Meg

Unit 1 Test Review
Chapters 1, 2, 3, and 4

Answer the following questions to help you study for your Unit 1 Test.

Define:

Noncontact Force: a force that one object applies to another object without touching it.

Contact Force: a push or pull on one object by another object that is touching

Kinetic Energy: energy due to motion

Potential Energy: stored energy due to the interactions between objects or particles

Law of Conservation of Energy: laws that states that energy can be transformed from one form to another but it cannot be created or destroyed

What makes digital signals better than analog signals?

1. Less Interference
2. Higher Picture Quality
3. Can Carry more information

Give an Example of Each Energy Type:

Kinetic	Potential	Chemical	Radiant	Seismic	Sound	Thermal
Blades of a wind turbine moving	A kite stuck in a tree	Energy from food	Sunshine	Earthquake	Echo-location	Rubbing your hands together

Fill in the graphic organizer below:

	Newton's 1st Law	Newton's 2nd Law	Newton's 3rd Law
Definition	An object in motion will stay in motion, unless acted on by an unbalanced force	F=ma The acceleration of an object is equal to the net force acting on the object divided by the object's mass	For every action there is an equal and opposite reaction.
Example 1 and Picture	A soccer ball sitting still at rest	Pushing a heavy ball harder to move it.	A firework turns on its base and is knocked backwards.
Example 2 and Picture	A seatbelt stops you from going through the windshield	A girl pushes a sled and the sled accelerates	Air being let out of a balloon and speeding it upwards
Example 3 and Picture	A book sitting on a table	A boy can throw a football farther by using more force	Water pushes you forward when you push against it.

Define and Provide an Example of each Simple Machine Listed Below:

Simple Machine	Definition	Example
Lever	a simple machine that consists of a bar that pivots or rotates around a fixed point	Wheelbarrow (Handle portion)
Pulley	a simple machine that consists of a grooved wheel with a rope or cable wrapped around it.	Flagpole mechanism
Wheel and Axle	a simple machine that consists of an axle attached to the center of a larger wheel, so the shaft and wheel rotate together	Doorknob (inside portion)
Screw	a simple machine that consists of an inclined plane wrapped around a cylinder	Threaded Bolt
Wedge	a simple machine that consists of an inclined plane with one or two sloping sides, used to split or separate an object	Doorstop knife
Inclined Plane	a simple machine that consists of a ramp, or a flat, sloped surface	Wheelchair ramp

Speed of Sound

Medium	Speed (m/s)
Gases:	
Air (0°C)	331
Air (20°C)	340
Liquids:	
Fresh water	1,490
Salt water	1,531
Solids:	
Lead	1,210
Plastic	1,800
Silver	2,680
Gold	3,240
Brick	3,650
Wood	4,000
Glass	4,540
Iron	5,000
Steel	5,200

Using the chart at the left fill in the blanks:

The speed of sound is faster in steel than in iron.

Sound travels the slowest in (solids, liquids, or gases).

Sound travels fastest in (solids, liquids, or gases).

Organize the types of radiation below from longest wavelength to shortest wavelength:

~~Microwaves~~, ~~Gamma Rays~~, ~~Visible~~ Light, ~~Infrared~~ Radiation, Ultraviolet, ~~X-Rays~~, ~~AM~~ Radio ~~Waves~~, ~~FM Radio Waves~~

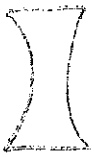
AM Radio | FM Radio | Microwaves | Infared | Visible Light | Ultraviolet | X-Rays | Gamma

Longest Shortest

A(n) (sound or ~~electromagnetic~~) wave can travel through a vacuum and matter.

Sound Waves are (longitudinal or transverse) waves.

Define each and draw a picture:

	Definition	Picture
Convex Mirror	A mirror with a reflecting surface that curves outward.	
Convex Lens	A lens that is curved outwards	
Concave Lens	A lens that is curved inwards	
Concave Mirror	A mirror with a reflecting surface curved inwards	
Plane Mirror	A mirror with a flat reflecting surface.	