2021 - 2022, Kindergarten, Science, Quarter 1

Big Ideas/Key Concepts:

- The five senses are touch, hear, see, smell, and taste. These can be used to ask and answer questions and gather information.
- The five senses can be used to explore and classify properties of matter.
- By describing objects accurately (drawing pictures and labeling with captions), we make our scientific observations clear.
- Using tools appropriately is a key scientific skill.

Standards	Student Friendly "I Can" Statements
Matter and Its Interactions	**Matter and Its Interactions**
K.PS1.1 Plan and conduct an investigation to describe and classify different kinds of materials including wood, plastic, metal, cloth, and paper by their observable properties (color, texture, hardness, and flexibility) and whether they are natural or human-made.	I can describe different kinds of materials by how they look and feel. I can group materials based on how they look and feel. I can describe whether a kind of material is natural or human-made.
K.PS1.2 Conduct investigations to understand that matter can exist in different states (solid and liquid) and has properties that can be observed and tested.	I can explore how something can be either a solid or a liquid. I can observe and test the properties of solids and liquids.
K.PS1.3 Construct an evidence-based account of how an object made of a small set of pieces (blocks, snap cubes) can be disassembled and made into a new object.	I can use a small set of pieces to build an object. I can take apart my object and use the pieces to build a new object.
From Molecules to Organisms: Structures and Processes	**From Molecules to Organisms: Structures and Processes**
K.LS1.3 Explain how humans use their five senses in making scientific findings.	I can explain how we use our five senses to explore the world around us like scientists.

2021 - 2022, Kindergarten, Science, Quarter 2

Standards	Student Friendly "I Can" Statements
Engineering Design	**Engineering Design**
K.ETS1.1 Ask and answer questions about the scientific world and gather information using the senses.	I can ask and answer questions about the scientific world using my five senses.
	I can gather information about the scientific world by using my five senses.
K.ETS1.2 Describe objects accurately by drawing and/or labeling pictures.	I can draw and label pictures of objects to describe them.
Links Among Engineering, Technology, Science, and Society	**Links Among Engineering, Technology, Science, and Society**
K.ETS2.1 Use appropriate tools (<u>magnifying glass</u>, rain gauge, <u>basic balance scale</u>) to make observations and answer testable scientific questions.	I can use a magnifying glass and a basic balance scale to make observations and answer questions.

Embedded K-8 TN Computer Science Standards:
- **AIT.1** Identify and define problems and form significant questions for investigation.
- **AIT.2** Develop a plan to use technology to find a solution and create projects.
- **AIT.6** Collect, organize, analyze, and interpret data to identify solutions and/or make informed decisions.
- **AIT.7** Infer and predict or propose relationships with data.
- **D.C.2** Exhibit a positive mindset towards using technology that supports collaboration, learning, and productivity.

2021 - 2022, Kindergarten, Science, Quarter 2

Big Ideas/Key Concepts:
- Weather data can be analyzed and interpreted to make predictions and distinguish between the seasons.
- Weather patterns differ over time (hourly vs. daily), but all patterns are observable.
- Weather patterns and data can be described using graphs, symbols, and tools.
- Humans use their five senses to make observations about their world.
- The engineering design process allows people to ask and answer questions about their scientific world. This process includes describing objects by drawing them.
- A rain gauge can be used to help measure rainfall in an area.

Standards	Student Friendly "I Can" Statements
Earth's Systems	**Earth's Systems**
K.ESS2.1 Analyze and interpret weather data (precipitation, wind, temperature, cloud cover) to describe weather patterns that occur over time (hourly, daily) using simple graphs, pictorial weather symbols, and tools (thermometer, rain gauge).	I can graph weather daily and describe weather patterns based on my observations and weather data. I can use my science vocabulary (temperature, precipitation, wind, predict, accurate, inaccurate, cloud cover) to describe basic weather patterns. I can describe weather patterns that occur over time (hourly, daily) using simple graphs, picture symbols, and tools (thermometers and rain gauges).
K.ESS2.2 Develop and use models to predict weather and identify patterns in spring, summer, autumn, and winter.	I can use models to predict the weather at different times of the year. I can observe and explain the change of seasons based on weather patterns.

Standards	Student Friendly "I Can" Statements
From Molecules to Organisms: Structures and Processes	**From Molecules to Organisms: Structures and Processes**
K.LS1.3 Explain how humans use their five senses in making scientific findings.	I can explain how we use our five senses to help us understand the world.
Engineering Design	**Engineering Design**
K.ETS1.1 Ask and answer questions about the scientific world and gather information using the senses.	I can ask and answer questions about the scientific world. I can gather information about the world by using my five senses.
K.ETS1.2 Describe objects accurately by drawing and/or labeling pictures.	I can draw and label pictures of objects accurately.
Links Among Engineering, Technology, Science, and Society	**Links Among Engineering, Technology, Science, and Society**
K.ETS2.1 Use appropriate tools (magnifying glass, <u>rain gauge</u>, basic balance scale) to make observations and answer testable scientific questions.	I can use a rain gauge to make observations and answer questions.

Embedded K-8 TN Computer Science Standards:
- **AIT.1** Identify and define problems and form significant questions for investigation.
- **AIT.2** Develop a plan to use technology to find a solution and create projects.
- **AIT.6** Collect, organize, analyze, and interpret data to identify solutions and/or make informed decisions.
- **AIT.7** Infer and predict or propose relationships with data.
- **D.C.2** Exhibit a positive mindset towards using technology that supports collaboration, learning, and productivity.

