3.15 Pressure

Name:........................................

1. Using the words **area** and **force**, complete the following formula for pressure.

   
   \[ \text{Pressure} = \frac{\text{force}}{\text{area}} \]

2. Pressure is a measure of how much force is acting over a certain area. It is measured in ____________.

3. Draw a diagram of the equipment that you would use to show how the pressure in a liquid changes with depth. Please label your diagram.

   ![Diagram](image)

4. Sandra is planning to walk across soft ground that is easy to sink in. Should she wear flat shoes or high heels?

   ______________________________________________________________

   Why?________________________________________________________

5. A box lies flat on the ground. The area touching the ground is 10 m\(^2\). If the box weighs 50 N, what is the pressure it puts on the ground? (Hint: remember that weight is a force.)

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6. A box lies flat on the ground. Each side has a length of 2 m. If the box weighs 56 N, what is the pressure it puts on the ground?

   ______________________________________________________________
7. If an object weighing 100 N exerts a pressure of 5 Pa on a table, what is the area of the side of the object facing the table?

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8. Outline from your own experience where you think pressure is important in everyday life.

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9. Predict what might happen to the air in your space shuttle if you were travelling in space and a tiny meteor cut a hole right through your shuttle.

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10. Using a diagram to show your idea, design an experiment to show how you could measure the effect of ball pressure on the height that it bounces.

(a) List what you need:

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(b) What measurements or calculations will you make?

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(c) How accurate do you think your method will be?

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