

INTRODUCTION TO FORCE

Name: _____
Date: _____
Core: _____

A **FORCE** is a: _____ or _____ in a particular _____.

Forces affect how objects move.

Forces can affect motion in the following ways:

- BIG (j)
- SCIENCE (k)
- IDEAL (l)
- v)
- v)

* Since forces cause changes in speed or direction of an object, we can say that forces change _____, so..... **FORCES** cause _____ !

More than one force can act on an object at one time. What happens to the object when forces act depends on 2 things:

1) _____
2) _____
When more than one force acts on an object, the forces _____ to form a _____.

Forces may _____ or _____.

If the effects of the forces **cancel each other out**, and do not cause an object to move, the forces are said to be _____.

If the forces **don't cancel each other out** - 1 force is stronger than the others - the forces are _____ and will cause a _____.

MEASURING FORCE

The strength of a force is measured in _____.

The symbol is _____.

We can use a _____ to measure forces in our science experiments.



COMBINING FORCES

Two forces _____ can _____ together to produce a **LARGER** net force.



Two forces _____ can _____ to produce a **SMALLER** net force in the direction of the larger force.



Two forces may _____ and produce **NO NET FORCE**.



Some examples of forces are:

FORCES Practice Problems

Name: _____
Date: _____
Core: _____

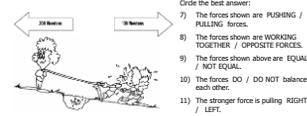


- Circle the best answer:
- 1) The forces shown above are **PUSHING / PULLING** forces.
 - 2) The forces shown above are **WORKING TOGETHER / OPPOSITE FORCES**.
 - 3) The forces shown above are **EQUAL / NOT EQUAL**.
 - 4) The forces **DO / DO NOT** balance each other.
 - 5) The net force is **1000 N TO THE RIGHT / 1000 N TO THE LEFT / ZERO**.
 - 6) There **IS / IS NO** motion.

- 13) Two movers are trying to move a heavy box. One mover pushes to the right with a force of 150 N. The other mover pushes to the left with a force of 200 N.



- a) Draw & label the forces on the diagram.
- b) What is the net force?
- c) Will the box move?
- If yes, in what direction?
- If no, why not?



- Circle the best answer:
- 7) The forces shown are **PUSHING / PULLING** forces.
 - 8) The forces shown are **WORKING TOGETHER / OPPOSITE FORCES**.
 - 9) The forces shown above are **EQUAL / NOT EQUAL**.
 - 10) The forces **DO / DO NOT** balance each other.
 - 11) The stronger force is pulling **RIGHT / LEFT**.
 - 12) Motion is to the **RIGHT / LEFT**.

- 14) Two movers are trying to move a heavy chair. One mover **PULLS** to the left with a force of 200 N. The other mover **PUSHES** to the left with a force of 200 N.



- a) Draw & label the forces on the diagram.
- b) What is the net force?
- c) Will the chair move?
- If yes, in what direction?
- If no, why not?



- Circle the best answer:
- 13) There is a net force on the toy? _____
 - c) In which direction will the toy move? _____
 - d) Who gets the toy? _____

- 15) Four children are fighting over the same toy. Mike is pulling North with a 50 N force, Justin is pulling East with a 40 N force, Chantal is pulling South with a 50 N force, and Ylana is pulling West a 30 N force.



- a) Draw & label the forces on the diagram.
- b) Is there a net force on the toy? _____
- c) In which direction will the toy move? _____
- d) Who gets the toy? _____