

Grade 5 General Science Note.

Review exercise

Page 107-110 Instruction # 2,3,4,5 do the exercise on the text.

UNIT SEVEN

FORCE AND ENERGY

What is force ?

- Force is a push or pull exerted on a body.
Types of forces
- There are two types of forces. These are
 - * Non-contact forces and
 - * Contact forces
- Non- contact forces are forces exerted without body contact. They are forces acting at a distance.
 - * gravitational force , magnetic force and electric force are examples of non-contact forces.
- Contact forces are forces exerted when two objects are in touch or contact.
 - * frictional force and elastic force are examples of contact forces.

Effects of forces

- When force acts on a body it produces different effects. These effects are dependent on nature and condition of the body .
- The following are effects of forces
 - ✓ lifting
 - ✓ movement by pushing or pulling
 - ✓ change of speed and/or direction
 - ✓ changing size or shape

Measuring Force

- A force is measured using an instrument called spring balance.
- The standard (SI) unit of force is Newton.

****Read the details on page 111 -116 ****

EXCERCISE

Answer the following questions

1. Define the term force.
2. What are the two types of forces ? Give two examples for each.
3. Mention the effects of forces .
4. What we call the instrument that measures force ?
5. What is the SI unit of force ?

SIMPLE MACHINES

Definition

Machine is any device which help us to do work easier.

Example knife, scissors, bottle opener, axe, levers ,pulleys, wheels and axles ,and inclined planes are some machines or tools which make our work easier.

why do we use machines ?

people use machines at least for one of the following purposes. These are

- 1.To multiply force
- 2.To multiply speed (distance)
3. To change the direction of force.

Note -

Effort - is the force you exert on the machines .

Load - is the force exerted by the machine.

Fulcrum - is the supporting point.

The lever

Lever is a rigid bar of wood or metal that is free to rotate about the supporting point (fulcrum).

The lever has three parts called the load, the effort and the fulcrum.

* A seesaw is a type of lever.

Types of lever

According to the arrangement of effort,load and fulcrum levers are classified in to three.These are

✓ First order lever -in this case the fulcrum is between effort and load (E F L).

eg. seesaw

✓ Second order lever -in this case the load is between the fulcrum and the effort (F L E).

eg. wheel barrow (gari),stappler,bottle opener

✓ Third order lever - in this case the effort is between the load and the fulcrum.

eg. fishing rods,ice tong

The pulley

A pulley is a circular body (wheel) with groove surface and is free to rotate about its center.The effort is applied to a rope which passes over the pulley groove..

A pulley -

- * changes the direction of force
- * multiplies the effort.

Inclined plane

An inclined plane is a sloping surface which allows a load to be raised move gradually using a smaller effort than the load .

Exercise

Answer the following questions

1. Define the term machine.
2. Write three examples of machines.
3. Write the uses of machine.
4. Define the following terms
load -
effort-
fulcrum -
5. List the three types of levers as well as the position of their load, effort and fulcrum.
6. What is an inclined plane?