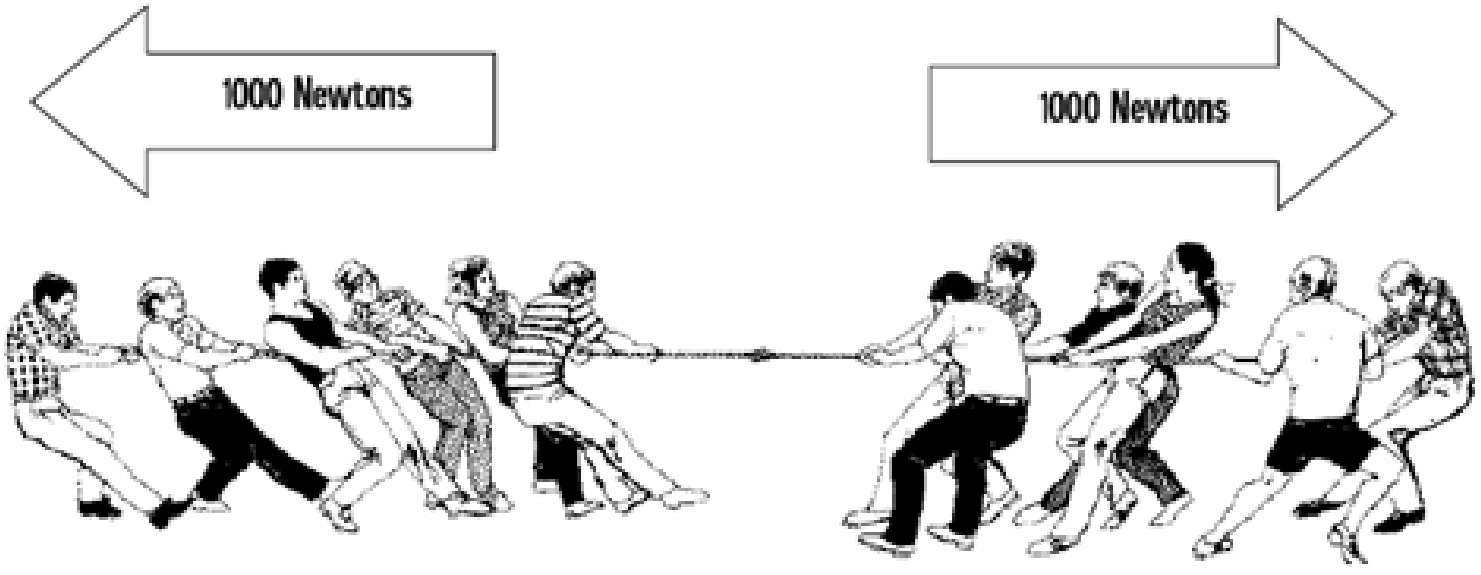
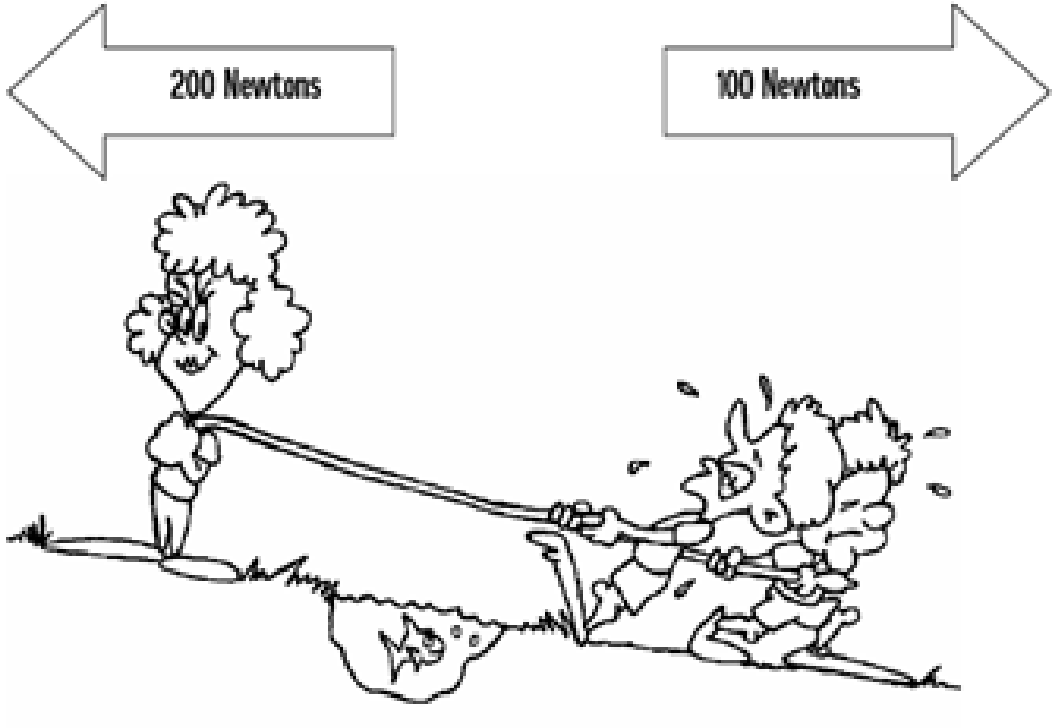
Newton's Three Laws of Motion

Tell which type of force is taking place
(push pull)

Draw an arrow showing which
direction the force is moving



What are some observations we can make about what is happening in this picture?



