Grade 8 Force and Pressure Worksheets

A. Answer the following questions in short:

1. Give two examples each of situations in which you push or pull to change the state of motion of objects.
2. Give two examples of situations in which applied force causes a change in the shape of an object.
3. An archer stretches her bow while taking aim at the target. She then releases the arrow, which begins to move towards the target. Based on this information fill up the gaps in the following statements using the following terms:
muscular, contact, non-contact, gravity, friction, shape, attraction.
(a) To stretch the bow, the archer applies a force that causes a change in its …… .
(b) The force applied by the archer to stretch the bow is an example of …… force.
(c) The type of force responsible for a change in the state of motion of the arrow is an example of a …….. force.
(d) While the arrow moves towards its target, the forces acting on it are due to …… and that due to ……. of air.
4. In the following situations identify the agent exerting the force and the object on which it acts. State the effect of the force in each case:
(a) Squeezing a piece of lemon between the fingers to extract its juice.
(b) Taking out paste from a toothpaste tube.
(c) A load suspended from a spring while its other end is on a hook fixed to a wall.
(d) An athlete making a high jump to clear the bar at a certain height.
5. A blacksmith hammers a hot piece of iron while making a tool. How does the force due to hammering affect the piece of iron?
6. An inflated balloon was pressed against a wall after it has been rubbed with a piece of synthetic cloth. It was found that the balloon sticks to the wall. What force might be responsible for the attraction between the balloon and the wall?
7. Name the forces acting on a plastic bucket containing water held above ground level in your hand. Discuss why the forces acting on the bucket do not bring a change in its state of motion.
8. A rocket has been fired upwards to launch a satellite in its orbit. Name the two forces acting on the rocket immediately after leaving the launching pad.
9. Define force.
10. What are the two factors on which pressure in liquid depends?
11. It is difficult to cut cloth using a pair of scissors with blunt blades. Explain.
12. When you drink a soft drink with the help of a straw pipe, what forces the liquid up through the straw?

B. Fill in the blanks:

1. To draw water from a well we have to …….. at the rope.
2. A charged body …….. an uncharged body towards it.
3. To move a loaded trolley we have to …….. it.
4. The north pole of a magnet ……. the north pole of another magnet.

C. Tick (✓) the correct option:

1. When we press the bulb of a dropper with its nozzle kept in water, air in the dropper is seen to escape in the form of bubbles. Once we release the pressure on the bulb, water gets filled in the dropper. The rise of water in the dropper is due to:
(a) pressure of water
(b) gravity of the earth
(c) shape of rubber bulb
(d) atmospheric pressure

2. Which of these is a contact force?
(a) Friction
(b) Magnetic force
(c) Gravitational force
(d) Electrostatic force

3. The SI unit of pressure is:
(a) kg/m^3
(b) kg/m^2
(c) Pascal
(d) Newton
4. Which force is exerted by all matter on all other matter?
(a) Gravitational force
(b) Magnetic force
(c) Electrostatic force
(d) Frictional force

D. State True or False:

1. Gravity is a contact force. ……..
2. Force is energy. ……
3. Force always has a particular direction. ……
4. Friction is always harmful. ……

E. Match the following:

'A'	'B'

1. Lifting the school bag	a. Non-contact force
2. Pushing the drawer of a table	b. Electrostatic force
3. Fruit falls on the ground.	c. Contact force
4. Sticking of bits of a dry paper on a comb	d. Muscular force
5. Magnetic force	e. Gravitational force

F. Complete the following table:

Identifying Actions as Push or Pull:

S. No.	Description of the situation	Action (pushing/pulling/ picking/ hitting/lifting/lowering/flying/ kicking/throwing/shutting/ flicking)				Action can be grouped as a	
						Push	Pull
1.	Moving a book placed on a table	Pushing	Pulling	Lifting	–	Yes	Yes
2.	Opening or shutting a door						
3.	Drawing a bucket of water from a well						
4.	A football player taking a penalty kick						
5.	A cricket ball hit by a batsman						
6.	Moving a loaded cart						
7.	Opening a drawer						

G. Read the table carefully and tick (✓) in the right column:

Studying the Effect of Force on Objects:

S. No.	Description of Situation	How to Apply Force	Diagram	Action of Force			
				Change in State of Motion		Change in Shape	
				Yes	No	Yes	No
1.	A lump of dough on a plate.	Pressing it down with your hands					
2.	Spring fixed to the seat of a bicycle.	By sitting on the seat.					
3.	A rubber band suspended from a hook/ nail fixed on a wall.	By hanging a weight or by pulling its free end.					
4.	A plastic or metal scale placed between two bricks.	By putting a weight at the centre of the scale.