

Homework 31d Under pressure

1. Use the words in the HELP-BOX to copy and complete the paragraph below.

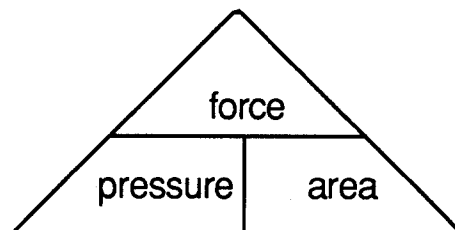
great	pressure
area	increases force

When a acts over an area it produces a pressure. If the force is concentrated on a small area the pressure is Increasing the force also the pressure. If you try to walk on deep snow you may sink in because your feet put a large on the snow. If you wear skis they spread your weight over a larger , so reducing the pressure on the snow and making it less likely you will sink.

2. Which would be best for crossing very muddy land - a tractor with narrow wheels or the same one fitted with wide wheels? Explain your answer and try to include the word **pressure**.

3. The equation for pressure is

$\text{pressure} = \frac{\text{force}}{\text{area}}$
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- (a) What is the pressure produced when a force of 15 N presses on an area of 5 m² ?
 - (b) A concrete block weighs 1000 N and it produces a pressure of 5 N/cm² under its base. Calculate the base area of the block.
4. Design a beach-chair suitable for use on soft sand. Sketch your design and point out its useful features.