What are some observations we can make about what is happening in this picture?

What do you know about Sir Isaac Newton?

What I Know	What I Learned from the Video
1) identified friction 2) Discovered 3 laws of motion	

t

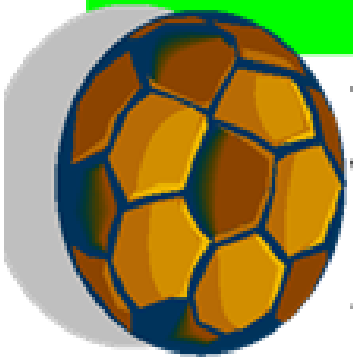
N

d

Newton's Third Law

An object will remain at rest of keep moving in a straight line with constant speed unless an unbalanced force acts on it.

Think...Inertia

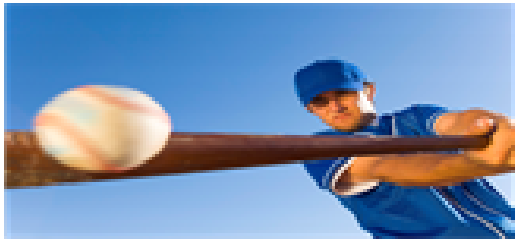


The ball will stay at rest unless a force moves it.

The ball will keep moving unless a force stops it. (gravity,

An unbalanced force acting on an object causes the object to accelerate in the direction of the force.

Think... Acceleration & Velocity



The ball will continue in the direction of the force.

Turn to the next clean page in your Interactive Science Notebook.

We will set up the page for today's lab activity using the next side as a guideline.

Draw an Active Illustration	Which law did you observe? Why do you think that?
Bowling	o o
Card Trick	o o
Balloon Rocket	o o

You will have ten minutes at each station.

You and your partner will complete the activity listed on your station card. Observe the force and motion taking place as well as the outcome.

Draw an active illustration of what you observed, and describe which law you feel the station represents and why. There is more than one correct answer.

Practice accountable talk!

Bowling Physics

1. Place the containers on the masking in a triangle shape.

2. From a meter away, toss the ball from a certain direction into the containers.

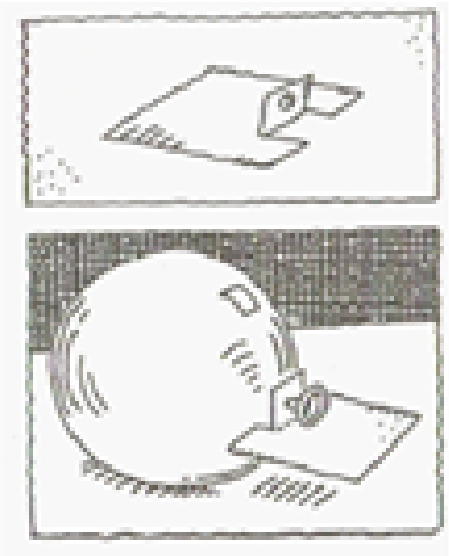
3. Draw a picture of what you observed.

4. Explain which law is represented and why.

Card Trick

1. Place the index card on top of the small glass.
2. Place the penny on top of the card.
3. From the side flick the index card off of the glass. **Make sure that the card is flicked parallel to the desk.**
4. Observe the results: the card moves in the direction of the “push” and the penny falls into the glass.

Balloon Rocket Station



1. Inflate a balloon. While preventing the air from escaping, slip the neck of the balloon through the hole in the index card.

2. Release the balloon and observe what happens.

3. Draw what you observed and decide which law this represents.

When stretched a balloon skin develops a strong elastic force. This force pressurizes the air trapped within the balloon. When the pressurized air is allowed to escape, it rushes vigorously from the balloon's nozzle.

Balloon Rocket Station

1. Inflate a balloon. While preventing the air from escaping, tape the balloon to the straw on the fishing line.

2. Move the straw and balloon to the beginning of the fishing line.

3. Release the balloon and observe what happens.

4. Draw what you observed and decide which law this represents.

When stretched a balloon skin develops a strong elastic force. This force pressurizes the air trapped within the balloon. When the pressurized air is allowed to escape, it rushes vigorously from the balloon's nozzle.

1st Law

An object will remain at rest or keep moving in a straight line with constant speed unless an unbalanced force acts on it.

2nd Law

An unbalanced force acting on an object causes the object to accelerate in the direction of the force.

3rd Law

When a force is applied on an object, an equal force is applied by the object in the opposite direction.