Define Engineering Problems

Grade 3 Science Worksheet - Building Confidence

Name _____ Date _____

Circle the answer.

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

   keeping plants from needing water

   making plants grow without soil

   protecting plants from the cold

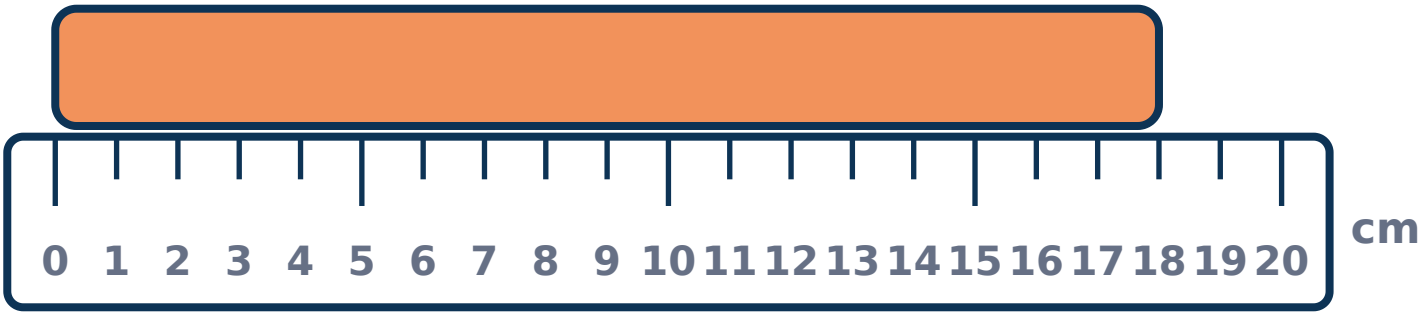
2. A backpack strap keeps hurting a student's shoulder. Which need should a new strap design address?

   spread the weight so it does not hurt

   fit more books inside

   make the zipper bigger

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



   yes, it is taller than 15 cm

   no, it is shorter than 15 cm

   no, it must be exactly 15 cm

4. 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 has a roof

   yes, because it fits in the yard

   no, because rain still gets in

5. 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 use only paper and tape hold 20 washers

6. 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

7. Which sentence names an engineering problem?

Our classroom has twenty desks.

Cups come in many colors.

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

8. 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

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

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

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

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

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Answer Key - Grade 3 Science Worksheet - Building Confidence

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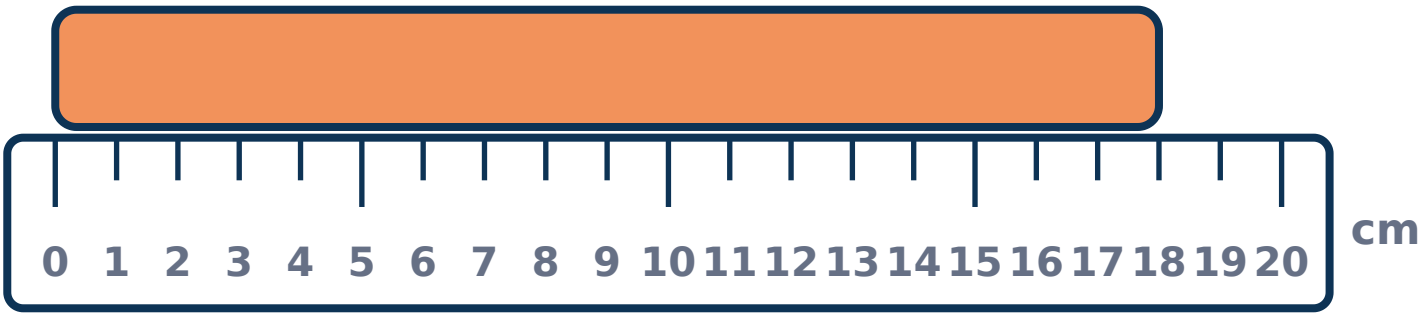
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