2021 - 2022, Kindergarten, Science, Quarter 2

2021 - 2022, Kindergarten, Science, Quarter 3

Big Ideas/Key Concepts:
- Weather forecasting helps us prepare for and respond to severe weather in Tennessee.
- All living things have basic needs; these can be represented through modeling.
- Humans impact the physical world we live in, and solutions need to be communicated to reduce that impact.
- The engineering design process allows people to ask and answer questions about their scientific world.
- A rain gauge can be used to help measure rainfall in an area.

Standards	Student Friendly "I Can" Statements
Earth and Human Activity	**Earth and Human Activity**
K.ESS3.2 Explain the purpose of weather forecasting to prepare for, and respond to, severe weather in Tennessee.	I can watch a severe weather forecast and explain how to prepare for and respond to that weather in Tennessee.
K.ESS3.1 Use a model to represent the relationship between the basic needs (shelter, food, water) of different plants and animals (including humans) and the places they live.	I can identify the basic needs for living things: shelter, food, and water. I can model the relationship between the basic needs of different plants and animals and the places they live.
K.ESS3.3 Communicate solutions that will reduce the impact from humans on land, water, air, and other living things in the local environment.	I can describe ways to reduce how much we affect the land, water, air, and other living things in the local environment. (e.g., turning off the lights, recycling, picking up litter, planting new trees, carpooling, etc.)
From Molecules to Organisms: Structures and Processes	**From Molecules to Organisms: Structures and Processes**
K.LS1.3 Explain how humans use their five senses in making scientific findings.	I can explain how humans use their five senses to help understand the world.

Standards	Student Friendly "I Can" Statements
Engineering Design	**Engineering Design**
K.ETS1.1 Ask and answer questions about the scientific world and gather information using the senses.	I can ask and answer questions about the scientific world. I can gather information about the world by using my five senses.
K.ETS1.2 Describe objects accurately by drawing and/or labeling pictures.	I can draw and label pictures of objects accurately.
Links Among Engineering, Technology, Science, and Society	**Links Among Engineering, Technology, Science, and Society**
K.ETS2.1 Use appropriate tools (magnifying glass, rain gauge, <u>basic balance scale</u>) to make observations and answer testable scientific questions.	I can use a basic balance scale to make observations and answer questions.

Embedded K-8 TN Computer Science Standards:
- **AIT.5** Evaluate the accuracy, relevance, appropriateness, and bias of electronic information sources.
- **DC.1** Advocate, demonstrate, and routinely practice safe, legal, and responsible use of information and technology.
- **DC.3** Exhibit leadership for digital citizenship.
- **DC.4** Recognize and describe the potential risks and dangers associated with various forms of online communications (e.g., cell phones, social media, digital photos).
- **DC.5** Explain responsible uses of technology and digital information; describe possible consequences of copyright infringement and piracy.

2021 - 2022, Kindergarten, Science, Quarter 3

2021 - 2022, Kindergarten, Science, Quarter 4

Big Ideas/Key Concepts:

- The difference between plants and animals can be observed, particularly through locomotion, obtainment of food, and breathing.
- Living organisms and non-living materials are sortable based on physical characteristics.
- Humans use their five senses to make observations about their world.
- Young plants/animals resemble their parent(s).
- The engineering design process allows people to ask and answer questions about their scientific world. This process includes describing objects by drawing them.
- A magnifying glass can be used to help us better see small objects.

Standards	Student Friendly "I Can" Statements
From Molecules to Organisms: Structures and Processes **K.LS1.1** Use information from observations to identify differences between plants and animals (locomotion, obtainment of food, and take in air/gases).	**From Molecules to Organisms: Structures and Processes** I can observe and identify differences between plants and animals. I can describe how plants and animals are different (locomotion, obtaining food, and taking in air/gases).
K.LS1.2 Recognize differences between living and non-living materials and sort them into groups by observable physical attributes.	I can analyze a living thing's physical properties and show whether it is living or non-living by sorting. [Living things: use energy (from water, food, and air), interact with their environment, grow, reproduce, and produce waste products. Non-living things do not.] I can explain the difference between abiotic non-living material and biotic dead things. I can analyze both natural, non-living (abiotic) and natural, living or dead (biotic) materials found on or near school grounds, record them in my science notebook, and explain how they are non-living/abiotic or living or dead/biotic.

Standards	Student Friendly "I Can" Statements
	I can name, sort, and create a chart of objects found in the school or on the school grounds as natural or manmade.
K.LS1.3 Explain how humans use their five senses in making scientific findings.	I can explain how humans use their five senses to help understand the world.
Heredity: Inheritance and Variation of Traits	**Heredity: Inheritance and Variation of Traits**
K.LS3.1 Make observations to describe that young plants and animals resemble their parents.	I can observe and describe how young plants and animals look like their parents.
Engineering Design	**Engineering Design**
K.ETS1.1 Ask and answer questions about the scientific world and gather information using the senses.	I can ask and answer questions about the scientific world. I can gather information by using my five senses.
K.ETS1.2 Describe objects accurately by drawing and/or labeling pictures.	I can draw and label pictures of objects accurately.
Links Among Engineering, Technology, Science, and Society	**Links Among Engineering, Technology, Science, and Society**
K.ETS2.1 Use appropriate tools (<u>magnifying glass</u>, rain gauge, basic balance scale) to make observations and answer testable scientific questions.	I can use a magnifying glass to make observations and answer questions.

Embedded K-8 TN Computer Science Standards:

- **AIT.1** Identify and define problems and form significant questions for investigation.
- **AIT.2** Develop a plan to use technology to find a solution and create projects.
- **AIT.6** Collect, organize, analyze, and interpret data to identify solutions and/or make informed decisions.
- **AIT.7** Infer and predict or propose relationships with data.
- **D.C.2** Exhibit a positive mindset towards using technology that supports collaboration, learning, and productivity

2021 - 2022, Kindergarten, Science, Quarter 4