Name _____ Date _____

Science _____ Main Ideas WS

Directions: circle the best answer at the "OR" statements

Balanced vs Unbalanced Forces

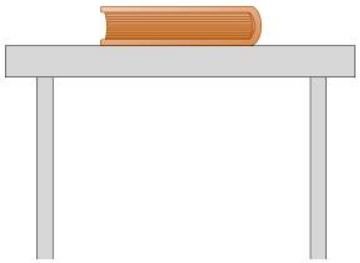


Figure 1

1. BALANCED FORCES: two forces working in **opposite OR same** directions and **equal OR unequal** in size. Movement? **Yes OR No**

   Ex: The book is balanced because the weight of the book pushes **down OR up** and the reaction force of the table pushes **down OR up**. Draw two arrows that represent the forces working on the book in **Figure 1**.

2. UNBALANCED FORCES: the forces on each side are **different OR same** sizes so the object **will OR won't** move. Draw two arrows that represent an unbalanced force in **Figure 2**.

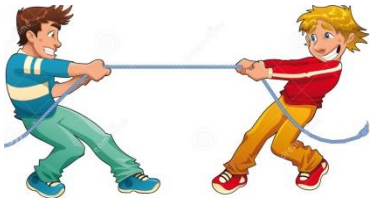


Figure 2

NEWTON

3. The force that can move an object of one **gram OR kilogram** one **meter OR kilometer** per second per second. **Force = mass x acceleration**

$$1\ \text{N} = 1\ \text{kg}\frac{\text{m}}{\text{s}^2}$$

Name the tool in **Figure 3**. _____

This tool measures the push or pull of an object.

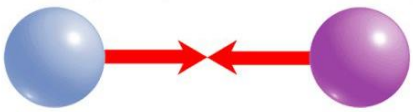
Figure 3

GRAVITY

4. The force which pulls 2 objects **away or towards** each other. **** Gravity = 9.8 m/ s^2 ****

Two factors affect the *gravitational attraction* between objects: **mass and distance.**

The force of gravity acts between all objects.

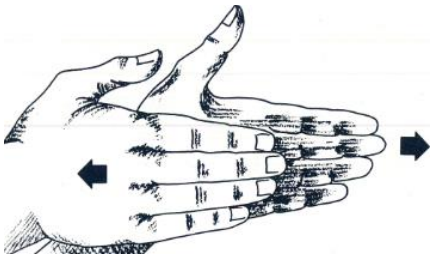


If mass increases, the force of gravity increases.

If distance increases, the force of gravity decreases.

FRICTION

4. Friction is a force that resists motion of objects or surfaces; anywhere two objects are in motion. **Always OR Sometimes** works in **opposite OR same** direction of the moving object.



There are 4 types of friction:

Static: force between objects at rest
Sliding: friction between two solid surfaces sliding
Rolling: friction between a rolling object and its surface
Fluid: friction between a solid and fluid within which it is moving

Two factors for strength:

- How hard the two objects are pushing together
- What type of surfaces are being used

Write the correct friction that matches the real world situation.

5. _____

6. _____

7. _____

8. _____

MOMENTUM

9. Momentum is the amount of motion an object has, AKA "mass of motion".
Formula **P = MV OR P = M/V**

10. The more momentum something has the **easier OR harder** it is to stop it.