FORCES Mini Lesson

What's a Force?

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

Measured in Newtons (N) and is a vector.

2 Types:

- Contact Force
- At-a-Distance Forces

The Big 7 Forces

Gravity- always pulling down, acts on **every object.**

Friction Force- resists motion, opposite of the movement

Tension- holding up an object, only with strings, ropes, etc.

Normal Force- support force, object has to be resting on something else.

Applied Force- Force applied to an object by a person or another object

Air Resistance- Acts on objects traveling through air, opposite of the motion

Spring Force- exerted by a compressed/stretched spring on object attached to it

List all forces present...

A car sits in a parking lot.

A ball is thrown straight upward.

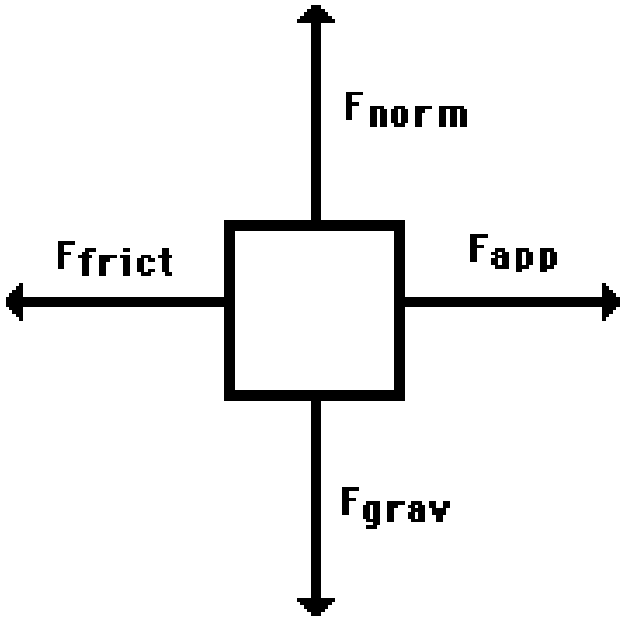
A box is pushed across the floor by two friends.

A tug of war contest is held at school.

Free Body Diagram

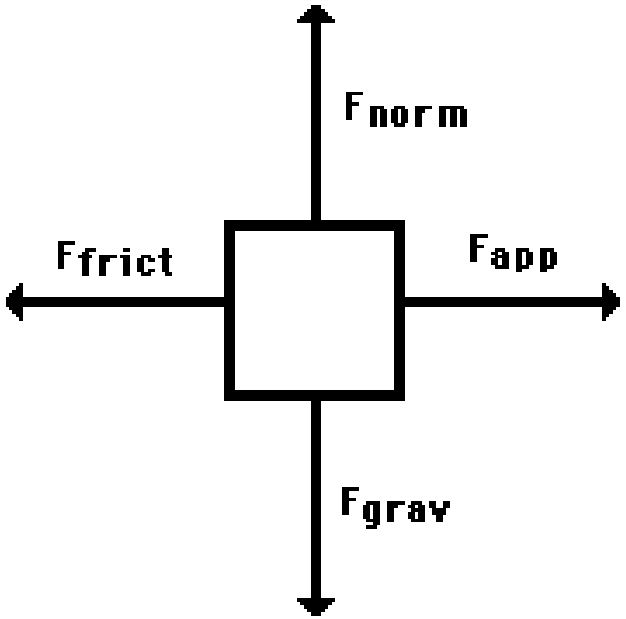
-Vector Diagram that shows all the forces acting on an object

-Needs to include all forces acting on an object



Free Body Diagram Instructions

1) Create a box for the object
2) Go through each of the Big 7 forces- is it present? (Gravity is always present, down)
3) If present, create an arrow and direction to represent.



Free Body Diagram Practice

A car sits in a parking lot.

A box is pushed across the floor by two friends.

A ball is thrown straight upward.

A tug of war contest is held at school.

Net Force = sum of all forces that act on an object

Right = Positive

Left = Negative

Add/subtract the forces