

inquisitive

NORTH CAROLINA LEARNING STANDARDS & INQUISITIVE CROSSWALK

North Carolina Learning Standards (full coverage):
47% Inquisitive coverage

North Carolina Learning Standards (partial coverage):
81% Inquisitive coverage



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What does it mean to be Inquisitive?

Our mission is for teachers to enjoy teaching and for students to learn with purpose and depth. Inquisitive lessons inspire wonder, curiosity and engagement by introducing science and engineering through real world phenomena and relevant focus questions. That's what it means to be Inquisitive.

Open-and-Go Lessons

Inquisitive's open-and-go lessons clearly cover the three dimensions of the NGSS and North Carolina Learning Standards so teachers can easily see the lesson objectives and be confident while teaching standards-aligned science. Inquisitive strives to reduce teachers' planning time. Simple, easy to use, and a beautiful experience on any device. With integrated and varied stimulus in each unit, Inquisitive is a comprehensive phenomena-based curriculum, made easy.

Phenomena-Based

Experiencing science through the lens of true observable phenomena offers all students a deep and meaningful learning experience. Each Inquisitive lesson centers around a phenomenon and includes a variety of learning tools to help students make the link from science to the real world.

Inquisitive North Carolina Crosswalk

This document maps Inquisitive content to the North Carolina Learning Standards. We have included the relevant NGSS Performance Expectations and Inquisitive lesson learning targets, for ease of use and reference to the content statements.

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North Carolina's Learning Standards				NGSS Code (s)	Inquisitive Lessons (Learning Targets)
Grade Level	Domain (Strand)	North Carolina Standard	North Carolina Supporting Objectives		
K	Physical Science - Matter and Its Importance	PS.K.1 Understand how objects are described based on their physical properties and how they are used.	PS.K.1.1 Analyze and interpret data to classify objects by physical properties (size, color, shape, texture, weight and flexibility).	2-PS1-1 Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.	<i>This Inquisitive lesson partially addresses the supporting objective.</i> 2-PS1-1 Sorting Our Stuff ● Explain that matter has properties. ● Classify matter by its properties. ● Observe that the properties of matter can change when heated or cooled.
			PS.K.1.2 Engage in argument from evidence to summarize how different materials (clay, wood, cloth, paper, etc.) are used based on their physical properties.	2-PS1-2 Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.	<i>This Inquisitive lesson partially addresses the supporting objective.</i> 2-PS1-2 The Best Materials for the Job ● Explain how different materials have properties that make them suited for different purposes.
	Physical Science - Motion and Stability- Forces and Interactions	PS.K.2 Understand the positions and motions of objects and organisms observed in the environment.	PS.K.2.1 Use models to compare the relative position of various objects observed in the classroom and outside using position words such as: in front of, behind, between, on top of, under, above, below, beside.		<i>Inquisitive does not currently have content for this supporting objective.</i>
			PS.K.2.2 Carry out investigations to illustrate different ways objects and organisms move (to include falling to the ground when dropped): straight, zigzag, round and round, back and forth, fast and slow.		<i>Inquisitive does not currently have content for this supporting objective.</i>

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Grade Level	Domain (Strand)	North Carolina Standard	North Carolina Supporting Objectives		
K	Living Science – From Molecules to Organisms- Structures and Processes	LS.K.1 Understand the characteristics of living organisms and nonliving things.	LS.K.1.1 Engage in argument from evidence to summarize the characteristics of living organisms and nonliving things in terms of their: structure, growth, changes, movement, basic needs.	PK-LS1-1 Use observations to describe the difference between living and nonliving things and recognize that living things grow and change. PK-LS1-2 Observe patterns to identify what living things need to survive.	<i>These Inquisitive lessons partially address the supporting objective.</i> PK-LS1-1 Living Things Grow ● Identify a living thing. ● Describe a living thing as something that grows. Living Things Change ● Identify that living things (including humans) change as they grow. PK-LS1-2 Animals Have Needs ● Identify that animals need food, water, and shelter to grow. Plants Have Needs ● Identify that plants need sunlight and water to grow.
			LS.K.1.2 Use models to exemplify how animals use their body parts to obtain food and other resources, protect themselves, and move from place to place.	1-LS1-1 Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.	<i>This Inquisitive lesson partially addresses the supporting objective.</i> 1-LS1-1 How Useful! ● Identify that animals use their body parts in different ways. ● Identify that animals use their body parts to survive and grow.
	Living Science – Heredity-Inheritance and Variation of Traits	LS.K.2 Understand characteristics of organisms that make them alike and different.	LS.K.2.1 Analyze and interpret data to compare the characteristics of different types of the same animal to determine individual similarities and differences.	1-LS3-1 Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.	1-LS3-1 Same But Different ● Explain that types of plants or animals are recognizable as similar but can also vary in many ways.
			LS.K.2.2 Analyze and interpret data to compare the characteristics of different types of the same plant to determine individual similarities and differences.		

