# STUDY GUIDE ANSWERS

*Popham 6 Science*

*Ms. Browne*

# 1. WHAT IS A FORCE?

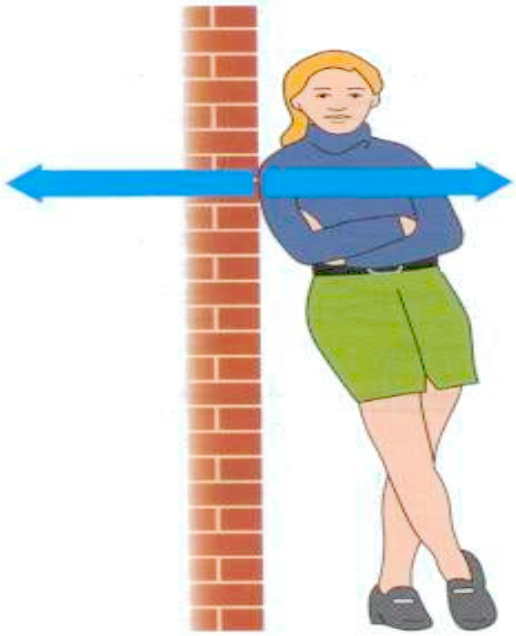
- A force is a push or pull
- There are two main types of forces balanced and unbalanced

# 2. UNIT TO MEASURE FORCES? INSTRUMENT?

- The unit to measure forces is a Newton (N)

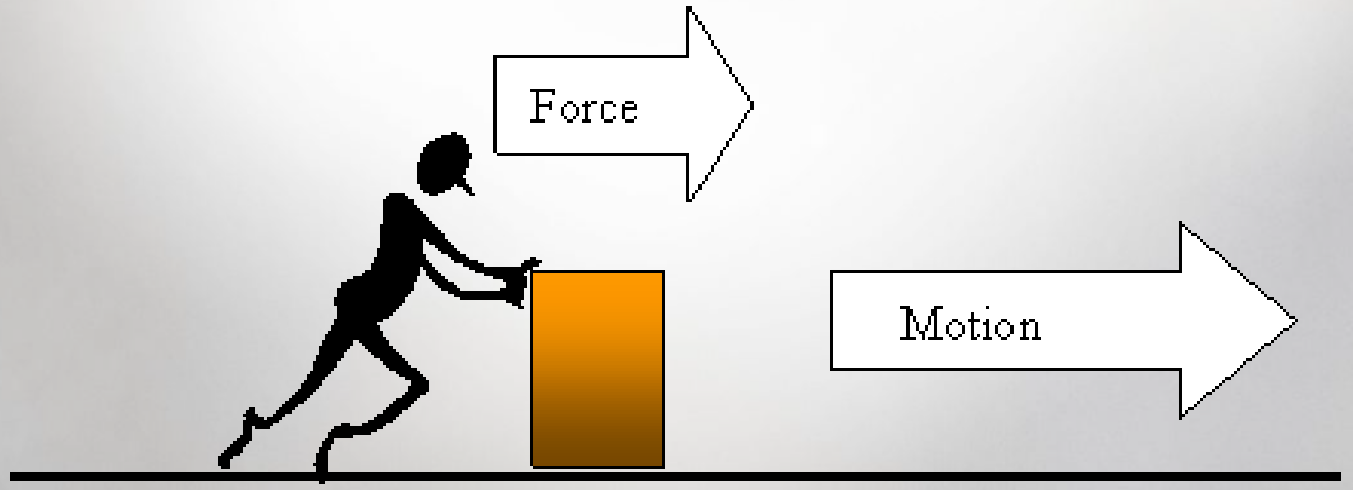
# 3. THE AFFECT OF BALANCED FORCES?

- Balanced forces are equal in size and opposite in direction.
- Balanced forces DO NOT cause motion. The object will be at rest.

# 4. WHAT KINDS OF FORCE CAUSE MOTION?

- Unbalanced forces cause motion to occur.

