

EXERCISE 17,18,19 in sipro.

1. Single fixed, Single movable, Block and tackle pulleys.
2. Pulleys are used for hoisting flags on flag poles.
3. A single fixed pulley keeps rotating in one position.
4. The effort applied is always equal to the load applied on a machine.
5. A single fixed pulley changes the direction of force of load hence making work done easily.
- 6a. Single fixed pulley. b). First class levers.
- d) show one arrow on rope E
- e). Note that the LOAD force = EFFORT force

since the load is 15kg, the effort NEEDED is also 15kg using a single fixed pulley.

OR Lets work out to prove;

$M.A = L/E$ And the M.A of SINGLE FIXED PULLEY IS ONE

$$1 = 15Kg/E$$

$$1 \times E = 15/E \times E$$

$$E = 15Kg.$$

$$\text{So } L/E = 15/15 = 1.$$

c) F 

ACTIVITY 18

1. *In a single fixed pulley, both the effort and the load move in opposite direction while in a single movable pulley, both effort and load forces move in the same direction upwards.

*A single fixed pulley produces a M.A of 1 while a single movable pulley produces a M.A of 2.

2. A single movable pulley reduces the effort used to lift the load by a half.

3. see text book and sipro.

$$4. M.A = L/E \quad / 20 = L$$

$$2 = L/10Kg \quad / \text{Therefore load} = 20kgf$$

$$2 \times 10 = L/10 \times 10$$

5.M.A of a single movable pulley is 2

6.The longer the effort arm the less effort used to lift the load.

ACTIVITY 19

1.a. Pulleys are used for lifting heavy building materials when constructing storeyed buildings.

b.Painters use pulleys when painting storeyed buldings.

c.School children use pulleys when hoisting flags on flag poles.

2.A single movable pulley does not change the direction of force while a block abd tackle pulley changes the direction of force.

3.Pulleys are used in lifts to move from one floor of a storeyed building to another .

-4.it makes work to be done faster/it reduces the effort needed to lift a given load/it changes the direction of force.

5a.Block and tackle pulley system.

b.on flag poles/in cranes/lifts/in scaffolds.

c. M –load, N -effort

6.Block and tackle pulley system.

NOTE; We shall have a test tomorrow.Have some time to revise.God bless you.Hope to see you after the national opening of schools.With God all things are possible and you are blessed.