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K	Earth and Space Sciences - Earth's Systems	ESS.K.1 Understand change and observable patterns of weather that occur from day to day and throughout the year.	ESS.K.1.1 Analyze and interpret data to compare changes in the environment due to weather.	K-ESS2-1 Use and share observations of local weather conditions to describe patterns over time.	<i>These Inquisitive lessons partially address the supporting objectives.</i> K-ESS2-1 What is Weather? ● Observe the current local weather. ● Describe the weather as a combination of different conditions at a particular time. K-ESS2-1 Watching the Weather ● Recognize the symbols used to depict weather. ● Understand that the weather changes daily. ● Record weather over time and look for patterns.
			ESS.K.1.2 Use mathematics and computational thinking to summarize daily weather conditions noting changes that occur from day to day and throughout the year.		
			ESS.K.1.3 Obtain, evaluate and communicate information to compare weather patterns that occur from season to season.	3-ESS2-1 Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.	<i>This Inquisitive lesson partially addresses the supporting objective.</i> 3-ESS2-1 Weather Watching ● Describe some types of weather data and how they are collected. ● Represent weather data as a bar graph. ● Use weather data as evidence for decisions or explanations. Weather Patterns and Predictions ● Draw tables and graphs to analyze weather data. ● Use weather data to make a decision about when to hold an outdoor event. ● Use weather data from previous years to make a prediction about future weather.

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Grade Level	Domain (Strand)	North Carolina Standard	North Carolina Supporting Objectives		
1	Physical Sciences - Motion and Stability- Forces and Interactions	PS.1.1 Understand how forces (pushes or pulls) affect the motion of an object.	PS.1.1.1 Use models to explain the effect of a push or pull on the motion of an object, with or without contact.	K-PS2-1 Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	<i>This Inquisitive lesson partially addresses the supporting objective.</i> K-PS2-1 Push and Pull - Understand that pushes and pulls are used to start and stop the motion of objects. - Identify and classify pushes and pulls.
			PS.1.1.2 Carry out investigations to compare the effects of a given force on the motion of an object.	K-PS2-1 Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. K-PS2-2 Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or pull.	K-PS2-1 Speed It Up! Slow It Down! - Demonstrate how pushes and pulls of different strengths can cause the speed of objects to change. Which Way? - Demonstrate how pushes and pulls can cause the direction of objects to change. - Explain that when objects collide, objects will move in different directions. K-PS2-2 Does It Work? - Understand that there are several ways to solve a problem. - Analyze data from a design solution and draw a conclusion. - Explain how changing the force acting on an object changes the speed of its motion.

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1	Life Sciences - Ecosystems-Interactions, Energy, and Dynamics	LS.1.1 Understand the basic needs of a variety of plants and animals in different ecosystems.	LS.1.1.1 Obtain, evaluate and communicate information to summarize the needs of different plants and animals.	K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive.	K-LS1-1 Staying Alive - Identify living things and nonliving things. - State that animals need food and water to survive. - Describe the foods that different animals eat. What do Plants Need? - Identify the needs of plants to live and grow.
			LS.1.1.2 Analyze and interpret data to compare how the needs of plants and animals can be met in different environments.	K-ESS2-2 Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs. K-ESS3-1 Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.	K-ESS2-2 Change, Change, Change! - Give an example of a living thing changing its environment and explain how and why it is doing so. - Use evidence (in images) to decide whether or an animal or plant is changing its environment. K-ESS3-1 This Is Home - Describe the relationships among living things, the resources they need to survive, and where those things live. - Use a model to describe how the needs of living things are met by the places in which they live and the resources found in those places.

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1	Earth and Space Sciences - Earth's Place in the Universe	ESS.1.1 Recognize the features and patterns of the earth/moon/sun system as observed from Earth.	ESS.1.1.1 Use models to recognize differences in the features of the day and night sky and apparent movement of objects across the sky as observed from Earth.	1-ESS1-1 Use observations of the sun, moon and stars to describe patterns that can be predicted.	<i>These Inquisitive lessons partially address the supporting objective.</i> 1-ESS1-1 The Sun Is Out - Identify that when the sun appears in the sky, it is daylight. - Observe, describe, and predict the pattern of motion of the sun as it appears in the sky.
			ESS.1.1.2 Analyze and interpret data to recognize patterns of observable changes in the moon's appearance from day to day.	1-ESS1-1 Use observations of the sun, moon and stars to describe patterns that can be predicted.	1-ESS1-1 Bright Moon - Identify that the moon appears brighter when it is nighttime. - Identify that the moon can appear at different times during the day and night. - Observe and describe that the moon's position in the sky appears to move.
	Earth and Space Sciences - Earth's Systems	ESS.1.2 Understand the physical properties of Earth materials.	ESS.1.2.1 Obtain, evaluate and communicate information to summarize the physical properties of Earth materials, including rocks, minerals, soils, and water.		<i>Inquisitive does not currently have content for this supporting objective.</i>
			ESS.1.2.2 Carry out investigations to compare the properties of different soil samples from local places relating their capacity to retain water, provide nutrients, and support the growth of plants.		<i>Inquisitive does not currently have content for this supporting objective.</i>
	Earth and Space Sciences - Earth and Human Activity	ESS.1.3 Understand that natural resources are important to humans.	ESS.1.3.1 Obtain, evaluate and communicate information to summarize ways in which humans use natural resources.	4-ESS3-1 Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.	<i>These Inquisitive lessons partially address the supporting objective.</i> 4-ESS3-1 Energy Resources - Explain the difference between a renewable and a nonrenewable energy resource. - Describe the effects of a particular energy resource on the environment.
			ESS.1.3.2 Engage in argument from evidence to explain ways that humans can protect natural resources in the environment.		<i>Inquisitive does not currently have content for this supporting objective.</i>

