

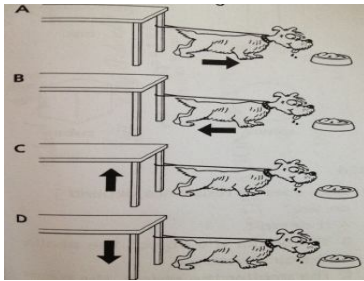
### Science Worksheet – Jr.IV

**Topic: Measuring forces, Investigating friction, Friction, Surfaces and friction, Focus on lubrication.**

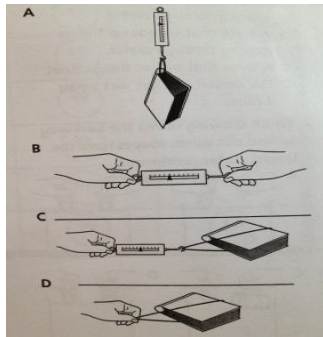
Q1) Fill in the blanks.

- Friction is a force between two \_\_\_\_\_.
- \_\_\_\_\_ is a force that slows things down.
- Forces are measured in units called \_\_\_\_\_.
- \_\_\_\_\_ surfaces have high friction.
- Lubricants like \_\_\_\_\_ help the parts inside engines to move easily.

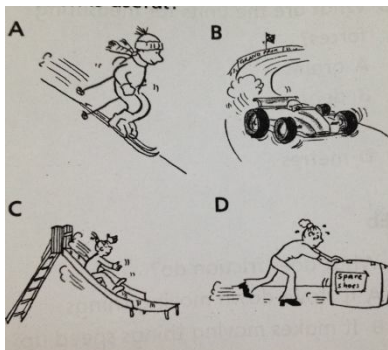
Q2) Which arrow shows the direction of the force from the dog?



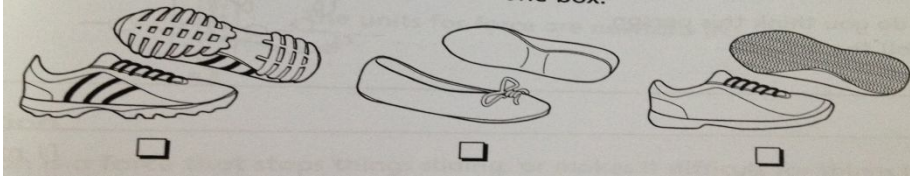
Q3) Which drawing shows a way of measuring friction?



Q4) Which picture shows where high friction is useful?



Q5a) Hema wants some new shoes for her dancing lessons. She needs to be able to spin around, so she wants shoes with low friction.



b) Why is this shoe the best one for Hema? \_\_\_\_\_

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Q6) Some children did an investigation into which surface makes it most difficult to get an object moving. They tried moving a pile of books along a carpet, a wooden table and a plastic .

Here are their results:  
 Carpet 9N  
 Wood 6N  
 Plastic 4N

a) Explain which surface created the greatest friction .

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Q7) Here are some surfaces. Put them into the correct columns below:

The rubber grip of a bike handlebar, a road surface, glass, Concrete, ice, a plastic table top, carpet, a shiny bathroom tile.

High friction	Low friction

Q8) On a windy day it is difficult to hold on to your umbrella. You are the force pulling down on it. What is the force which is trying to push it up called? \_\_\_\_\_.

Q9) Write 3 advantages and 3 disadvantages of friction.

Advantages	Disadvantages

