Class 6 Science Chapter 10 Force and Types of Force Textbook Questions and Answers

1. Choose the term and fill in the blanks:

Question a.

..... has to be applied to change the ..... of a ..... object.

(moving, direction, force)

Answer:

force, direction, moving

Question b.

When an elephant drags a wooden log over the land, the forces that are applied on the log are ....., ... and ..... .

(muscular force, mechanical force, gravitational force, frictional force)

Answer:

muscular force, gravitationalforce, frictionalforce.

Question c.

A ball was set rolling on a large table. If its ..... has to be changed, a ..... will have to be applied on it.

(force, motion, gravitation)

Answer:

motion, force

Question d.

The force of friction always acts ..... the motion.

(along, against)

Answer:

against

2. Match the following:

Question a.

Column 'A'	Column 'B'
1. An ox pulling a cart	a. Magnetic force
2. Lifting heavy iron object with a crane	b. Electrostatic force
3. Weighing with a spring balance	c. Muscular force
4. Applying brakes to a bicycle.	d. Gravitational force
5. Picking up pieces of paper with a plastic scale.	e. Frictional force

Answer:

Column 'A'	Column 'B'
1. An ox pulling a cart	c. Muscular force
2. Lifting heavy iron object with a crane	a. Magnetic force
3. Weighing with a spring balance	d. Gravitational force
4. Applying brakes to a bicycle.	e. Frictional force
5. Picking up pieces of paper with a plastic scale.	b. Electrostatic force

3. One or more forces are acting in the following examples. Name them.

Question a.

An object falling from a tall building ..... .

Answer:

Gravitational force

Question b.

An aeroplane flying in the sky. ..... .

Answer:

Mechanical force

Question c.

Sqeezing sugarcane juice with a squeezer. .....

.

Answer:

Muscular or mechanical force

Question d.

Winnowing foodgrain ..... .

Answer:

Muscular force, gravitational force

4. Explain in your own words giving one example each.

Muscular force, gravitational force, mechanical force, electrostatic force, the force of friction and magnetic force.

Question a.

Muscular force:

Answer:

The force applied with the help of muscles is called muscular force.

e.g. When a bullock pulls the load of a cart with sugarcane, he uses the force of his muscles that is muscular force.

Question b.

Gravitational force:

Answer:

The force applied by the earth to pull the objects towards itself is called gravitational force.

e.g. When a fruit falls from a tree, it is the gravitational force of the earth that pulls the fruit.

Question c.

Mechanical force:

Answer:

The force applied by means of a machine is called mechanical force. Some machines run by muscular force while some use electricity or fuel. e.g.Washing machine, electric pump uses electricity to work.

Question d.

Electrostatic force:

Answer:

Static electricity is produced on materials like rubber, plastic and ebonite due to friction. The force exerted by such electrically charged materials is called electrostatic force, e.g. When a plastic comb is rubbed against the dry hair, comb develops electrostatic charge.

Question e.

The force of friction:

Answer:

When two surfaces rub against each other, a force of friction is produced. This force always acts against direction of motion, e.g. A ball rolling over a flat surface stops at certain distance due to friction between the ball and the surface.

Question f.

Magnetic force:

Answer:

The force exerted by a magnet is called magnetic force.

e.g. In a pin holder, the magnet attracts the pins.

5. Why?

Question a

Machines are oiled from time to time.

Answer:

To reduce the friction between the parts of machines, they are oiled. This will help efficient working of machines.

Question b.

An object thrown upwards comes down after reaching a point.

Answer:

An object is pulled by the gravitational force of the earth. Hence an object thrown upwards comes down after reaching at certain point.

Question c.

Powder is sprinkled on a carrom board.

Answer:

When powder is sprinkled on a carrom board, friction between the coin and the board decreases so that the coin can be pocketed easily.

Question d.

The ramp at a railway station has a rough surface.

Answer:

The rough surface of the ramp increases the friction between feet and the surface. This helps us to walk on the ramp without skidding or falling.

6. In what way are we different?

Question a.

Muscular force and Mechanical force

Answer:

Muscular force	Mechanical force
1. The force applied with the help of muscles is called muscular force. e.g. A boy kicking a football.	1. The force applied by means of machine is called mechanical force. e.g. An electric pump works on electricity.
2. It is created by our muscles.	2. It is created by electricity or fuel or muscular force

Question b.

A force of friction and Gravitational force

Answer:

Force of friction	Gravitational force
1. When two surfaces rub against each other, the force of friction comes into force.	1. The force applied by the earth to pull an object towards itself, is called a gravitational force.
2. It comes to act between two surfaces.	2. It exists between two objects or an object and the earth.

7. Write answers to the following questions in your own words.

Question a.

What are the things that can be done by applying force?

Answer:

By applying force:

1. we can set an object in motion.
2. we can stop a moving object.
3. we can change the speed or direction or both of a moving object.
4. we can change the shape of an object.