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2	Physical Sciences - Matter and its Interactions	PS.2.1 Understand properties of solids and liquids and the changes they undergo.	PS.2.1.1 Carry out investigations to illustrate examples of matter that can change from a solid to a liquid and from a liquid to a solid by heating and cooling.	2-PS1-1 Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. 2-PS1-4 Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.	2-PS1-1 What IS This Stuff? - Understand that matter is all of the substances we can see and feel. - Investigate the differences between solids and liquids. - Understand that solids keep their shape while liquids take the shape of their container. 2-PS1-4 Changes from Heating and Cooling - Explain that heating and cooling can change matter. - Compare and contrast changes that can be undone and cannot be undone.
			PS.2.1.2 Analyze and interpret data to compare the amount (volume and weight) of water in a container before and after freezing.	2-ESS2-3 Obtain information to identify where water is found on Earth and that it can be a solid or liquid.	<i>This Inquisitive lesson partially addresses the supporting objective.</i> 2-ESS2-3 Water, Water Everywhere! - Identify where water is found on Earth. - Understand that water can be found in liquid or solid (ice) form.
			PS.2.1.3 Analyze and interpret data to compare the amount (volume and weight) of water left in an open container over time to the water left in a closed container.		
	Physical Sciences -	PS.2.2 Understand the relationship between sound and vibrating objects.	PS.2.2.1 Carry out investigations to illustrate how sound is produced by vibrating objects and columns of air.	1-PS4-1 Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.	1-PS4-1 Good Vibrations - Identify what happens when materials vibrate. - Investigate materials and their relationship with sound. - Determine that vibrating materials make sound. Move to the Sound - Identify what happens to materials when sound is played. - Investigate sound and its relationship to materials. - Determine that sound can make materials vibrate.
			PS.2.2.2 Use models to summarize the relationship between sound and how sounds are produced and detected by parts of the body that vibrate.	4-PS3-2 Make observations to provide evidence that energy can be transferred from place to place by	<i>These Inquisitive lessons partially address the supporting objective.</i> 4-PS3-2 Sound Moves

				sound, light, heat, and electric currents.	● Explain how sound is produced. ● State that sound travels from one place to another, and cite practical observations as evidence.
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2	Life Sciences - From Molecules to Organisms- Structures and Processes	LS.2.1 Understand animal life cycles.	LS.2.1.1 Use models to summarize the life cycle of animals including: birth, developing into an adult, reproducing, aging and death.	3-LS1-1 Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.	3-LS1-1 Animal Life Cycles ● Produce an informative model that shows the key stages in the life cycle of a chosen animal.
			LS.2.1.2 Obtain, evaluate and communicate information to compare life cycles of different animals.		
	Life Sciences - Heredity-Inheritance and Variation of Traits	LS.2.2 Understand that organisms differ from or are similar to their parents and other offspring based on characteristics of the organism.	LS.2.2.1 Obtain, evaluate, and communicate information to summarize ways in which animals closely resemble their parents and ways they are different.	1-LS3-1 Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.	1-LS3-1 Are We Alike? ● Explain that young animals are very much, but not exactly like, their parents.
			LS.2.2.2 Analyze and interpret data to illustrate variations among offspring of the same parents.	3-LS3-1 Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.	3-LS3-1 Inherited Traits ● Identify and use evidence to support the idea that offspring inherit traits from their parents. ● Identify and use evidence to support the idea that siblings with the same parents will have variations in their traits.

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2	Earth and Space Sciences – Earth's Systems	ESS2.1 Understand patterns of weather and factors that affect weather.	ESS.2.1.1 Obtain, evaluate, and communicate information to summarize how energy from the sun serves as a source of light and warms the land, air, and water.	K-PS3-1 Make observations to determine the effect of sunlight on Earth's surface.	<i>This Inquisitive lesson partially addresses the supporting objective.</i> K-PS3-1 Sunlight Warms Earth ● Describe the warming effect of the sun on Earth's surface.
			ESS.2.1.2 Use mathematics and computational thinking to summarize weather conditions (temperature, wind direction, wind speed, precipitation).	3-ESS2-1 Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.	<i>These Inquisitive lessons partially address the supporting objective.</i> 3-ESS2-1 Weather Watching ● Describe some types of weather data and how they are collected. ● Represent weather data as a bar graph. ● Use weather data as evidence for decisions or explanations. Weather Patterns and Predictions ● Draw tables and graphs to analyze weather data. ● Use weather data to make a decision about when to hold an outdoor event. ● Use weather data from previous years to make a prediction about future weather.
			ESS.2.1.3 Carry out investigations to collect data and compare weather patterns that occur over time and relate observable patterns to time of day and time of year.		
			ESS.2.1.4 Obtain, evaluate and communicate information to recognize the tools scientists use for observing, recording, and predicting weather changes from day to day and during the season.		