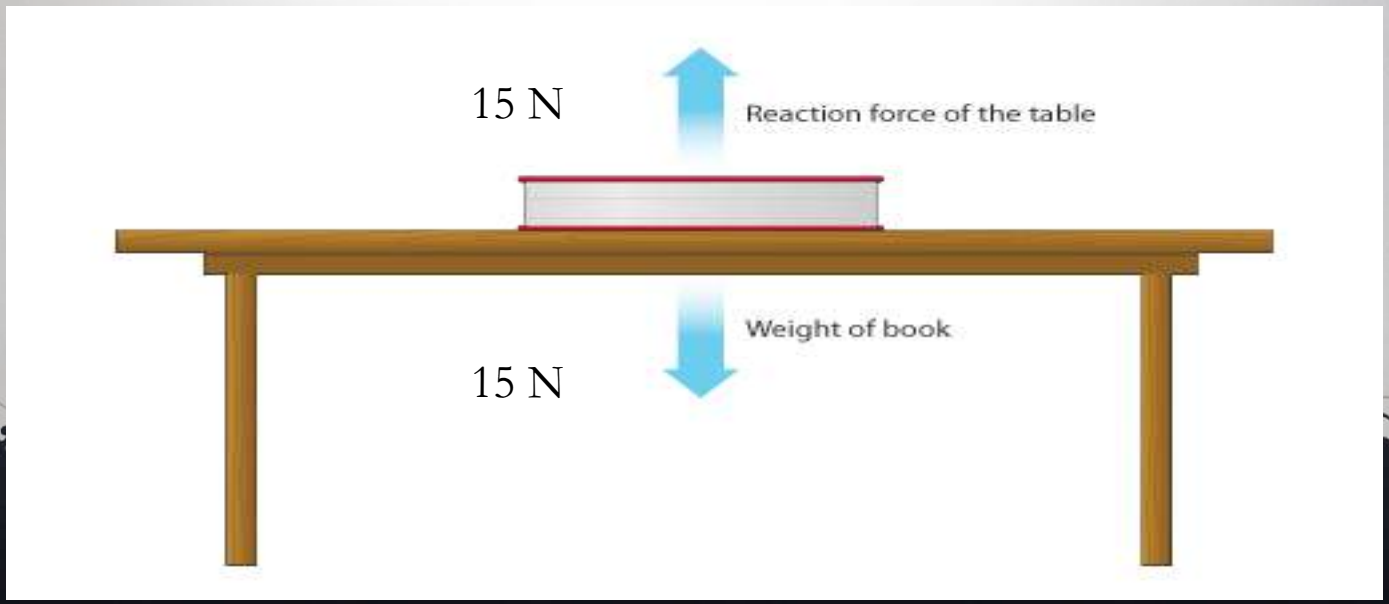


# 5. HOW DO UNBALANCED FORCE CAUSE A CHANGE IN MOTION?

- Unbalanced forces can cause:
  - An object at rest to move
  - An object in motion to speed up
  - An object in motion to slow down
  - An object to change direction
  - An object to stop its motion

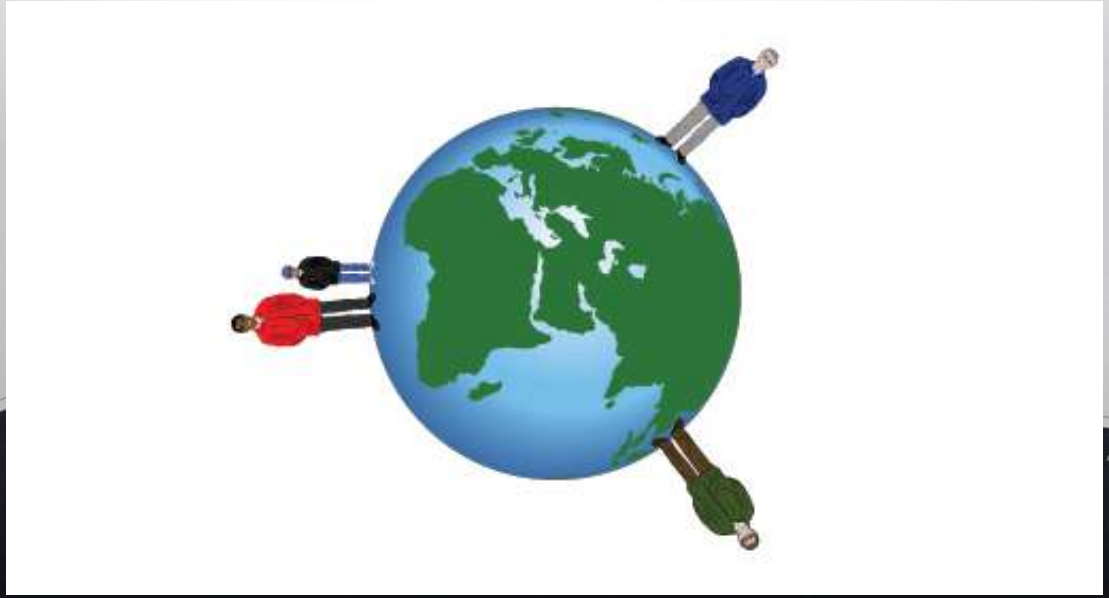
# 6. HOW ARE NET FORCES CALCULATED? DIAGRAMED?

