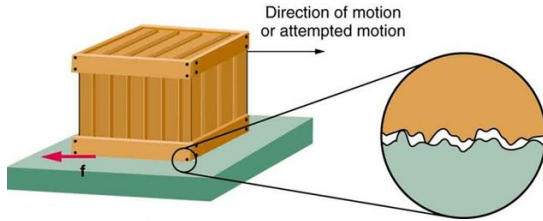


Friction -

Is caused when two _____ come into contact with each other and at least one of them is moving.
The smoother the surface the _____



Terminal Velocity

A falling object has a constant W _____. As it falls Air Resistance increases./decreases, increasing/reducing the acceleration, until the objects reaches its' maximum speed or _____



_____ forces - act between two objects that are physically touching each other (including gases)

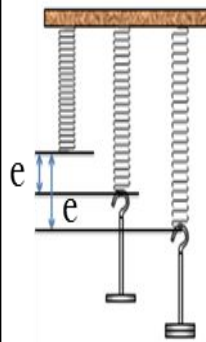
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Name the 7 Forces

_____ forces - act between two objects that are not physically touching each other.

-
-
-
-

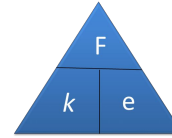
Name the 4 Forces



$F =$ force applied ()
 $k =$ spring constant ()
 $e =$ extension ()

What extension results from a spring with spring constant 50N/m being stretched with a force of 200N?

$F =$
 $k =$
 $e =$
 $=$



If something floats: Weight Upthrust
If something sinks: Weight Upthrust
Add correct symbol <, >, or =

What is the effect on an object where

Balanced Forces

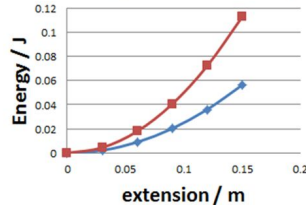
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-
-

Unbalanced Forces

-
-
-

Elastic Potential Energy (E_e)

All objects are able to store E_e to some extent. Some object that are good at this are _____



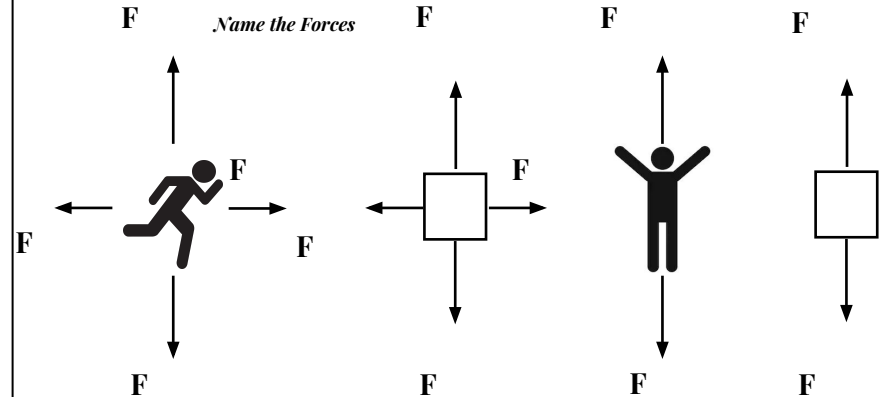
What does this graph show me?

The red line is an elastic object that stores *more/less* energy for the same extension. This would relate to a 'stiffer' object that is *hard/easy* to compress or extend.

Every object has a limit though - if it extends past its' elastic limit it may not go back to its'

7.4 - Forces

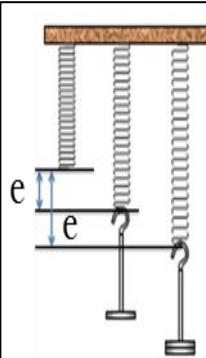
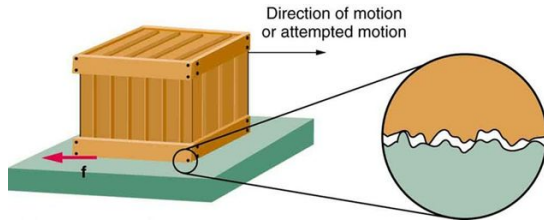
There are diagrams used to show the m _____ and d _____ of all forces acting upon an object in a given situation. If you can't draw you can simplify the object to a box



Friction – a force that resists motion but also makes motion possible!

