FORCES

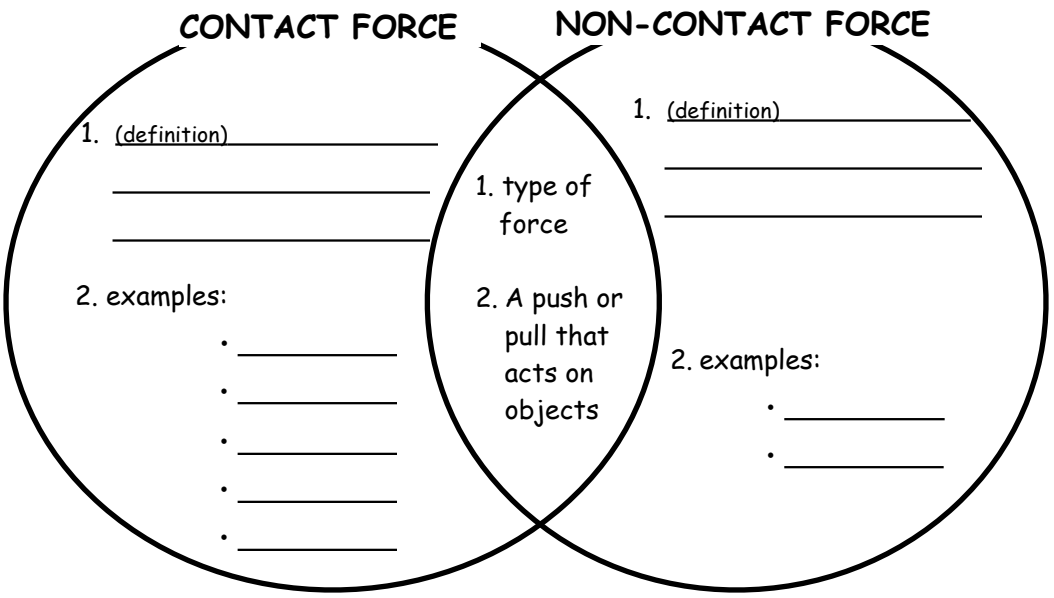
Name_____ WS #1

Directions: Forces are acting all around you. To learn about what a force is, **HIGHLIGHT** the answers in the reading before answering the question.

A force is a push or a pull on an object. Forces exist only when there is an object for them to act on. Forces are classified as either contact forces or non-contact forces.

A contact force is a force exerted during contact between objects. Examples of this type of force are a push, pull, normal, friction, and buoyancy.

A non-contact force is a force that acts on an object from a distance. Gravity and magnetic forces are examples of this type of force.



A force is a push or pull on an object. For example....

Dad push's his son on a swing.

Jacob pulls the wagon.

On a windy day, you can feel the wind push against you.

3. A force is a _____ or a _____.

4. Jack is _____ (pulling, pushing) the ball when he kicks it across the field.

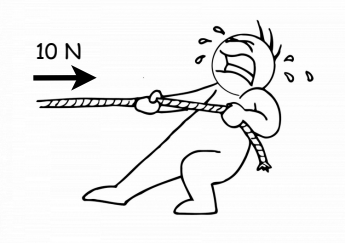
3. A magnet _____ (pulls, pushes) iron towards it.

5. The bird is _____ (pulling, pushing) on the worm to get it out of the apple.

6. The hammer is _____ (pulling, pushing) on the nail to make it go into the wood.

WS #1

A force has both magnitude (strength) and direction. For example, Josh is pulling on the rope with 10 N of force to the right.



The magnitude or strength of a force is measured in units called newtons (N). In the example above, the magnitude of the force is 10 N and the direction of the force is to the right. In a force diagram, arrows are used to represent the direction of the force.

7. A force has both m_____ and d_____ .

8. The magnitude (strength) of a force is measured in units called _____. The symbol for this is _____ .

9. In a picture, we draw an a_____ to represent the direction of a force.

10. The custodian is applying 15N of force to left on the broom.

a) "15 N" would represent the _____ (magnitude, direction) of the force.

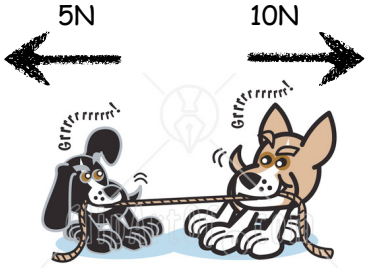
b) "left" would represent the _____ (magnitude, direction) of the force.

PUTTING IT ALL TOGETHER

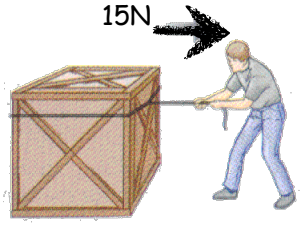
For example.....

..the large dog is pulling on the rope with a force of 10N to the right.

...the small dog is pulling on the rope with a force of 5N to the left.

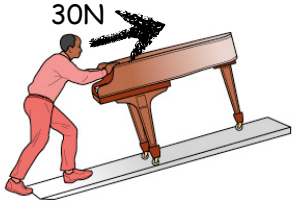


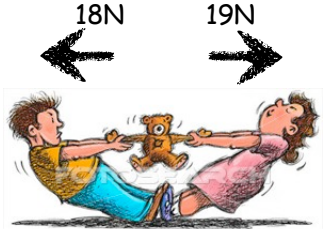
11. Sally is pulling the wagon with a force of _____ N to the _____ (right, left).



12. Sam is pulling the box to the _____ (right, left) with a force of _____ N.

13. Tom is pushing the piano _____ (up, down) the ramp with a force of _____ N.





14. Cindy is pulling on the bear to the _____ (right, left) with a force of _____ N.

Tom is pulling on the bear to the_____ (right, left) with a force of_____ N.