WELCOME TO THE ONLINE CLASS

SESSION NO.: 15
CLASS: 5
SUBJECT: SCIENCE
CHAPTER NUMBER: 11
CHAPTER NAME: FORCE AND ENERGY
SUB TOPIC: SIMPLE MACHINES- LEVERS

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LEARNING OBJECTIVE

To enable the learner to:

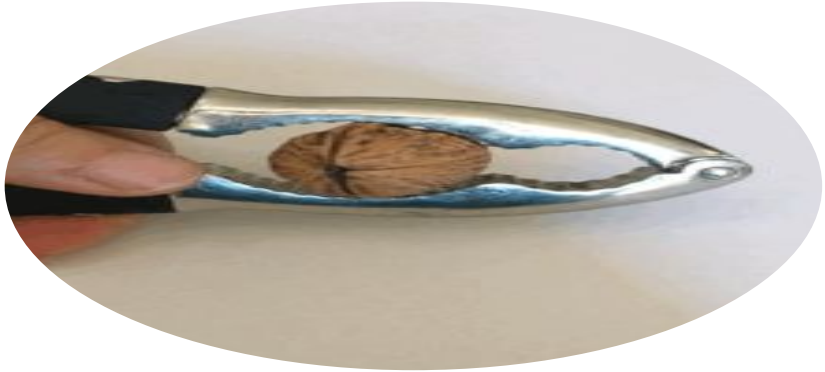
- **understand about machines.**
- **identify the types of simple machines commonly used.**
- **understand the importance of machines in real life.**

LET'S RECAP

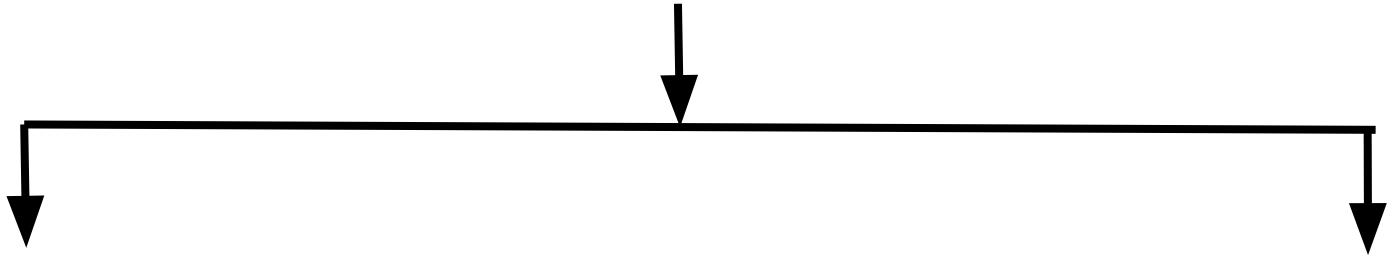
- Name the type of force used in the following.
  - A ball thrown up comes down.
  - Lifting a box.
  - Pulling a catapult.
  - Using a knife to cut an apple.
  - Boat floats on water.
- Mention some of the effects of force.

MACHINE

- **Machines are the tools that make our work easier, faster and with less force.**



TYPES OF MACHINES



Simple Machine

E.g. Knife, needle, scissors, bottle opener, hammer, etc.

Complex Machine

E.g. fan, bicycle, grinder, car,washing machine etc.

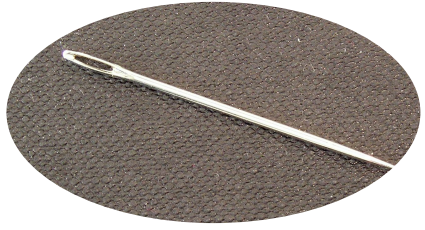
SIMPLE MACHINES

- Tools which make our work easier and faster are called machines.
- Simple machines help us to do work by applying force at a convenient point which either changes the direction of force or increases the force applied.