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W3	Physical Sciences – Matter and its Interactions	PS.3.1 Understand the structure and properties of matter before and after they undergo a change.	PS.3.1.1 Engage in argument from evidence to infer that air is a substance that surrounds us, takes up space, and has mass.		<i>Inquisitive does not currently have content for this supporting objective.</i>
			PS.3.1.2 Carry out investigations to classify solids, liquids, and gases based on their basic properties.	2-PS1-1 Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.	<i>These Inquisitive lessons partially address the supporting objective.</i> 2-PS1-1 What IS This Stuff? ● Understand that matter is all of the substances we can see and feel.

				<u>5-PS1-1</u> Develop a model to describe that matter is made of particles too small to be seen.	● Investigate the differences between solids and liquids. ● Understand that solids keep their shape while liquids take the shape of their container. <u>Sorting Our Stuff</u> ● Explain that matter has properties. ● Classify matter by its properties. ● Observe that the properties of matter can change when heated or cooled. <u>5-PS1-1</u> <u>Too Small to Be Seen</u> ● State that all matter is made of particles too small to see. ● Describe differences among the particles in solids, liquids, and gases. ● Use the movement of particles to explain observations of matter.
			PS.3 1.3 Engage in argument from evidence to explain observable changes to the properties of matter when heated or cooled.	<u>2-PS1-4</u> Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.	<u>2-PS1-4</u> <u>Changes from Heating and Cooling</u> ● Explain that heating and cooling can change matter. Compare and contrast changes that can be undone and cannot be undone.
	Physical Sciences – Motion and Stability – Forces and Interactions	PS.3.2 Understand motion and factors that affect motion.	PS.3.2.1 Carry out investigations to infer changes in speed or direction resulting from forces acting on an object.	<u>5-PS1-1</u> Develop a model to describe that matter is made of particles too small to be seen. <u>4-PS3-1</u> Use evidence to construct an explanation relating the speed of an object to the energy of that object.	<u>4-PS3-1</u> <u>Fast Energy</u> ● State that objects that are moving faster have more energy. ● Use practical examples or observations as evidence to support their statement.
			PS.3.2.2 Carry out investigations to compare the relative speeds (faster or slower) of objects that travel the same distance in different amounts of time.	<u>4-PS3-1</u> Use evidence to construct an explanation relating the speed of an object to the energy of that object.	<i>This Inquisitive lesson partially addresses the supporting objective.</i> <u>4-PS3-1</u> <u>Fast Energy</u> ● State that objects that are moving faster have more energy. Use practical examples or observations as evidence to support their statement.

		PS.3.2.3 Use models to explain the effect of Earth's gravity on the motion of any object on or near the Earth.	5-PS2-1 Support an argument that the gravitational force exerted by Earth on objects is directed down.	3-PS2-1 Falling With Style! - Describe the forces of gravity and air resistance. - Use arrows to accurately represent gravity and air resistance in a specific situation. - Explain how the shape of an object affects the amount of air resistance it experiences. 5-PS2-1 Goin' Down! - Explain that objects near Earth's surface fall downward because the force of gravity is pulling them toward the planet's center. - Carry out an investigation and record observations. - Make a claim and use evidence and reasoning to support it. - Evaluate the validity of a claim based on evidence presented.
Physical Sciences – Energy	PS.3.3 Understand how energy can be transferred from one object to another.	PS.3.3.1 Ask questions to explain how heat is created by friction.		<i>Inquisitive does not currently have content for this supporting objective.</i>
		PS.3.3.2 Carry out investigations to explain how energy can be transferred from a warmer object to a cooler one by contact or at a distance.	4-PS3-2 Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electrical currents.	4-PS3-2 Heat Moves - Use their measurements and observations to explain how heat moves. - Identify how heat moves from one object to another in familiar, real-life contexts.