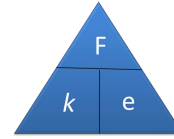
Is caused when two surfaces come into contact with each other and at least one of them is moving.

The smoother the surface the lower the force of friction.



$F =$ force applied (newtons, N)
 $k =$ spring constant (Newtons per metre, N/m)
 $e =$ extension (metres, m)

What extension results from a spring with spring constant 50N/m being stretched with a force of 200N?



$$F = 200\text{N}$$

$$k = 50\text{N/m}$$

$$e = ?$$

$$e = F/k$$

$$= 200/50$$

$$= 4\text{m}$$

If something floats:
If something sinks:

Weight = Upthrust
Weight > Upthrust

Balanced Forces

- If the object is stopped, it will remain stopped.
- If the object is moving, then it will continue to move at the same speed and direction.

Unbalanced Forces

- The speed will change.
- The direction of motion will change.
- The structure will change.

Terminal Velocity

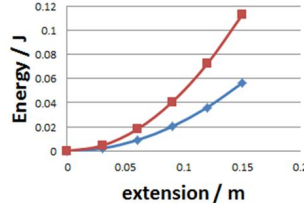
A falling object has a constant **weight**.

As it falls **air resistance increases**, reducing the **acceleration**, until the objects reaches its' maximum speed or **terminal velocity**.



Elastic Potential Energy (E_e)

All objects are able to store E_e to some extent. Some objects that are good at this are rubber bands, springs etc.



What does this graph show me?

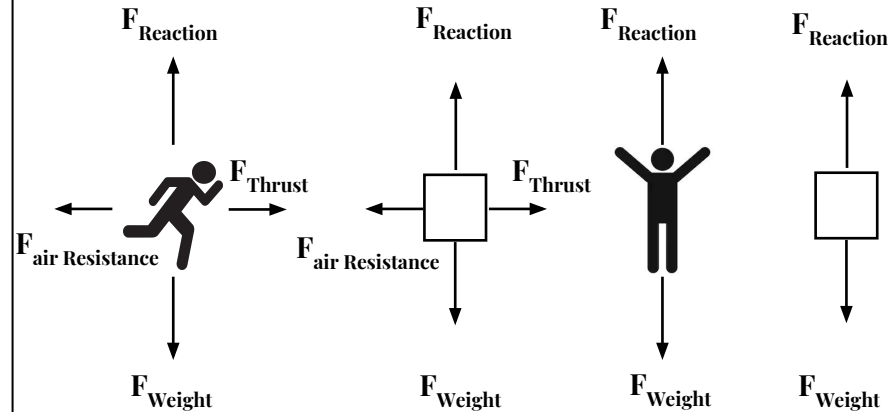
The red line is an elastic object that stores more energy for the same extension. This would relate to a 'stiffer' object that is *hard* to compress or extend.

Every object has a limit though – if it extends past its' elastic limit it may not go back to its' original shape or fracture/break

7.4 - Forces

Free body diagrams

There are diagrams used to show the magnitude and direction of all forces acting upon an object in a given situation. If you can't draw you can simplify the object to a box



Contact forces – act between two objects that are physically touching each other (including gases)

- Friction
- Thrust
- Air Resistance
- Tension
- Upthrust
- Normal contact force
- Lift

Non-contact forces – act between two objects that are not physically touching each other.

- Weight
- Magnetic
- Electrostatic (electrons)
- Electrochemical (ions)