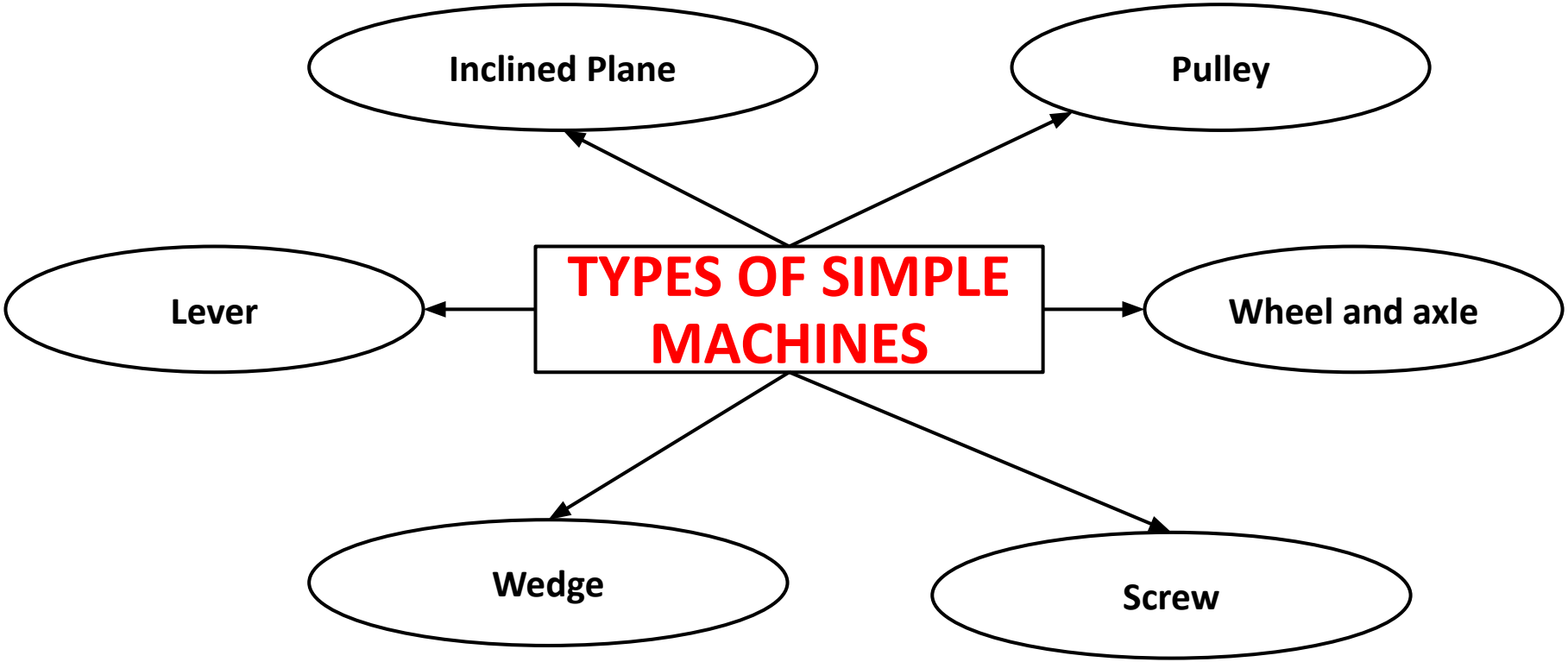






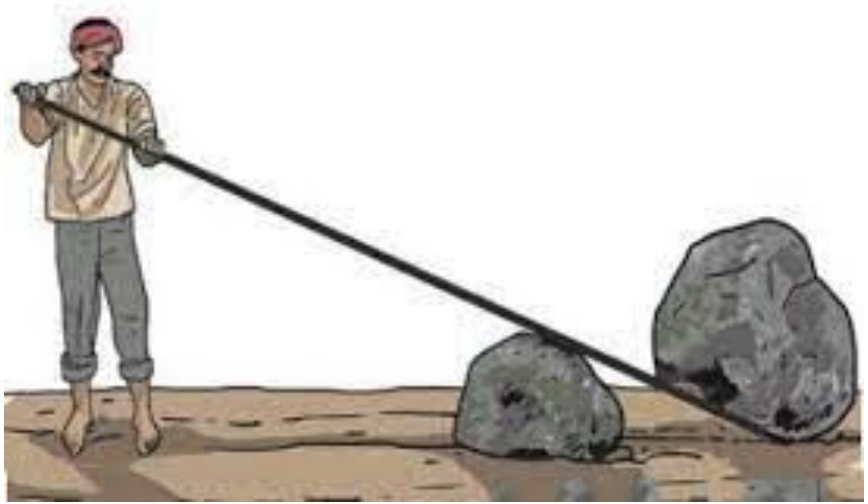






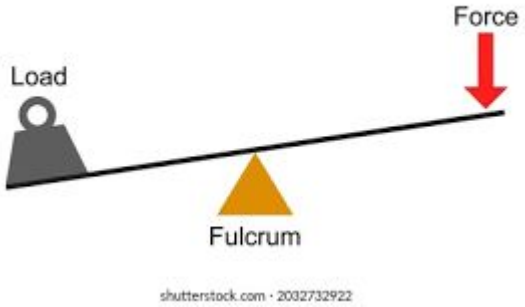
LEVER

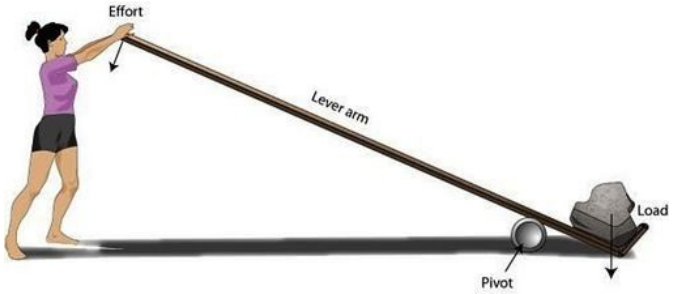
- **A lever is a rigid rod arranged in such a manner that it can move freely around a fixed point.**



LEVER

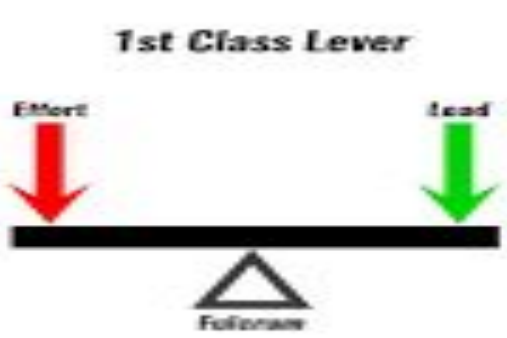
- **Fulcrum: The point of support or the pivot point of the lever.**
- **Effort: The force which is used to lift the object is the effort.**
- **Load: The weight which need to be lifted is called the load.**



