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Forces Test

1. Circle **True** or **False**:

- a) A force can make something move.
- b) Gravity pushes you down to the earth.
- c) Gravity causes all things to fall at the same speed.
- d) Muscular force causes the same movement in all objects.
- e) Both air and water can give a buoyant force.
- f) Two north poles together make a pulling force.
- g) Two positive charges together make a pulling force.
- h) Forces only act when things are touching.
- 2. Identify the force being described.
 - a) The force that pulls objects towards the earth:
 - b) The push or pull that happens with charged objects: Static Electric
 - c) The push or pull that happens when poles are aligned: Magnetism
 - d) The force caused by two objects rubbing together: Friction
 - e) The force that pushes objects upwards:

Budyancy

 f) The push or pull that happens when a human uses energy: Muscular Force

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3. Choose two forces and explain how these forces are used in daily life.

Many possible answers. For example:

Magnetism - Fridge Magnets, Gravity - A Falling Ball

Friction - Walking, Muscular - Throwing a Ball

Static Electric - Rubbing a Balloon in your Hair to Make it Stick to the Wall

Buoyancy - Swimming

4. If a ball is rolling down the hall and you apply a force, what three things can that force change?

Change the speed.	*Change its shape.
Change the direction.	
Stop it.	

- 5. Magnets can both push and pull. These push and pull forces have special names:
 - a) What is the scientific word for the pulling force of magnets?
 - g) What is the scientific word for the pushing force of magnets?

	Kepel	
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6. Look at the picture to the right. Both the boy and the girl are pulling on a rope, but neither the boy nor the girl are moving. Who is pulling with a stronger force? Please explain your answer.



They are pulling with the same strength.

If one was stronger, then they would be moving. Things only move if the forces

are unbalanced. They are not moving, meaning the forces are the same.

7. List three situations when you would want to increase friction and three situations when you would want to decrease friction.

Increase
Many possible answers. For example:
Driving, Bath Mat, Salt on Roads

Decrease

Many possible answers. For example:

Wax on Skis, Oil in Hinge, Zamboni

- 8. Why do cars have seatbelts?
 - Seatbelts are for safety.
 - Things stay moving unless stopped by something.
 - If the car stops, and nothing stops the person, they will keep moving forward.

The seatbelt provides the force to stop the person.

When the car stops, the person also stops.

9. Name a force caused by nature. Explain how it affects the environment and how it affects people.

Erosion - Takes away soil, pollutes water, etc. Hard to grow crops, makes

ground unstable, etc.

Landslide - Destroys plants, takes away homes of animals, kills animals, etc.

Destroys homes, roads, bridges, can take lives, etc

Lightning - Can burn trees, start fires, in jure animals, etc. Can set homes

on fire, damage people, cause power failures, etc.

Tidal Wave - Can flood areas, kill plants and animals, disturb marine life, etc.

Can destroy homes and other belongings, cause people to have to move, etc.

Question	1	2	3	4	5	6	7	8	9	Total
Points	8	6	3	3	2	3	6	4	5	40
Score										

Forces

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A	M	Α	G	Ν	Е	Т	I	S	M	Z	F	E	C	Ε	Ι	U

Balanced	Friction	Push
Buoyancy	Gravity	Rough
Contact	Magnetism	Smooth
Direction	Movement	Speed
Energy	Muscular	Static Electric
Force	Pull	Unbalanced