

Forces: Magnitude and Direction

- I could teach it
- I somewhat get it
- I need to learn this



Glue this side into your notebook



The things I should know before 8th grade:

- A change in an object's motion will depend on its mass and how much force is exerted on it
- The motion of an object is determined by its speed and direction
- You can graph the position or speed of an object as a function of time

The most basic things I should know after this unit:

- The rules of physics affect everything made of matter and energy and can be used to predict motion.
- Motion remains the same unless unbalanced forces act on an object
- Motion is always measured compared to a reference point
- Unbalanced forces change the motion of an object

I know...	
a.	<input type="checkbox"/> what a reference point is <input type="checkbox"/> that the description of motion is always dependent on a reference point and that the description of motion is different based on the reference point <input type="checkbox"/> what relative motion means
b.	<input type="checkbox"/> that motion is described by speed and direction <input type="checkbox"/> that forces are described by magnitude (strength) and direction and understand these both can vary <input type="checkbox"/> what net force is <input type="checkbox"/> what kinetic friction and drag are and how they affect motion
c.	<input type="checkbox"/> that objects tend to keep doing what they're doing unless an unbalanced force acts on them (inertia) <input type="checkbox"/> what <u>unbalanced</u> forces are in relation to net force
d.	<input type="checkbox"/> what <u>balanced</u> forces are in relation to net force

I can...	
a.	<input type="checkbox"/> predict and describe motion of an object based on different reference points (relative motion)
b.	<input type="checkbox"/> describe forces by their magnitude (strength) and direction using vectors <input type="checkbox"/> determine the net force in an interaction between an object and the forces acting on it <input type="checkbox"/> predict and explain motion after determining net forces <input type="checkbox"/> draw force diagrams with multiple forces acting on objects to determine the predicted motion based on net force <input type="checkbox"/> conduct/create experiments to explore/explain how motion is affected by forces
c.	<input type="checkbox"/> explain and predict the motion of objects with <u>unbalanced</u> forces acting on them
d.	<input type="checkbox"/> explain and predict the motion of objects with <u>balanced</u> forces acting on them

Vocabulary			
<input type="checkbox"/> motion	<input type="checkbox"/> direction	<input type="checkbox"/> net force	<input type="checkbox"/> unbalanced force
<input type="checkbox"/> reference point	<input type="checkbox"/> relative motion	<input type="checkbox"/> force diagram	<input type="checkbox"/> magnitude
<input type="checkbox"/> force	<input type="checkbox"/> balanced force	<input type="checkbox"/> kinetic friction	<input type="checkbox"/> zero net force
<input type="checkbox"/> inertia	<input type="checkbox"/> drag	<input type="checkbox"/> vector	