

Lesson : 6
Force , work and
Energy ✨



Class : IV

Learn and write the words (Dictation)

1. similarly
2. muscular
3. mechanical
4. gravitational
5. frictional
6. machines
7. lever
8. pulley
9. inclined
10. screw
11. hammer
12. grooves
13. interior
14. electricity
15. wedge
16. chemical



I) Answer the following:

a) What are simple machines? How do they help us? Name five simple machines.

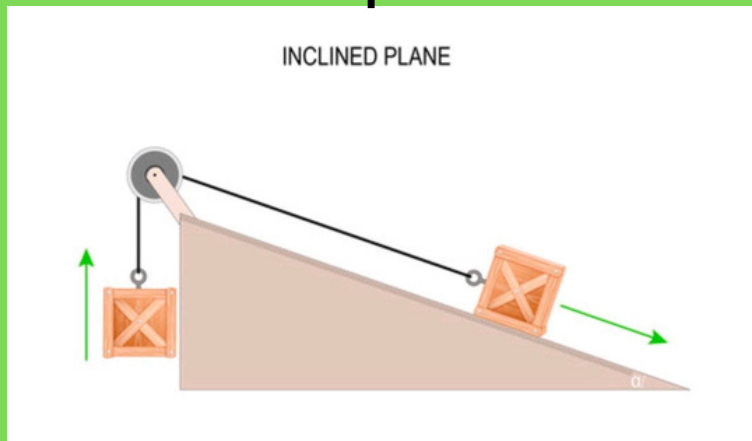
Simple machines are tools that make our work easier by changing the direction of a force needed in our daily life. Simple machines help us to do our work faster with less effort.

Five simple machines are:

- i) Lever
- ii) Pulley
- iii) Wheel and axle
- iv) inclined plane
- v) Screw

b) Draw and label the following:

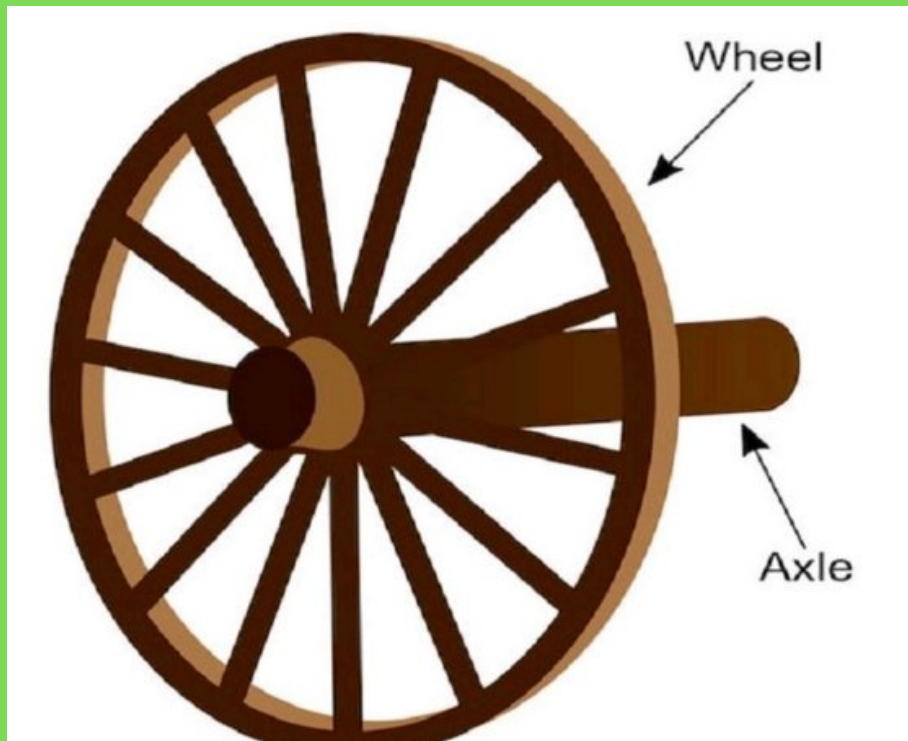
1. Inclined plane



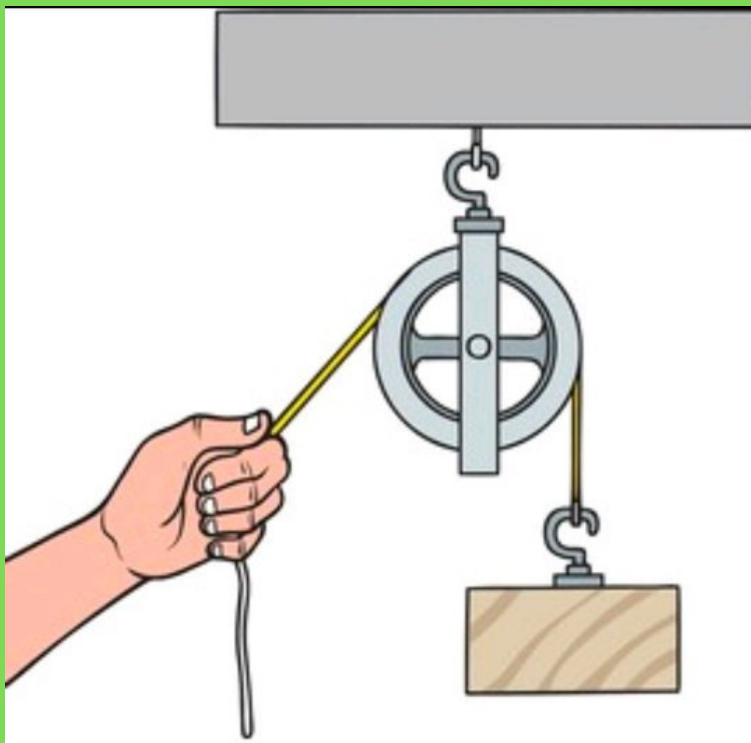
2. Screw



3 Wheel and axle.



4. Pulley



c) What are different forms of energy into which solar energy can be changed ?

