Force, Work and Energy

Fill in the blanks: -

1. We use _____ when we change the direction of a moving body.
2. We do _____ when the _____ is applied to move an object.
3. Simple machines help us to work _____ and with less effort.
4. Lever is used to _____, _____ and _____.
5. _____ is made of the combination of two circular objects of different sizes.
6. _____ is often used to load the truck with barrels or heavy boxes.
7. _____ has grooves and is used to hold things together.
8. A screw is an _____wound around a rod.
9. To circular planes attached back- to-back are called _____.
10. A car converts _____ energy to _____.

Define the following: -

Force- _____

_____

Work- _____

_____

Machine-_____

_____

Muscular force-_____

_____

Mechanical force-_____

_____

Elastic force-_____

_____

Gravitational force-_____

_____

Frictional force-_____

_____

Write short answers: -

Give three examples where force is used.

_____

_____

_____

_____

Name different types of forces.

_____

_____

_____

_____

What is motion?

_____

_____

_____

_____

_____

How does force affect motion?

_____

_____

_____

_____

_____

Explain how friction works.

What happens when balanced and unbalanced forces act on an object?

Give 2 examples where work is done.

What are simple machines and how do they help us?

What is the formula of work done?

Name three simple machines and describe how each makes work easier.

Define energy in your own words.

Name three types of energy and give an example of each.

How is energy related to work?

What are renewable and non-renewable sources of energy?

Name three simple machines and describe how each makes work easier.

Give an example of each simple machine in use.

How do simple machines change the direction of a force?

What is pulley? Draw a labelled diagram of pulley. Share two examples where pulley is used.

Look at the image below. Identify the forces acting on the object and label them as either push or pull forces. Explain how these forces are affecting the object.

Circular staircases resemble which simple machine?

Why renewable energy, though limitless, should not be wasted?

Name the three important sources of energy. [HINT: they are natural and renewable]

What is geothermal energy?

What is atomic energy and why it is important to use it for the mankind?

Look at the image on the right and answer the following questions-

- What is it?
- What does it do?
- Which energy does it consume and produce?
- Name some places or regions where windmills are often built. Why are these locations chosen?
- Explain whether a larger windmill produces more energy than a smaller one, and why.

Share examples where-

Chemical energy is converted to heat energy.

Electrical energy into mechanical energy

Heat energy to mechanical energy

Chemical energy is converted to light energy

Solar energy is converted to heat energy

Muscular energy into sound energy

Chemical energy into thermal energy

Solar energy is converted to light energy

Chemical energy into mechanical energy

Solar energy is converted to electrical energy