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3	Life Sciences – From Molecules to Organisms- Structures and Processes	LS.3.1 Understand human body systems and how they are essential for life: protection, movement, and support.	LS.3.1.1 Use models to infer the functions of the skeletal and muscular systems.	4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.	<i>This Inquisitive lesson partially addresses the supporting objective.</i> 4-LS1-1 The Inside Story! ● Identify the position and the function of the heart, lungs, and brain in their body. ● Explain how these structures, along with the nerves, work together to aid growth and survival. ● Give examples of animals that have internal structures similar to and different from those in humans.
			LS.3.1.2 Obtain, evaluate, and communicate scientific information to explain why skin is necessary for protection and for the body to remain healthy.		<i>Inquisitive does not currently have content for this supporting objective.</i>
		LS.3.2 Understand how plant structures aid in survival.	LS.3.2.1 Carry out investigations to explain the structures and functions of plants and how they are essential for life.	4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.	4-LS1-1 Plantific! ● Identify important external structures of a plant and describe their function. ● Identify an important internal structure of a plant and describe its function. ● Understand that plant structures work together as a connected system.
			LS.3.2.2 Use models to exemplify the distinct stages of the life cycle of seed plants.	3-LS1-1 Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.	3-LS1-1 Plant Life-From Seed to Seed ● Produce an informative model that shows the key stages in the life cycle of a plant.
	Life Sciences – Ecosystems - Interactions, Energy, and Dynamics	LS.3.3 Understand how environmental factors aid in the survival of plants.	LS.3.3.1 Carry out investigations to explain how environmental conditions determine how well plants survive and grow.	2-LS2-1 Plan and conduct an investigation to determine if plants need sunlight and water to grow.	2-LS2-1 Growing Plants ● Plan and conduct an investigation. ● Collect and interpret data about plant growth. ● Understand that plants need water and sunlight to grow.
			LS.3.3.2 Construct an explanation to infer how the basic properties and components	5-LS1-1 Support an argument that plants get the materials	<i>This Inquisitive lesson partially addresses the supporting objective.</i> 5-LS1-1

			of soil determine its ability to support the growth and survival of many plants.	they need for growth chiefly from air and water.	Plant Matters • State the materials needed for a plant to grow. • Use experimental data or observations as evidence to support their statement about the materials needed for a plant to grow.
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3	Earth and Space Sciences – Earth's Place in the Universe	ESS.3.1 Remember the major components and patterns observed in the earth/moon/sun system.	ESS.3.1.1 Use models to recognize that the Earth is part of a system called the solar system that includes the sun (a star), planets, and many moons, and that the Earth is the third planet from the sun.	5-ESS1-1 Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.	<i>This Inquisitive lesson partially addresses the supporting objective.</i> 5-ESS1-1 Hello Sun! - State that the sun is a star. - Explain why the sun appears to be the biggest and brightest object in the sky.
			ESS.3.1.2 Carry out investigations to recognize that changes in the length and direction of an object's shadow indicate the apparent changing position of the sun during the day.	5-ESS1-2 Represent data in graphical displays to reveal patterns of daily changes in the length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.	5-ESS1-2 Casting Shadows Great and Small - Understand that the shape and size of a shadow depends on the position and direction of the light source. - Generate measurement data, use the data to create a graph, and analyze the graph to describe a pattern. - Explain why their shadow changes over the course of a day.
			ESS.3.1.3 Obtain, evaluate and communicate information to recognize the patterns of the stars (including the sun) stay the same as they appear to move across the sky.		5-ESS1-2 Star Patterns - Explain that the apparent movement and changing position of the stars across the night sky is due to the rotation of Earth. - Explain that different stars are visible at different times of the year because Earth revolves around the sun.
	Earth and Space Sciences – Earth's Systems	ESS.3.2 Understand the structures of the Earth's surface using models.	ESS.3.2.1 Use models to compare Earth's saltwater and freshwater features (including oceans, seas, rivers, lakes, ponds, streams, and glaciers).	5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	5-ESS3-1 Water World - Describe the relative amounts of salt water and freshwater found on Earth as well as the main sources of each. - Represent the actual amounts of Earth's salt water and freshwater in a graphical way.
			ESS.3.2.2 Use models to compare Earth's land features (including volcanoes, mountains, valleys, canyons, caverns, and islands).	2-ESS1-1 Use information from several sources to provide evidence that Earth events can occur quickly or slowly. 4-ESS2-2	2-ESS1-1 Earth Changes Fast! Understand that elements and features on Earth (soil, sand, rocks, hills, mountains, rivers, lakes, and seas) change over time.