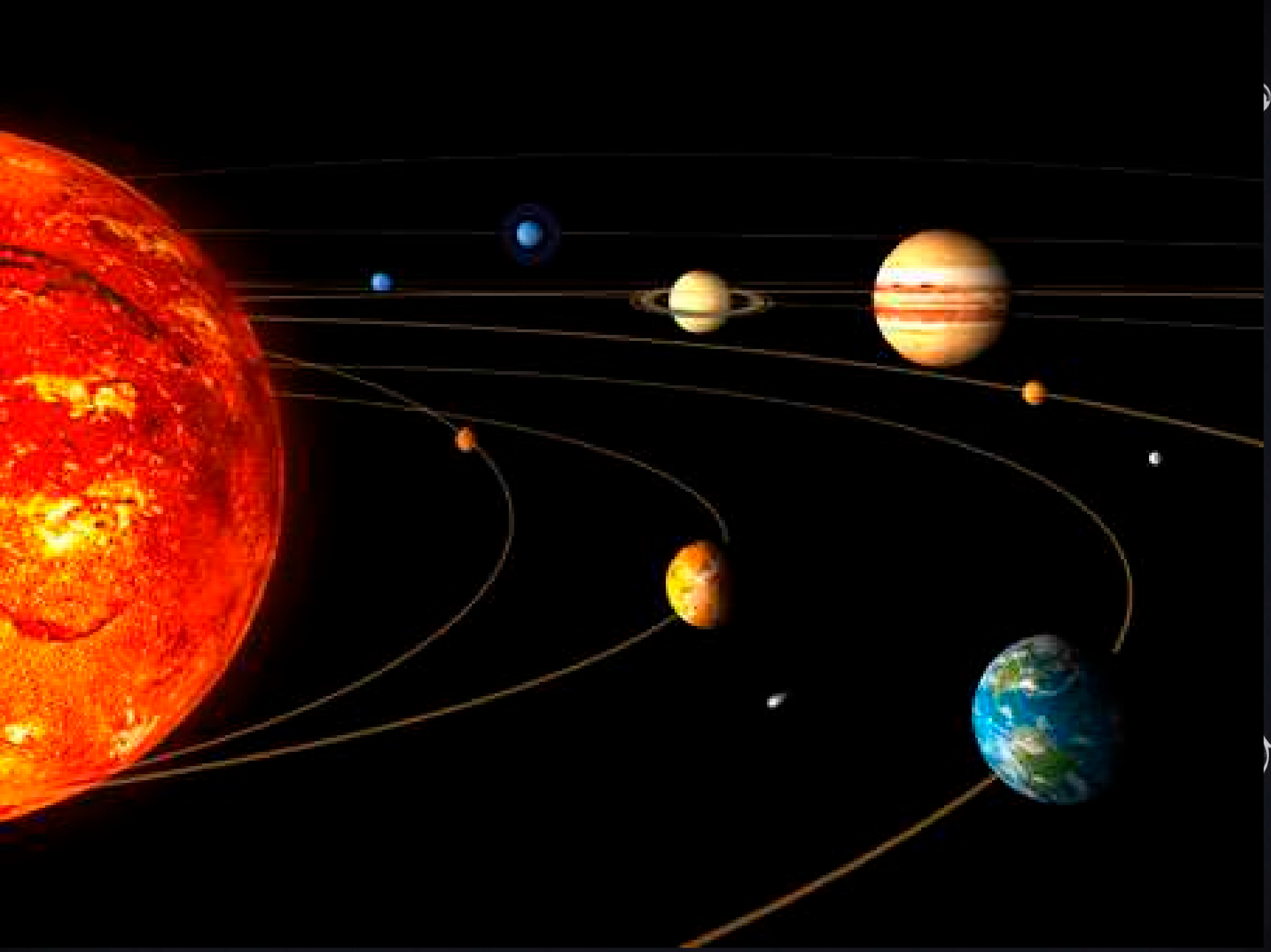
- Net force is calculated by adding together forces acting in the same direction and subtracting forces acting in opposite directions.
- Forces are diagrammed using arrows.