Electrical energy and chemical energy are two different forms of energy into which solar energy can be changed. These energy can further be transformed into other forms of energy.

d) Name the machines being used at home in which one form of energy is changed into another.

i) Tube light , LED, electric bulb - These changes the electrical energy to light energy.

ii) induction stove , hair dryer , electric iron- These convert electrical energy to heat energy.

e) what is geothermal energy ?

Geothermal energy is heat that is generated within the earth .It is a renewable energy source because heat is continuously produced inside the earth . It is used to generate electricity and offers powers in villages and industrial areas .



Light Energy



The Sun is the Earth's natural source of light energy.

II) Give reason why ?


a) People often fall on polished floors than on floors with carpet.

Polished floors are very smooth ;thereby they have very less friction. Whereas the carpet produce the necessary friction for movement between the feet and the carpet.


b) When we throw a stone upward ,it finally comes down to earth.

Earth has gravity which make everything attract towards itself . This is why when we throw a stone upward ,it will finally comes down to earth .

Book work



Force, Work and Energy



6

Get started!

Tick (✓) the correct sentences.

1. Pushing or pulling something means applying force. ✓
2. You use force to move a box. ✓
3. You cannot stop a moving ball by applying force. ✗

CHECKPOINT



ENRICHMENT ACTIVITY

Circle the correct answers.

1. (Elastic / Gravitational / Frictional) force is used to move a catapult.
2. (Lever / Pulley / Screw) is made from a wheel and a rope.
3. A (bicycle pedal / nutcracker / wedge) is an example of wheel and axle.
4. A (screw / wedge / pulley) is like a nail with grooves cut into it.

Read and ANSWER



A. Tick (✓) the correct answers.

1. A moving body slows down or stops on its own due to this force.
a. gravitational ___ b. elastic ___ c. mechanical ___ d. frictional ✓
2. Tools make work
a. hard. ___ b. easy. ✓ c. soft. ___ d. complex. ___
3. This is used to open lids.
a. pulley ___ c. wheel and axle ___
b. lever ✓ d. inclined plane ___
4. This energy comes from the splitting of an atom.
a. atomic ✓ b. solar ___ c. geothermal ___ d. wind ___
5. In electric motors, electrical energy is changed into this energy.
a. mechanical ✓ b. solar ___ c. wind ___ d. atomic ___

D. Think and answer.

Name the kind of force being used in each case. There might be more than one type in some cases.

- a. Arun bowled the fifth ball of the over. Ajay hit it to the boundary for a four. *Muscular force, Frictional force*
- b. The stone rolled down the slope and fell into the river. *Gravitational force*
- c. Ali dropped the bat. It fell on the floor with a thud. *Gravitational force*
- d. Granny cut a piece of cloth into two with a pair of scissors. *Mechanical force*

HOTS



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SCIENCE

WORKSHEET 1

FORCE, WORK AND ENERGY

A. What kind of force do you see in the following?

- To make a dough of flour muscular force
- A fruit falls down from a tree gravitational force
- To write with a pencil on a paper frictional force
- The batsman uses frictional force to hit a six and the ball comes down because of gravitational force.
- Cutting with a pair of scissors mechanical

B. Find the odd one out.

- Hammer, bottle-opener, see-saw, screw
- lever, pulley, atom, wedge
- coal, oil, water, wood

C. Give reasons for the following.

- People often fall on polished floors than on floors with carpet.
- When we throw a stone upwards, it finally comes down to earth.

D. The spellings of various kinds of energy are jumbled up. Put them in order.

- moicta ATOMIC
- raslo SOLAR
- hatmoregle GEO THERMAL
- tacmigne MAGNETIC
- lecrciltea ELECTRICAL

WORKSHEET 2

FORCE, WORK AND ENERGY

A. Write T for True or F for False.

1. The energy from the sun is called heat energy. F
2. Energy is the ability to do work. T
3. The axle rotates around the wheel. F
4. A lever is used to lift weights. T
5. Work is done when a load is moved. T
6. Simple machines make our work very difficult. F
7. Energy from water is used to generate electricity. T
8. Energy cannot be changed from one form to another F

B. Give one-word answer.

1. This is used to push or pull something. Force
2. This force is exerted by the muscles of our body. Muscular force
3. This is the force with which the earth pulls an object towards itself. Gravitational force
4. Tools that make our work easier and faster Simple machines
5. Energy from the splitting of an atom Atomic energy
6. Energy from the hot interior of the earth Geothermal energy

C. Answer these questions.

1. What is force used to do?
2. Name the types of simple machines.
3. When do we say that work is done?

The end