				Analyze and interpret data from maps to describe patterns of Earth's features.	● Recognize that volcanic eruptions, earthquakes, and floods are examples of changes that happen quickly, and transform Earth's surface suddenly. <u>4-ESS2-2</u> <u>Mapping Patterns</u> ● Describe the positions of Earth's mountain ranges on the continents and the position of the ocean trenches.
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4	Physical Sciences – Motion and Stability- Forces and Interactions	PS.4.1 Understand how various forces affect the motion of an object.	PS.4.1.1 Ask questions to summarize the relationship of magnetic interactions between two objects not in contact with each other.	3-PS2-3 Ask questions to determine cause and effect relationships of electrical or magnetic interactions between two objects not in contact with each other.	3-PS2-3 It's Magnetic! - Identify when a magnetic force is at work and what types of materials are magnetic. - Describe the interaction between two magnetic objects in terms of a cause and effect relationship.
			PS.4.1.2 Carry out investigations to explain how electrically charged objects push or pull on other objects to produce motion.	3-PS2-3 Ask questions to determine cause and effect relationships of electrical or magnetic interactions between two objects not in contact with each other.	3-PS2-3 Hair Raising! - Identify electrostatic force as a non-contact force. - Describe the interaction between two charged objects in terms of a cause and effect relationship.
	Physical Sciences – Energy	PS.4.2 Understand that energy can be transferred from place to place by sound, light, heat, and electric currents.	PS.4.2.1 Ask questions to identify basic forms of energy (light, sound, heat, and electrical) that cause motion or create change.	4-PS3-2 Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electrical currents.	4-PS3-2 Sound Moves - Explain how sound is produced. - State that sound travels from one place to another, and cite practical observations as evidence. Switch the Light On! - Describe how light energy travels from one place to another. - Describe how to build a circuit that changes electrical energy into light energy.
			PS.4.2.2 Use models to explain a simple electrical circuit and the necessary components.		<i>Inquisitive does not currently have content for this supporting objective.</i>
			PS.4.2.3 Carry out investigations on common materials to classify them as insulators or conductors of electricity.	5-PS1-3 Make observations and measurements to identify materials based on their properties.	<i>This Inquisitive lesson partially addresses the supporting objective.</i> 5-PS1-3 Material Properties Accurately describe the properties of common materials. Use the results of testing for particular properties to identify a material.

	Physical Sciences – Waves and Their Applications in Technologies for Information Transfer	PS.4.3 Understand the nature of light and how light interacts with objects.	PS.4.3.1 Carry out investigations to infer the path light travels from a light source to a mirror and how it is reflected (by the mirror) using different angles.	1-PS4-3 Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light. 4-PS4-2 Develop a model to describe that light reflecting from objects and entering the eyes allows objects to be seen.	<i>These Inquisitive lessons partially address the supporting objective.</i> 1-PS4-3 Mirror, Mirror ● Identify how a beam of light can reflect off objects. ● Investigate what effects a beam of light has on objects made from different materials. ● Determine that some objects allow light to bounce off them and light their surrounding space. 4-PS4-2 Eye, Eye! ● State that light travels in straight lines called rays. ● Explain that we see objects when light rays reflect off them and into our eyes. ● Describe how mirrors change the path of light and help us to see things we cannot look at directly.
			PS.4.3.2 Carry out investigations to explain how light is refracted and absorbed.	4-PS4-2 Develop a model to describe that light reflecting from objects and entering the eyes allows objects to be seen.	<i>Inquisitive does not currently have content for this supporting objective.</i>

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Grade Level	Domain (Strand)	North Carolina Standard	North Carolina Supporting Objectives		
4	Life Sciences – Molecules to Organisms- Structures and Processes	LS.4.1 Understand the effects of environmental changes, adaptations, and behaviors that enable organisms to survive in changing habitats.	LS.4.1.1 Use models to explain that plants and animals have external structures that function to support survival.	4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.	4-LS1-1 Plantific! - Identify important external structures of a plant and describe their function. - Identify an important internal structure of a plant and describe its function. - Understand that plant structures work together as a connected system. Survivors - Identify different external structures of a variety of animals. - Explain how an external structure helps an animal to survive.
			LS.4.1.2 Use models to explain that animals receive different types of information through their senses, process the information, and respond to the information in different ways.	4-LS1-2 Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.	4-LS1-2 Sensing Information - Describe the senses as the ways in which an animal's brain receives information about the environment. - Use a model to identify each stage in the sequence of events, that begins with a change in an animal's environment, and ends with the brain directing the body to respond.
			LS.4.1.3 Engage in argument from evidence to explain how differences among animals of the same population sometimes gives individuals an advantage in surviving and reproducing in changing habitats.	3-LS4-2 Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.	3-LS4-2 What's My Advantage Use evidence to construct an explanation for why a variation in a trait gives certain individuals in a species a survival advantage.
	Life Sciences – Biological Evolution-Unity and Diversity	LS.4.2 Understand the use of fossils as evidence of the history of Earth and its changing life forms.	LS.4.2.1 Analyze and interpret data to compare fossils to one another and living organisms.	3-LS4-1 Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.	3-LS4-1 Fossil Stories - Describe what a fossil is and name an example of one. - Give a simple explanation of how fossils are formed. - Give an example of the type of information we can obtain from a fossil.
			LS.4.2.2 Analyze and interpret data to explain how fossils suggest ideas about Earth's early environment.		

