Ready Steady Go

Overview:

Kinetic and potential energy will be explored in a fun exercise and activity.

Outcome:

Students will demonstrate the transfer of energy from potential to kinetic.

Plan:

- Explain that energy has two forms: on and off. When energy is on, it's in motion. That's Kinetic Energy. When energy is off, the motion is waiting. That's Potential Energy.

Part One:

- Copy and distribute the worksheet and ask students to check K for Kinetic Energy or a P for Potential Energy in each box.

Part Two:

- Have the students stand in a circle. At the word "Kinetic" have them jump or run in place, moving energetically. But at the word "Potential," they have to stop immediately.
- Ask the students to describe what Kinetic and what Potential Energy feels like.

1ST GRADE SCIENCE

EARTH AND SPACE SCIENCE (ESS)

Standards: 1.ESS.1 The sun is the principal source of energy. Appropriate tools and technology are used to collect, compare and document data. Investigation and experimentation are combined with explanation, questioning and discussion of the results and findings.

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Submarine Treasures

1ST GRADE SCIENCE

EARTH AND SPACE SCIENCE (ESS)

Standards: 1.ESS.2 Water on Earth is present in many forms. The physical properties of water can change. Use appropriate tools to test and measure water properties.

Overview:

Students will have fun in this water activity to determine relative buoyancy.

Outcome:

By testing which objects float or sink, students will learn about buoyancy.

Plan:

- Fill a pail halfway with water and assemble the various objects listed in the worksheet.
- Copy and distribute the worksheet to students.
- Have the students guess and keep track of which object will sink or float by circling the "Sink" or "Float" box on their worksheet below each object.
- In the blank spaces on the worksheet, have students draw an object they think will "Sink" and one they think will "Float."
- Afterwards, discuss the word "buoyancy" and ask students to describe it.

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Metal Minded

1ST GRADE SCIENCE

PHYSICAL SCIENCE (PS)

Standards: 1.PS.1 Properties of objects and materials can change. Investigations and experiments are conducted to explore property changes of objects and materials.

Overview:

In this activity, students will draw images of how selected metal are used in daily life.

Outcome:

Students will be able to identify metal resources and match them to a primary function.

Plan:

- Explain to students that metals are usually attached to rocks in the ground. Tell them about the following metals and how they are often used.

Metal	Properties	Use
Iron	hard, magnetic, strong	wires, tools, buildings
Gold	heavy, soft, shiny	jewelry, electronics
Copper	soft, bendable, reddish	wires, pipes, pots, pans
Lead	heavy, soft, not electrical	paint, batteries

- Copy and distribute the worksheet. Help students brainstorm how the different metals are used, then have them draw pictures of each.

Iron is strong, red, and hard. *Draw something made of iron.*	**Gold is soft, yellow, and shiny.** *Draw something made of gold.*
Copper is soft, brown, and bendy. *Draw something made of copper.*	**Lead is soft, gray, and heavy.** *Draw something made of lead.*

Machine Moves

Overview:

In this activity, students will choose and enact different types of machine movements.

Outcome:

Students will demonstrate different ways of movement.

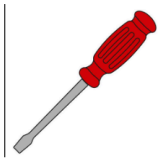
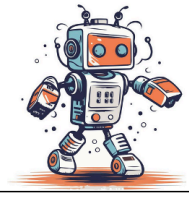
1ST GRADE SCIENCE

PHYSICAL SCIENCE (PS)

Standards: 1.PS.2 Objects can be moved in a variety of ways, such as straight, zigzag, circular and back and forth. Experimentation, testing and investigations of different ways to change the motion of different objects (e.g., a ball, a pinwheel, a kite) can be used to demonstrate movement. Force is a push or pull between two objects and energy is the property of an object that can cause change. A force acting on an object can sometimes result in a change in energy.

Plan:

- Explain that different ways of moving, bouncing, circling, jumping, running, etc.
- Cut out each card and place them face down on a table. Have a student draw a card and act out how that word works, and have the other students guess the word.

A ball 	A car 	A plane 	A jackhammer 
A toaster 	A tire 	A screwdriver 	A lightbulb 
A clock 	A submarine 	A chicken 	A robot 

Life Cycle of a Rock

1ST GRADE SCIENCE

LIFE SCIENCE (LS)

Standards: 1.LS.1 Living things have basic needs, which are met by obtaining materials from the physical environment. Investigations about the types of living things that live in specific ecosystems in nature.

Overview:

Students will follow the "life" of a rock as it's born in a molten source, changes over time, and erodes in weather.

Outcome:

Students will be able to depict and describe the "life cycle" of a rock with metal ore.

Plan:

- Explain to the class that, like plants and animals, rocks have a cycle. Though rock-time, or geological time, is much longer than the time of living things, rocks, too, are created from a combination of dust and heat. Ask them to imagine a rock being "born" in a volcano, erupting onto the surface, growing by having other rocks, minerals, metals, and even fossils attach to it, and slowly eroding by wind and rain over millions of years.
- Copy the worksheet and cut out the images of the stages of a rock's "life." Crumple each cut out and have students open it to see the image. Have them put papers in correct time order.
- This can be a "Concentration" type game where the students have to remember the order of each crumbled paper (each stage in a rock's life).

Pet Rocks

1ST GRADE SCIENCE

LIFE SCIENCE (LS)

Standards: 1.LS.2 Living things survive only in environments that meet their needs. Observations of seasonal changes in temperature, liquid water availability, wind and light are applied to the effect of seasonal changes on local plants.

Overview:

In this creative activity, students will choose a rock (perhaps found on school property or from home—or provided by the teacher) to makeover as their personal pet.

Outcome:

Students will get to assign living characteristics to their pet rock, including its environment and requirements.

Plan:

- Display an assortment of rocks and have each student choose the rock that "calls" to them—as if they were adopting a pet.
- Ask each student to decorate and name their rock (googly eyes would be a plus). Then have each student describe where their rock lives, what it needs to live, and how it might "grow" or change over time.

Keyboard Coloring

1ST GRADE SCIENCE

TECHNOLOGY (TECH)

Standards: 1.TECH.1 Understanding the basics of computers. Becoming familiar with computer components.

Overview:

Students will get to know the QWERTY keyboard by coloring in the keys.

Outcome:

Students will become comfortable with the position of the keys on the keyboard.

Plan:

- Copy and distribute the keyboard worksheet.
- Have the students color the letters of their name on the keyboard in YELLOW. Have them color the letters in the name of one of their friends in BLUE. All the letters shared between the student and their friend, have them color in GREEN. If they can find a new sight word from the remaining uncolored letters, have them color those letters in RED.

IMAGE TK

Computer Bits and Pieces

1ST GRADE SCIENCE

TECHNOLOGY (TECH)

Standards: 1.TECH.2 Understanding computer components. Becoming familiar with computer components.

Overview:

Students can test their knowledge of the parts of a computer.

Outcome:

Students will color and become familiar with computer components.

Plan:

- Cut and distribute the worksheet. Have the students find and color the parts of the computer: Mouse-BROWN, Monitor-BLUE, CPU-RED, Mouse Pad-GREEN, Wires-BLACK, Keyboard-YELLOW, Printer-ORANGE, Headphones-PURPLE

IMAGE TK