Define Engineering Problems

Grade 3 Science Worksheet - Building Confidence

Name _____ Date _____

Circle the answer.

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

   move extra water away from the path

   make the path longer

   add more stones in the low spot

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

   keeping an umbrella from falling over

   making an umbrella open faster

   keeping an umbrella dry inside

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

   protecting plants from the cold

   making plants grow without soil

   keeping plants from needing water

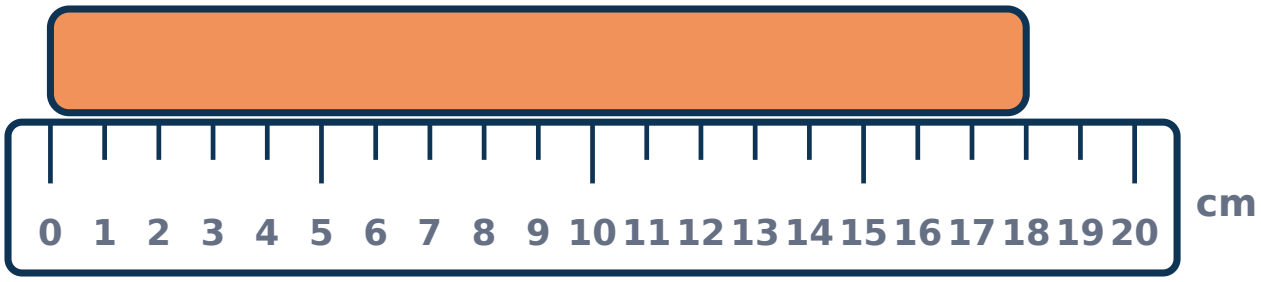
4. A backpack strap keeps hurting a student's shoulder. Which need should a new strap design address?

   fit more books inside

   spread the weight so it does not hurt

   make the zipper bigger

5. 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

6. 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?

   yes, because it fits in the yard

   yes, because it has a roof

   no, because rain still gets in

7. A bridge must hold 20 washers and use only paper and tape. What is the criterion, the goal it must meet?

   be built by Friday hold 20 washers use only paper and tape

8. A bridge must hold 20 washers and use only paper and tape. What is the constraint, the limit?

   stay flat when loaded use only paper and tape hold 20 washers

9. Which sentence names an engineering problem?

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

   Our classroom has twenty desks.

   Cups come in many colors.

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

    keeping students cool at recess

    giving students more swings

    making recess longer

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Answer Key - Grade 3 Science Worksheet - Building Confidence

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