					● Explain how the locations of fossils can tell us about changes to the environment over time.
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4	Earth and Space Sciences – Earth's Place in the Universe	ESS.4.1 Understand the causes of day and night and phases of the moon.	ESS.4.1.1 Use models to explain the cause of day and night based on the rotation of the Earth on its axis.	5-ESS1-2 Represent data in graphical displays to reveal patterns of daily changes in the length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.	5-ESS1-2 Day And Night - It's A Fine Line ● Use a model to explain why we experience day and night. ● Graph data of the numbers of daylight hours and use their graphs to describe patterns.
			ESS.4.1.2 Use models to explain the repeating pattern of the phases of the moon (new, crescent, quarter, gibbous, and full).		<i>Inquisitive does not currently have content for this supporting objective.</i>
	Earth and Space Sciences – Earth's Systems	ESS.4.2 Understand patterns of change in the Earth's surface over time.	ESS.4.2.1 Carry out investigations to classify minerals using tests for the physical properties of hardness, color, luster, cleavage and streak.		<i>Inquisitive does not currently have content for this supporting objective.</i>
			ESS.4.2.2 Carry out investigations to classify rocks as metamorphic, sedimentary, or igneous based on their composition, how they are formed, and the processes that create them.		<i>Inquisitive does not currently have content for this supporting objective.</i>
			ESS.4.2.3 Use models to explain changes in Earth's surface over time (to include slow changes of erosion and weathering, and fast changes of earthquakes, landslides, and volcanic activity).	4-ESS2-1 Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind or vegetation. 2-ESS1-1 Use information from several sources to provide evidence that Earth events can occur quickly or slowly.	4-ESS2-1 Weathering ● Describe a process by which rocks become weathered. ● Use observations from an investigation as evidence for an explanation of how weathering occurs. Erosion ● Give an example of an erosion process and explain how it moves weathered rock. ● Use practical observations as evidence for an explanation of how the slope of the land can affect the rate of erosion. 2-ESS1-1 Earth Changes S-l-o-w-l-y

					• Understand that elements and features on Earth (dirt, sand, rocks, hills, mountains, rivers, lakes, and seas) change over time. • Recognize that weathering and erosion are slow changes that transform Earth's surface over a long period of time. Earth Changes Fast! • Understand that elements and features on Earth (soil, sand, rocks, hills, mountains, rivers, lakes, and seas) change over time. • Recognize that volcanic eruptions, earthquakes, and floods are examples of changes that happen quickly, and transform Earth's surface suddenly.
Earth and Space Sciences – Earth and Human Activity	ESS.4.3 Understand changes caused by human impact on the environment.	ESS.4.3.1 Ask questions to infer whether changes in an organism's environment are beneficial or harmful.	3-LS4-4 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.	3-LS4-4 What Happens When Environments Change?	• Describe some of the ways that environments can change. • Describe how changes to an environment can affect the organisms that live there. • Evaluate the effectiveness of a solution designed to solve a problem caused by changes to an environment
		ESS.4.3.2 Engage in argument from evidence to explain how humans can adapt their behavior to live in changing environments (e.g. recycling wastes, establishing rain gardens, planting native species to prevent flooding and erosion).	5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	5-ESS3-1 Science to the Rescue!	• Describe the harmful effects on the environment of certain human activities. • Give an example of a science-based action that has repaired or protected the environment.
		ESS.4.3.3 Obtain, evaluate and communicate information to compare solutions to environmental problems impacting plants and animals.			<i>Inquisitive does not currently have content for this supporting objective.</i>

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5	Physical Sciences – Matter and its Interactions	PS.5.1 Understand the interactions of matter and energy and the changes that occur.	PS 5.1.1 Carry out investigations to compare the weight of objects before and after an interaction.	5-PS1-2 Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.	5-PS1-2 Weighing Matter - Understand that the weight of matter is always conserved, even when that matter undergoes change. - Use their own observations and measurements as evidence to support a claim.
			PS 5.1.2 Carry out investigations to explain whether the mixing of two or more substances results in new substances.	5-PS1-4 Conduct an investigation to determine whether the mixing of two or more substances results in new substances.	5-PS1-4 Mixing Matter - Use experimental observations to determine whether mixing substances has produced a new substance. - Identify variables that are changed or kept the same so that an experiment can be a fair test.
			PS 5.1.3 Carry out investigations to compare how heating and cooling affect some materials and how this relates to their purpose and practical applications.	2-PS1-4 Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.	<i>This Inquisitive lesson partially addresses the supporting objective.</i> 2-PS1-4 Changes from Heating and Cooling - Explain that heating and cooling can change matter. - Compare and contrast changes that can be undone and cannot be undone.
	Physical Sciences – Motion and Stability- Forces and Interactions	PS.5.2 Understand force, motion, and the relationship between them.	PS.5.2.1 Carry out investigations to explain how factors such as gravity, friction, and change in mass affect the motion of objects.	3-PS2-1 Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.	3-PS2-1 Forceful Friction - Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. - Describe and represent how friction affects the motion of an object. - Use force concepts, including friction, to explain experimental observations.
				5-PS2-1 Support an argument that the gravitational force exerted by Earth on objects is directed down.	
					5-PS2-1 Goin' Down! - Explain that objects near Earth's surface fall downward because the force of gravity is pulling them toward the planet's center. - Carry out an investigation and record observations.

