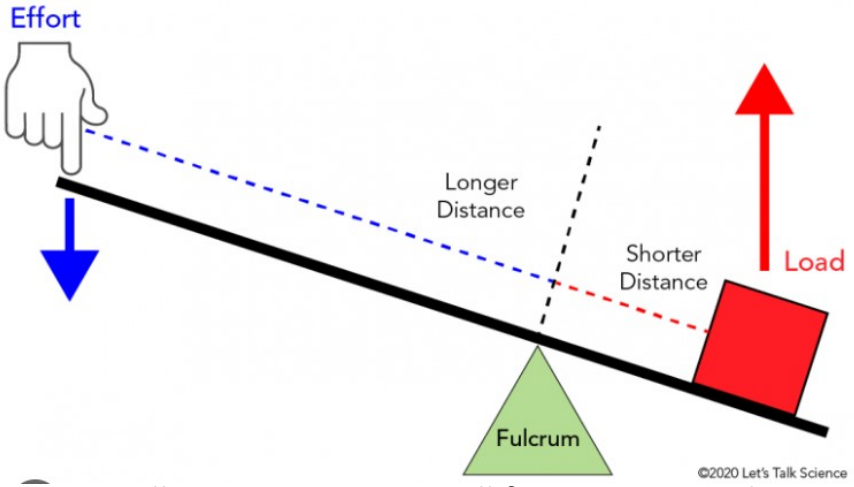
# Year 5: Forces

## GRAVITY

Any object that is not being supported (held up) will fall to earth. This is because it is being pulled towards the center of the Earth by gravity. Gravity pulls everything with the same force, so light things fall just as fast as heavy things unless there is more air resistance.

## LEVERS

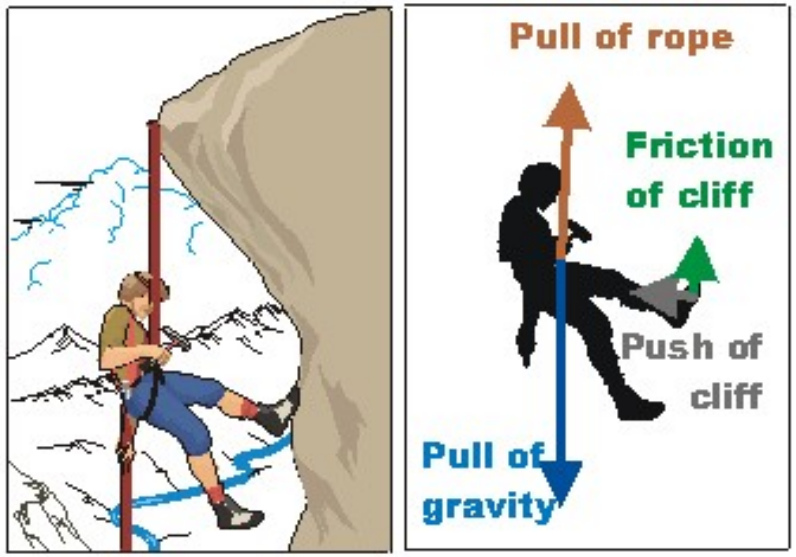



Levers allow you to use a small force to move a heavy object. The longer the lever, the less force is required.

## KEY VOCABULARY:

- **Newtons:** the standard unit for measuring the size of a force.
- **Resistance:** a push force that slows down an object moving through a substance.
- **Friction:** a push force that slows objects moving over a surface. Rougher surfaces have more friction.
- **Gravity:** the pull force of the Earth pulling us towards its centre. The more massive something is, the more gravity it has.
- **Pull:** forces that pull an object towards the source of the force.
- **Push:** forces that push the object away from the source of the force.
- **Gears:** toothed wheels that turn each other to move large forces in different directions.
- **Levers:** beams or rods that allow a small force to move a much heavier object than it could otherwise move.

## FORCE DIAGRAMS




In any situation, there are many forces all acting on an object. If the size of the force in each direction balances, then the object won't move. If one force is bigger than another, then the object will begin to move.