TEKS K.6 Force, motion, and energy. The student knows that energy, force, and motion are related, and are a part of their everyday life. The student is expected to:
(A) use the five senses to explore different forms of energy such as light, heat, and sound.

Background Knowledge

When kindergarten students begin to identify the five senses and their uses, science begins to come alive. From identifying smells, good and bad, to hearing loud and soft noises, our senses help us do lots of things. Each of the five senses has a big job. It is their job to inform our brains what is going on around us, and to help us identify characteristics of objects and substances so they can be identified and classified.

With our senses, we can observe, and compare and contrast objects, describe their properties, and even determine the source of a smell or sound. With our senses, we can sort objects based on their properties. Without our five senses, we would not be able to taste, touch, hear, see, or smell anything. We tend to forget and not emphasize that our senses are tools we use to explore matter. Allowing students to use their senses to gather information (data) about items and objects is really more advanced than you think. When kindergarten students are allowed to collect data "hands on" such as shape, color, smell, size, texture, and sound, they are actually gathering observations that are qualitative. When they compare relative sizes, masses, and temperatures, they are making quantitative observations. These skills are crucial as science processes are being learned.

When teachers begin to plan this unit there is one key point to remember. Conduct simple investigations. Ask questions about objects familiar to students, animals they know, and occasions they can connect with. Allow students to describe the five senses, and create a vocabulary list or word wall based on the words they use. Maybe, list each descriptor under a picture of the body part that uses that sense. The words must be grouped in a meaningful way for students to make and retain the connections. Of all the many units in kindergarten science, this is the one students can make the most personal connections with.

Essential Questions

- What are my five senses? (Touch, see, taste, hear, smell)
- What sense can you do with your ears? With my ears, I can _____. (hear)
- What sense can you do with your eyes? With my eyes, I can _____. (see)
- What sense can you do with your skin? With my skin, I can _____. (touch)
- What sense can you do with your tongue? With my tongue, I can _____. (taste)
- What sense can you do with your nose? With my nose, I can _____. (smell)
- What body parts match with each of the five senses? (eyes–see; nose–smell; ears–hear; tongue–taste; hands–touch)

Light And Sight

Objectives:

To use the five senses to explore different forms of energy such as light.
To understand that light must shine on an object in order for us to see it with our eyes.
To understand that the amount of light determines how well we are able to see objects.

Materials:

- A desk lamp
- A box
- 4–5 objects that can be seen by students from their seats
- Timer

How to Conduct:

- Place four or five familiar objects under a box on a table without the students seeing them. These should be large enough to be seen from their seats, such as a teddy bear, etc.
- Turn on a lamp that is on the table with the box and then turn off the classroom lights, or turn on an overhead and turn off the classroom lights.
- Tell students they must sit very still and pay close attention to the box. When the box is lifted they must try to remember all the objects that are on the table under the box.
- Turn off the lamp and raise the box for a minute telling students to pay attention to the objects. Replace the box; turn on the lamp and classroom lights on.
- Discuss with students what they saw. When they say they didn't see anything, ask the students, "Why weren't you able to see the objects on the table? What must we do to be able to see them?" When they say, "Leave the lights on", then lift the box for a minute.
- Then, cover the items again.
- Ask students what objects they saw. Ask the students why they were not able to see the objects before.
- Lead them to understand that without light we cannot see.

Heat

Objectives:

To use the five senses to explore different forms of energy such as heat.
To understand that the skin can sense both hot and cold.

Materials:

- Cordless heating pad or hot-water bottle
- An ice pack
- 2 pillowcases
- A music source

How to Conduct:

- Provide a cordless heating pad, heated to its lowest temperature or a hot-water bottle with warm water. (It should be just warm to the touch.)
- Disconnect the cord and place this in a pillowcase.
- Place a cold ice pack in an identical pillowcase. (It should be approximately the same size and weight as the heating pad.)
- Gather the students together in a circle.
- Have a source of music that can be turned off and on.
- One student gets the "hot" bag, and another student at the opposite end of the circle gets the "cold" bag.
- The students pass the hot and cold bags around in a circle as the music plays.
- When the music stops, point to one of the students holding the bag. They have to say whether the bag is "hot" or "cold". Continue for several rounds.

Sound

Objectives:

To use the five senses to explore different forms of energy, such as sound.
To be able to describe sounds and identify what is making them.

Materials:

- Tri-panel or cardboard screen
- Objects that make sounds (xylophone, squeaky dog toy, party noisemakers, toy drum, a rubber band stretched across an empty can or shoebox, etc.)

How to Conduct:

- Place a tri-panel cardboard screen on a table.
- Have different objects that make sounds on the table.
- Allow student volunteers to walk behind the screen and choose an object to make noise, while students raise their hands to describe and predict what made the noise.
- Then, have the student volunteer show the object and demonstrate how the sound is made.