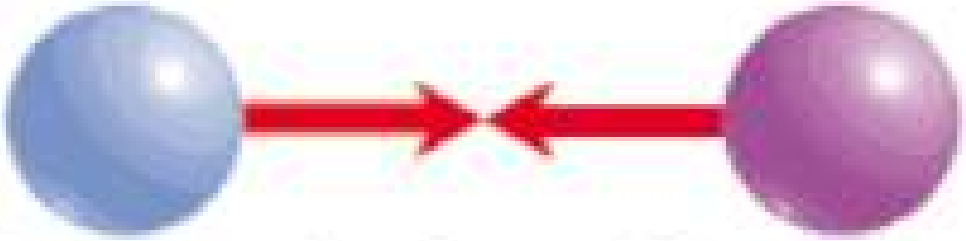
# 7. WHAT IS GRAVITY?

- Gravity is the force of attraction between all objects in the universe
- On Earth, gravity pulls objects towards Earth's dense core





The force of gravity acts between all objects.

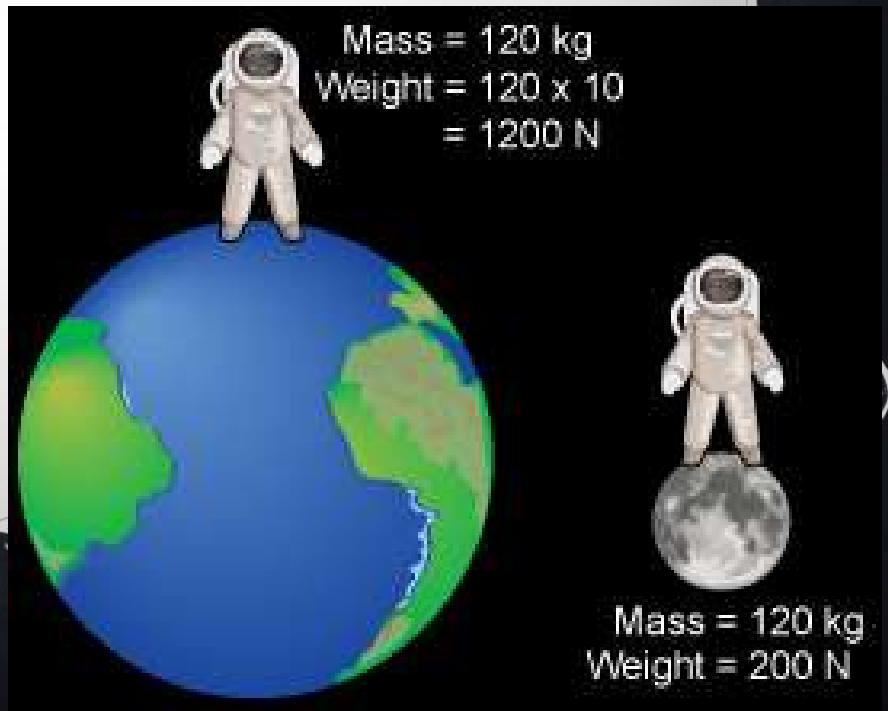


If mass increases, the force of gravity increases.

If distance increases, the force of gravity decreases.

# 10. WEIGHT AND GRAVITY? WEIGHT AND MASS?

- Weight is a measure of the pull of gravity on an object.
- Mass is the amount of matter in an object whereas weight is a measure of the pull of gravity.



# 11. AIR RESISTANCE?

❖ Air resistance is the force of air push against an object falling through Earth's atmosphere. Air resistance is not the same for all objects. Objects with a larger surface have more air resistance.