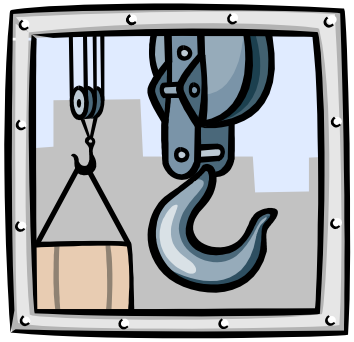
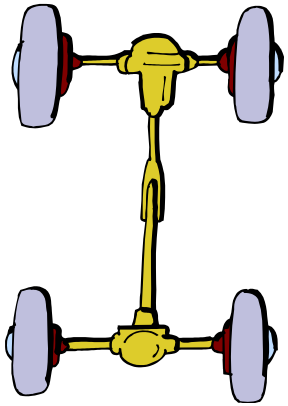
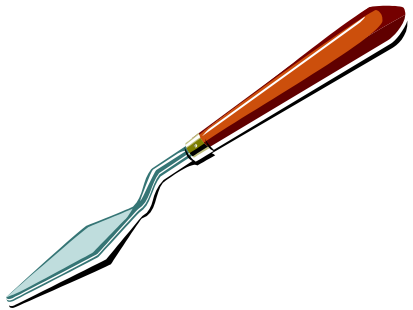


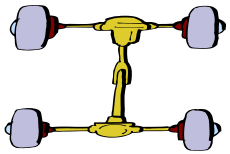
Forces and Motion and Simple Machines





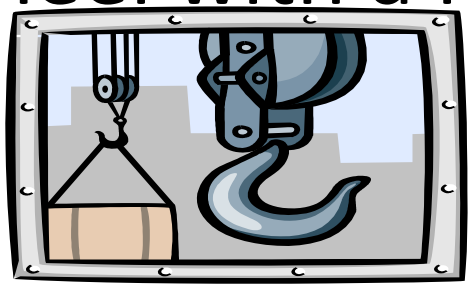
- Force-a pull or a push that causes an object to move, stop, or change direction
- Motion-a change in position of an object
- Simple Machine-a machine with few or no moving parts that you apply just one force to

Simple Machines vocabulary



- Wheel and axle-a wheel with a rod, called an axle, through its center: both parts move together
- Lever-a stiff bar that rests on a support called a fulcrum

- Fulcrum-the fixed point on a lever
- pulley-a grooved wheel with a rope or cable around it

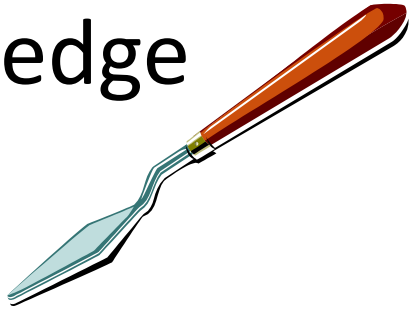


Simple Machines vocabulary cont…

- Screw-an inclined plane wrapped around a pole

- Inclined plane-a slanting surface connecting a lower level to a higher level

- Wedge-an object with at least one slanting side ending in a sharp edge



Simple Machines

- What does a lever do?
  Lifts or moves loads

- How does an inclined plane work?
  Things move up or down it

- What are the wheels and axles uses in a simple machine?
  Lifts or moves loads

Simple Machines

- What is the purpose of a screw?
  Holds things together or lifts

- What is the purpose of a pulley?
  To move things up, down, or across

- How does a wedge work?
  Cuts or spreads an object apart

Forces and Motion vocabulary

- Acceleration-a change in speed or direction of an object's motion
- Force-a push or pull
- Gravity-the force of attraction between Earth and other objects
- Inertia-the property of matter that keeps an object at rest or keeps the object moving in a straight line

Forces and Motion vocabulary continued…

- Gravitation-a force that acts between all masses and causes them to attract one another
- Friction-a force that resists motion, relative to each other, of objects that are touching
- Speed-a change of position during a unit of time
- Velocity-the speed and direction of an object

Forces and Motion

- When you increase the force on an object, _____ will probably also increase.

  its acceleration
- What differs when you are riding 10 miles per hour, north, and a friend is riding 10 miles per hour, east?_____.

  velocity
- _____ and _____ are the 2 things that must be measured to find the speed of a moving bicycle.

  Distance and time

Forces and Motion

- When 2 items are exerting a force on one another and neither moves, what describes this type of force?_____

  balanced

- You have 2 vehicles traveling towards one another at 1m/sec. One is 10g. While the other is 15g. What is the same about both of the vehicles?_____

  speed

Forces and Motion

- You have a bouncy ball and bowling ball rolling at the same speed on the same surface. Why will the bowling ball be harder to stop?_____

  greater momentum

- What is the measurement of the force of gravity on an object?_____

  weight

Forces and Motion

- The acceleration of an object depends on the size of the force used on it as well as the object's _____

  mass

- If the same force acts on each of the following objects, which will have the GREATEST acceleration?

  a. soccer ball b. basketball

  c. bicycle d. golf ball

Forces and Motion

- What is used to measure weight?

  a scale
- The speed of a car is detected by _____.

  how many miles per hour you are moving
- The force of _____ holds the moon in its orbit around Earth.

  gravitation
- What kind of force can slow down a moving object? _____

  friction

Forces and Motion

- Some kids are playing soccer. Describe forces that are involved when playing this game.

  Possible Answers:

  Kicking is a push; gravity pulls the ball down when it is in the air; there is friction when two opposing teams are kicking at the ball at the same time.