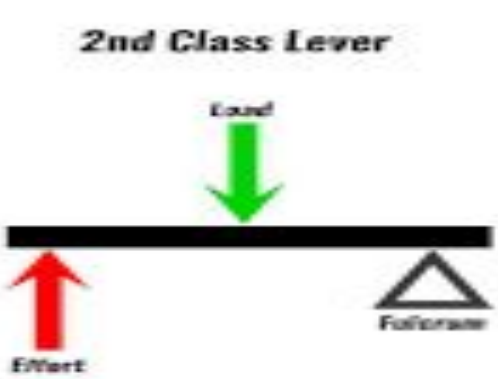


TYPES OF LEVER

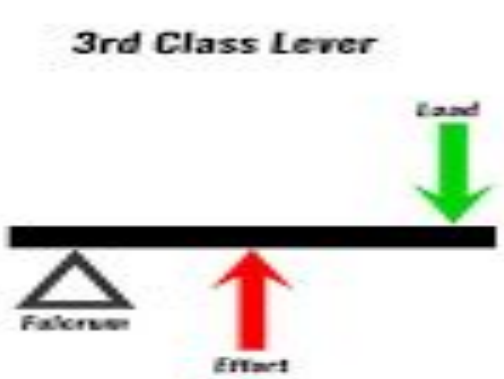
First-class lever



Second-class lever

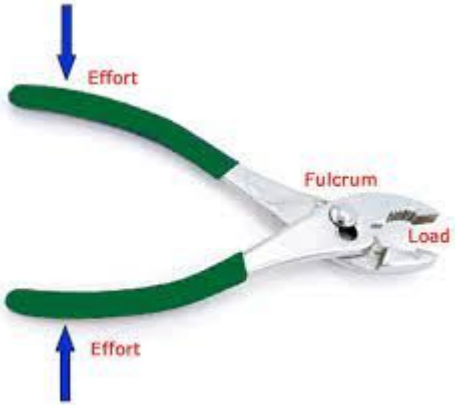


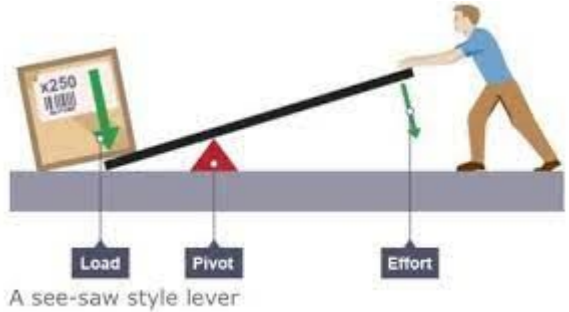
Third-class lever

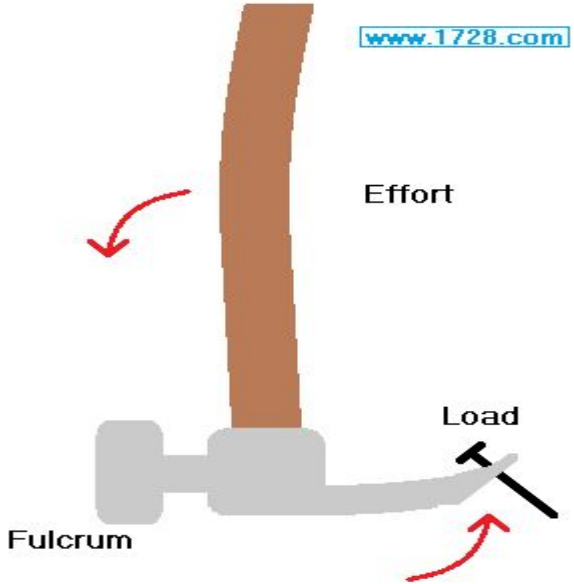


FIRST-CLASS LEVER

- When fulcrum is between load and effort, it is a first-class lever.
- E.g.:

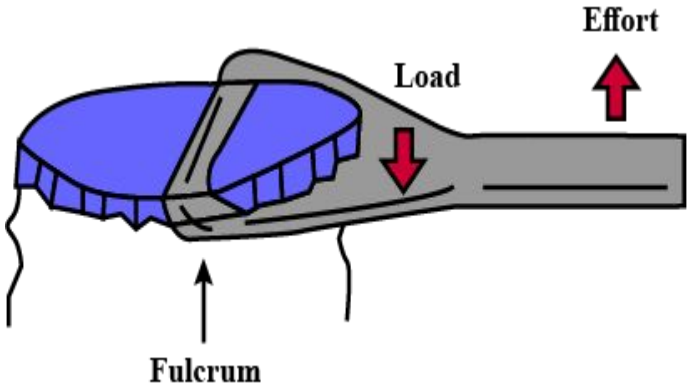


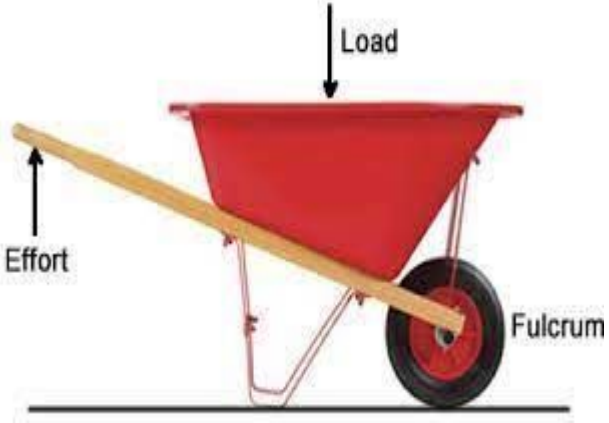


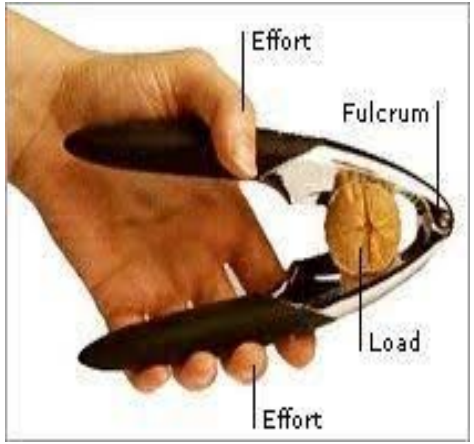


SECOND-CLASS LEVER

- When load is between fulcrum and effort, it is a second-class lever.
- E.g.:

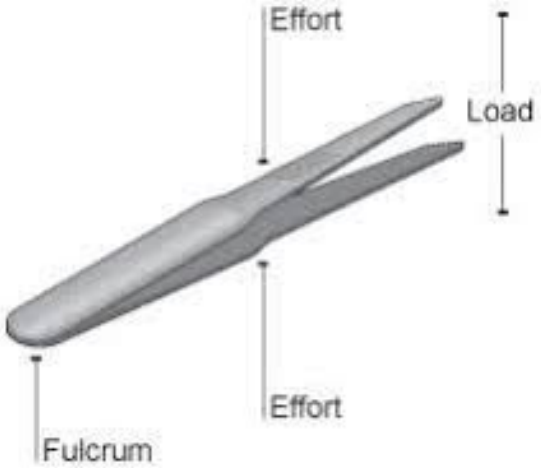






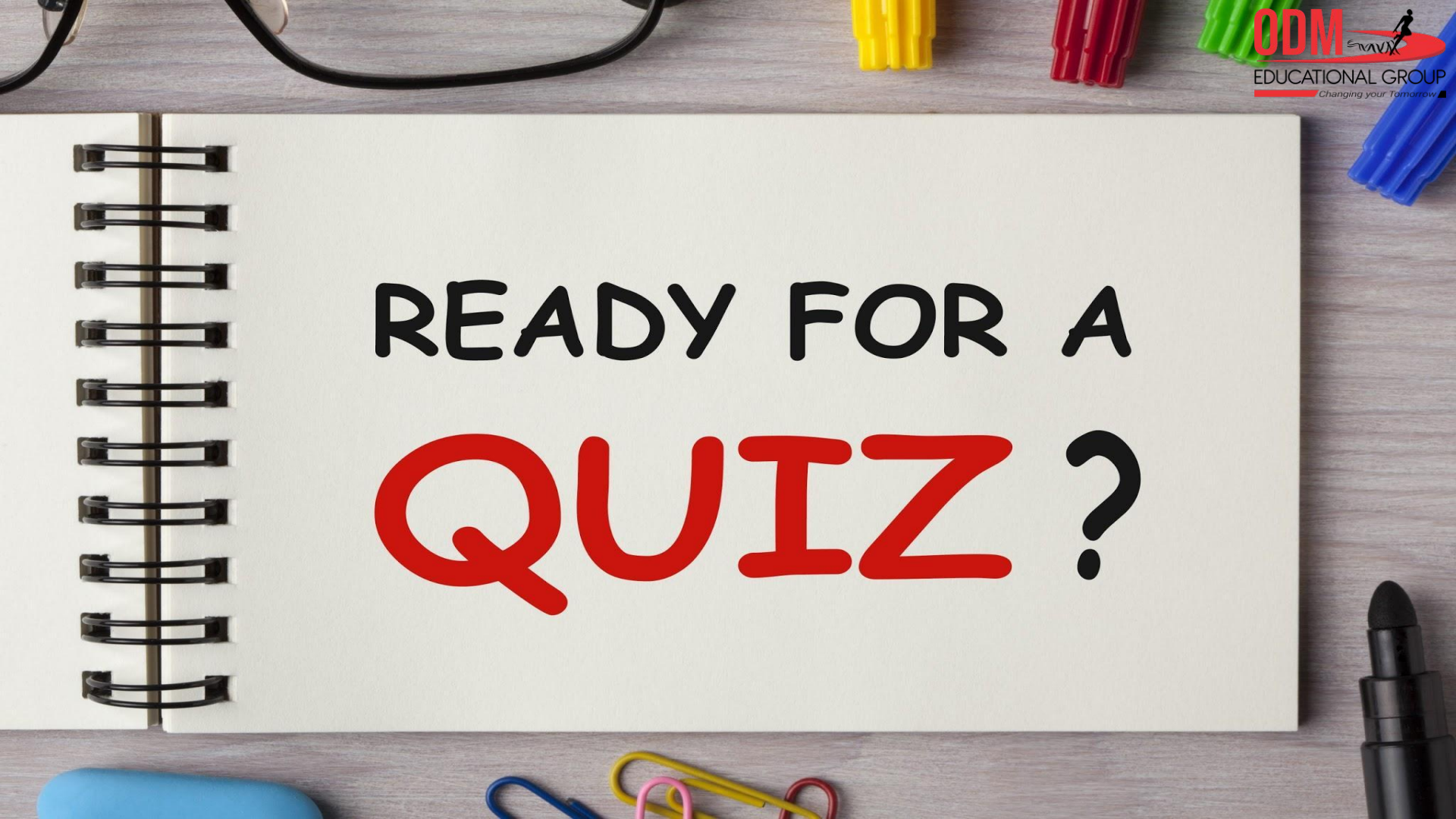
THIRD-CLASS LEVER

- **When effort is between fulcrum and load, it is a third-class lever.**
- **E.g.:**



SUMMARY

- Simple machines make our work easier.
- There are six types of simple machines: lever, inclined plane, pulley, wheel and axle, screw and wedge.
- Lever is a rigid rod arranged in such a manner that it can move freely around a fixed point.
- Lever are of three types:
  - First- class lever
  - Second- class lever
  - Third- class lever.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READY FOR A
QUIZ ?

1. Ice tongs is an example of _____ class lever.

Ans: Third

2. Scissors are which type of lever.

Ans: First- class lever

3. Tools that make our work easier.

Ans: Simple machine/ machine

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HOMEWORK

Draw the pictures of different types of lever.

LEARNING OUTCOME

The learner will be able to:

- **understand about machines.**
- **identify the types of simple machines commonly used.**
- **understand the importance of machines in real life.**

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THANKING YOU

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