Question b.

What is meant by weight?

Answer:

1. The gravitational force acting on an object is called its weight.
2. Greater force must be applied to lift a greater weight.

Question c.

Which machines run on muscular force?

Answer:

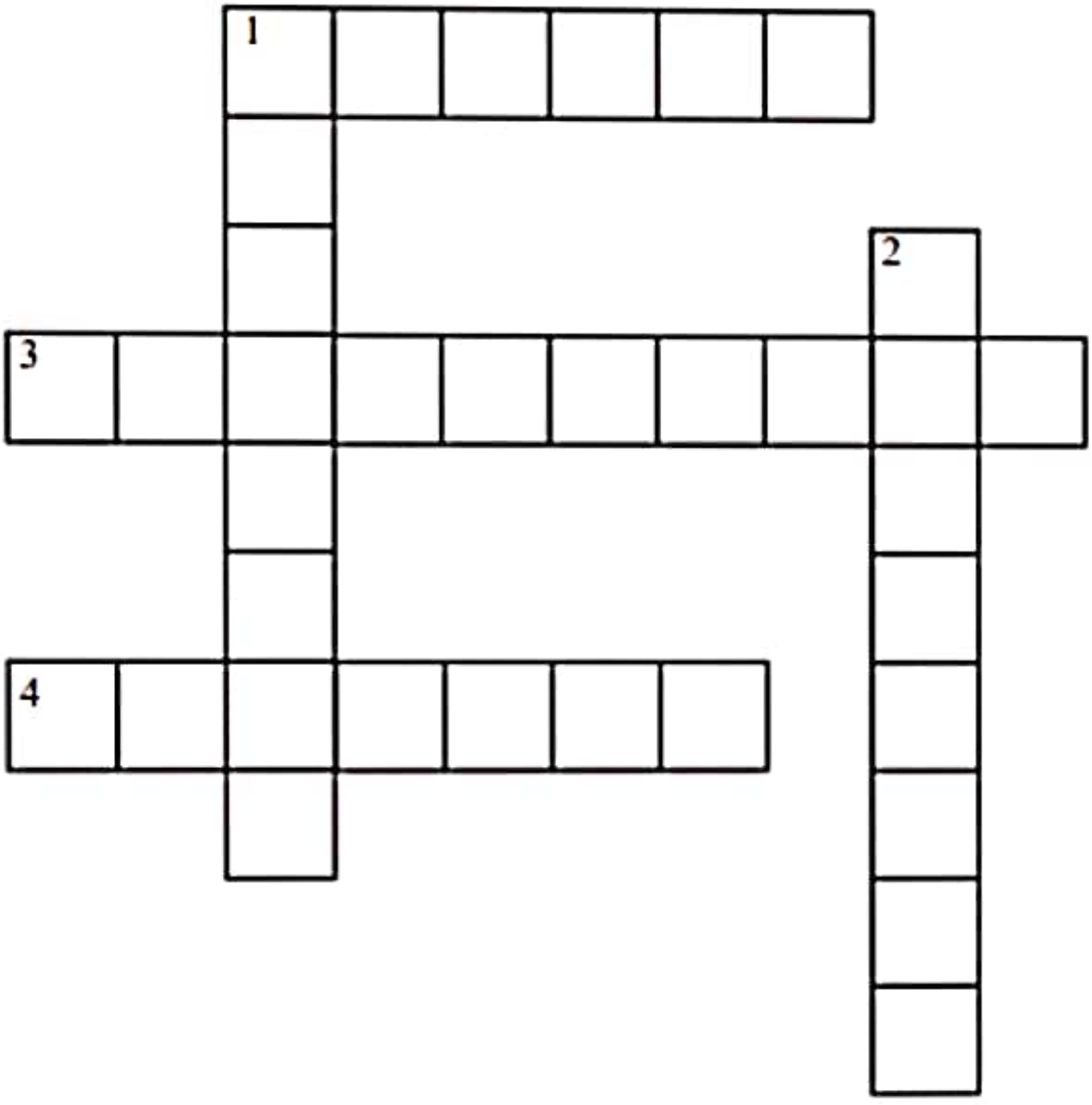
The machines that run on muscular force are:

1. Bicycle
2. Hand cart
3. Boat
4. Cycle rickshaw
5. Stretching of a spring
6. Ball pen
7. Vegetable chopper
8. Sharpener
9. Pulley
10. Fruit peeler

8. Solve the following crossword puzzle.

Question a.

Solve the following crossword puzzle.



Down:

1. ..... force is applied to push a scooter that has failed.

2. ..... force can be used to pick up scattered pins.

Across:

3. A ..... pulls iron nails towards itself.

4. ..... force is used when farm is ploughed with a tractor.

5. It is due to the force of ..... that raindrops fall to the ground.

Answer: