

**Q1. DEFINES**

S. No.	WORD	DEFINE
1	Machines	The devices that make our work easier and faster are called machines.
2.	Pulley	A wheel which has grooves on it on which a rope or a chain moves to lift objects is called a pulley.

**Q2 . GIVE ONE WORD**

S.N.	Question	Answer
1	Give some examples of simple machines.	Bottle opener, scissors, tongs, nut crackers, w
2	It is the <b>main point</b> where the rod is fixed.	Fulcrum
3	It is the <b>weight</b> that is to be lifted or moved from one place to another.	Load
4.	It is the <b>force</b> that we apply to move or lift the object.	Effort
5	Name different types of machines.	Lever, inclined plane, wedge, screw, wheel and axle and pulley
6	Name different classes of lever.	First class lever, Second class lever and Third class lever
7	A _____ is an inclined plane.	slope
8	Give two examples of wedge.	Axe, razor, knife
9	A _____ has two inclined planes.	wedge
10	In a _____ lever, the fulcrum is between the load and the effort.	first class
11	Inclined planes called _____ are provided in all hospitals.	ramps
12	It is a simple machine used to lift heavy loads.	Pulley

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13	It is an inclined plane wound around a rod.	Screw
14	Give some examples of pulley.	Flagpole, well, crane, elevators
15	Give some examples of wheel and axle.	Sewing machine, screwdriver, bicycle pedal, steering wheel
16	What makes our work easier and faster?	Machines
17	Which class of lever is a nail cutter?	First Class lever
18	Give some examples of screws.	Bulb, nut and bolt, ear studs, revolving chair
19	A wheel with teeth is called_____	gear
20	A screw has _____ which holds things together.	grooves

### **Answer in one line**

<b>1</b>	<b>What is a lever? Mention its parts.</b>
Ans.	A lever is a straight rod or a board that is fixed at one point and helps to lift or move object from the other point. It consists of three parts i.e. fulcrum, load and effort.
<b>2</b>	<b>Explain first class lever.</b>
Ans.	When the fulcrum is in between the load and effort, it a first class lever. Example a seesaw, a pair of scissors.
<b>3</b>	<b>Explain second class lever.</b>
Ans.	When the load is in between the fulcrum and the effort, it is second class lever. Example, a nut cracker, a wheelbarrow, a bottle opener.
<b>4</b>	<b>Explain third class lever.</b>
Ans.	When the effort is in between the fulcrum and the load, it is a third class lever. Example, fishing rod, ice tongs and tweezers.
<b>5</b>	<b>What is a screw?</b>
Ans.	A screw is an inclined plane but it is spiral at one end and holds object firmly. Examples: a bulb, a nut and bold, ear studs etc

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6	<b>What do you understand by load, fulcrum and effort?</b>
Ans.	<p><b>Load</b> : It is the <b>weight</b> that is to be lifted or moved from one place to another.</p> <p><b>Fulcrum</b> : It is the <b>main point</b> where the rod is fixed.</p> <p><b>Effort</b> : It is the <b>force</b> that we apply to move or lift the object</p>
7	<b>What is a wedge? On which principle does it work?</b>
Ans.	<p>A wedge is thick at one side and thin, sharp-edged at the other end.</p> <p>It works on the principle of an inclined plane. The wedge has two inclined or sloping surfaces joined together.</p>
8	<b>Why is a screw more useful than a nail?</b>
Ans.	<p>A screw has grooves cut into it. The head of a screw also has a groove. Due to spiral grooves, the screw moves into the wood easily. Screw holds the wood more firmly than a nail. That is why screw is more useful than a nail.</p>
9	<b>How does pulley make our work easier?</b>
Ans.	<ol style="list-style-type: none"> <li>1. The cranes have a pulley to lift objects.</li> <li>2. It is used to draw water from a well</li> <li>3. The elevators in the buildings have a pulley on which they go up and down.</li> <li>4. It is used in flagpoles, curtain strings also.</li> </ol>

### Book Exercise:

#### A. Choose the correct option.

1. A stapler is an example of a : third- class lever ( c )
2. A flyover uses the principle of a/an : inclined plane ( c )
3. A wheel and axle is used in a / an : sewing machine ( a )
4. An inclined plane wound around a rod is called : screw ( b )
5. The simple machine used to draw water from a well is a : pulley ( c )
6. The position of the load in a second-class lever is: between the fulcrum and the effort ( a )
7. An example of a third-class lever is a : fishing rod ( c )
8. Wheels with teeth are called : gears

#### D. Name the machine principle used in the following:

1. Broom : First class lever
2. Wheel barrow : Second class lever
3. Fishing rods : Third class lever
4. Slide : Inclined plane
5. Axe : inclined plane
6. Screw Jack : Screw

**D. Name the simple machines associated with the following.**

- 1. Screw : inclined plane and lever
- 2. Sewing machine : Wheel and Axle, lever, pulley, screws, wedge
- 3. Bottle-opener : Lever
- 4. Slide : Inclined plane
- 5. Forcep : Lever

**Quick Assignment**

**A. State true or false**

- 1. All simple machines increase force. : True
- 2. A pulley changes the direction of force : True
- 3. A car is a simple machine : False
- 4. It is easier to push up a load on steep slope. : True
- 5. A wheel is a simple machine. : True

**B. Fill in the blanks.**

- 1. Inclined
- 2. faster and easier
- 3. force
- 4. inclined
- 5. wheel

**C. Unscramble the words and name the simple machine used in the following cases.**

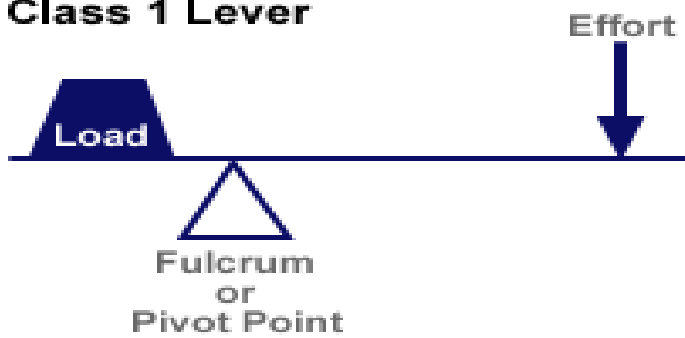
- 1. Lever
- 2. Inclined plane
- 3. Wedge
- 4. Pulley
- 5. Screw

**D. Match the following:**

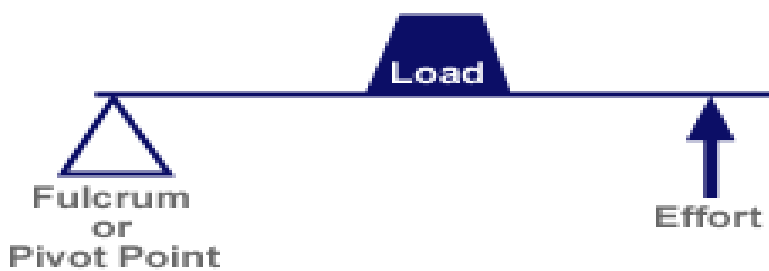
- 1. ( c)
- 2. ( a)
- 3. ( e)
- 4. ( b)
- 5. ( d)

**Diagram:**

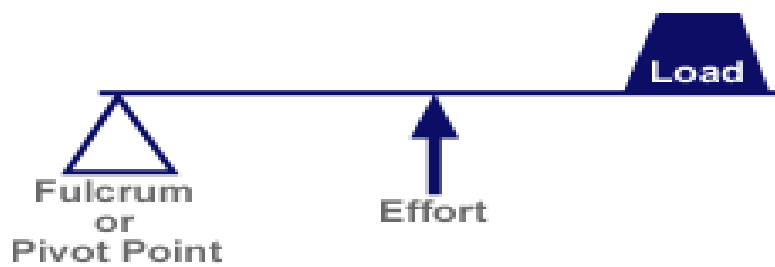
**Class 1 Lever**



**Class 2 Lever**



**Class 3 Lever**



**Project:**

Make a model of pulley with waste material.

<https://youtu.be/ispep5sH5Oo>