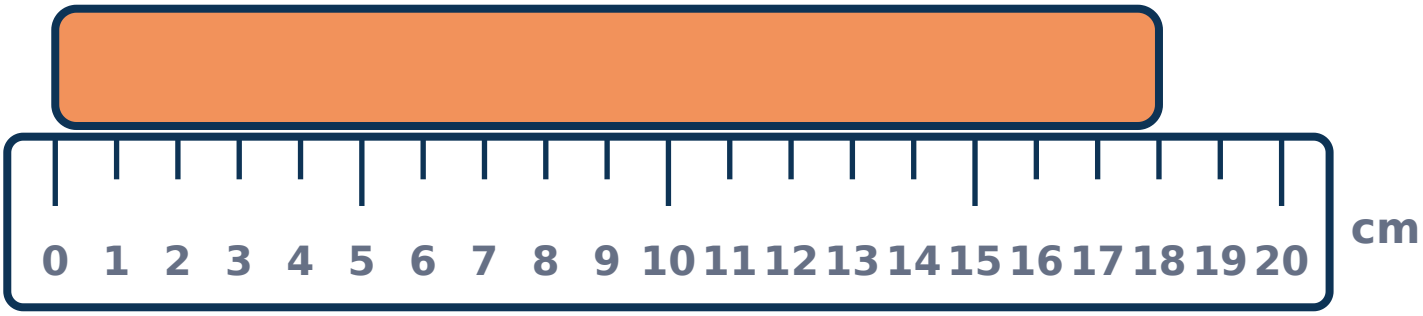
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