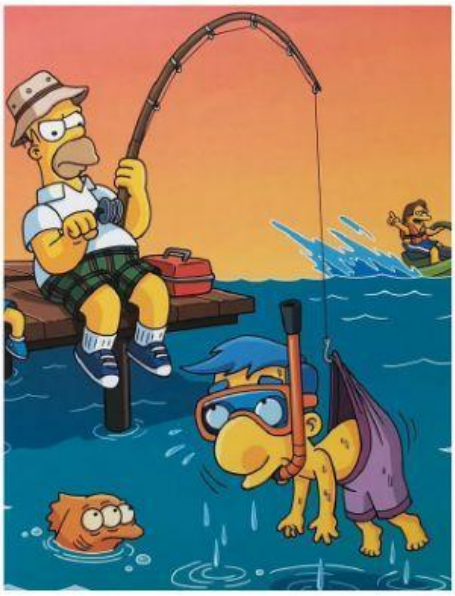
Activity 1

Machines and mechanisms. The lever

1. Indicate the driver element, mechanism and driven element on the following machines



2. Match each mechanism with its function

Lever Pulley Gears Friction Wheel Eccentric Screw and nut

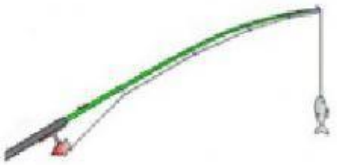
Linear Transmission	Rotatory Transmission	Motion conversion

3. Identify fulcrum, resistance, and effort on the following levers and indicate what class they are:

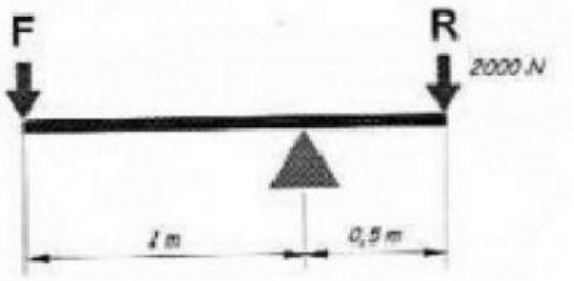






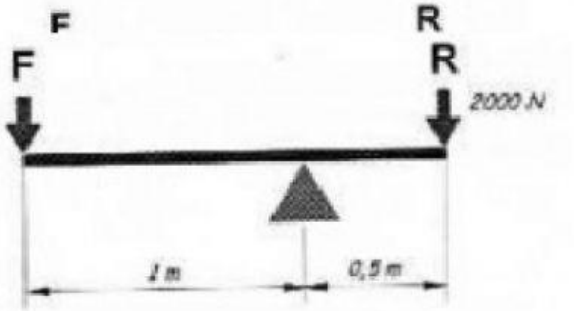


4. Calculate the value of the effort that will need to be applied to the next lever to lift that resistance.



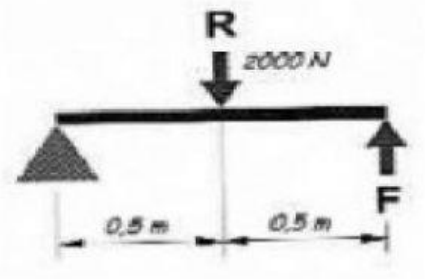
Data	Calculation	Solution
R= E= Ar= Ae=	___ x___=___x___	We need a effort of _____ N

5. Calculate the value of the effort that will need to be applied to the next lever to lift that resistance.



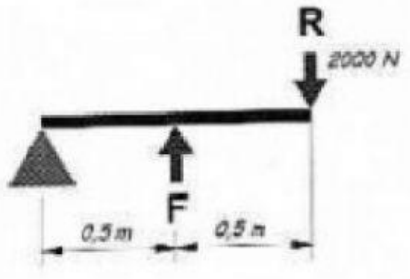
Data	Calculation	Solution
R= E= Ar= Ae=	___ x___=___x___	We need a effort of _____ N

6. Calculate the value of the effort that will need to be applied to the next lever to lift that resistance.



Data	Calculation	Solution
R= E= Ar= Ae=	___ x___=___x___	We need a effort of _____ N

7. Calculate the value of the effort that will need to be applied to the next lever to lift that resistance.



Data	Calculation	Solution
R= E= Ar= Ae=	___ x___=___x___	We need a effort of _____ N

8. On a lever, we find a 300kg elephant (R) at a distance of 50cm from the fulcrum. At the other extreme, there is an ant (E) that weighs 0.001kg. How long will the ant's arm have to be in order to lift the elephant?

Data	Calculation	Solution
R= E= Ar= Ae=	___ x___=___x___	The arm sould be _____ Km