					• Make a claim and use evidence and reasoning to support it. • Evaluate the validity of a claim based on evidence presented.
			PS.5.2.2 Use mathematics and computational thinking to infer the motion of an object (including position, direction, and speed).	<u>3-PS2-2</u> Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to produce future motion.	<i>This Inquisitive lesson partially addresses the supporting objective.</i> <u>3-PS2-2</u> <u>Patterns in Motion</u> • Identify patterns in motion and use these patterns to predict future motion. • Make observations and measurements to produce data that serves as the basis for evidence for an explanation of an observed phenomenon.

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5	Life Sciences – From Molecules to Organisms- Structures and Processes	LS.5.1 Understand how structures and systems of the human body perform functions necessary for life.	LS.5.1.1 Use models to recognize the organizational structure of humans as a multicellular organism (cell, tissue, organ, system, organism).		<i>Inquisitive does not currently have content for this supporting objective.</i>
			LS.5.1.2 Use models to compare the major systems of the human body (digestive, respiratory, circulatory, muscular, skeletal, nervous) as it relates to their functions necessary for life.	4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.	<i>This Inquisitive lesson partially addresses the supporting objective.</i> 4-LS1-1 The Inside Story! - Identify the position and the function of the heart, lungs, and brain in their body. - Explain how these structures, along with the nerves, work together to aid growth and survival. - Give examples of animals that have internal structures similar to and different from those in humans.
	Life Sciences – Ecosystems- Interactions, Energy, and Dynamics	LS.5.2 Understand the Interdependence of plants and animals within their ecosystem.	LS.5.2.1 Engage in argument from evidence to compare the characteristics of several common ecosystems (including estuaries and salt marshes, oceans, lakes and ponds, rivers and streams, forests, and grasslands) in terms of their ability to support a variety of populations.	5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	5-LS2-1 Nature's Recyclers - Explain observations of rotting plant and animal matter as the actions of decomposers. - Describe the important role decomposers play in recycling matter.
			LS.5.2.2 Use models to classify organisms within an ecosystem according to the function they serve: producers, consumers, or decomposers .	5-PS3-1 Use models to describe that energy in animals' food was once energy from the sun.	A Web of Life - Describe, with examples, how individual food chains connect to form food webs. - Understand that food webs show the movement of matter through an ecosystem.
			LS.5.2.3 Use models to infer the effects that may result from the interconnected relationships of plants and animals to their ecosystem.		A Damaged Web - Describe, with examples, how removing a species from a food web damages an ecosystem. - Describe, with examples, the effect on an ecosystem of introducing a new species. 5-PS3-1 Energy for Living Things - State reasons as to why animals need to eat food. - Create an accurate model of a food chain. - Identify that energy in animals' food was once energy from the sun.

	Life Sciences – Heredity- Inheritance and Variation of Traits	LS.5.3 Understand some characteristics of an organism are inherited and other characteristics are acquired.	LS.5.3.1 Ask questions to compare instincts and learned behaviors.	<u>3-LS3-1</u> Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms. <u>3-LS3-2</u> Use evidence to support the explanation that traits can be influenced by the environment.	<u>3-LS3-1</u> <u>Variation of Traits</u> - Analyze and interpret data to provide evidence of the shared traits and variations in traits that occur in a species. <u>Inherited Traits</u> - Identify and use evidence to support the idea that offspring inherit traits from their parents. - Identify and use evidence to support the idea that siblings with the same parents will have variations in their traits. <u>3-LS3-2</u> <u>Can the Environment Affect Traits?</u> - Identify and use evidence to support the idea that the environment of a living thing can affect both its physical and behavioral traits.
			LS.5.3.2 Ask questions to compare inherited and acquired traits.		

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5	Earth and Space Sciences – Earth's Systems	ESS.5.1 Understand how Earth systems (hydrosphere and atmosphere) impact patterns of weather and climate.	ESS.5.1.1 Analyze and interpret data to compare daily and seasonal changes in weather conditions (including wind speed and direction, precipitation, and temperature) and patterns.	3-ESS2-1 Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.	<i>This Inquisitive lesson partially addresses the supporting objective.</i> 3-ESS2-1 Weather Watching - Describe some types of weather data and how they are collected. - Represent weather data as a bar graph. - Use weather data as evidence for decisions or explanations.
			ESS.5.1.2 Analyze and interpret weather data to explain current and upcoming weather conditions (including severe weather such as hurricanes and tornadoes) in a given location.	3-ESS3-1 Make a claim about the merit of a design solution that reduces the impact of a weather-related hazard.	<i>This Inquisitive lesson partially addresses the supporting objective.</i> 3-ESS3-1 Weatherproof! - Give some examples of extreme weather and the problems they cause. - Make a claim about the effectiveness of a solution for a particular weather hazard and use evidence to support the claim.
			ESS.5.1.3 Construct an explanation to summarize the ocean's influences on weather and climate in North Carolina.		<i>Inquisitive does not currently have content for this supporting objective.</i>
			ESS.5.1.4 Use models to explain how the sun's energy drives the processes of the water cycle (including evaporation, transpiration, condensation, precipitation).	5-ESS2-2 Describe and graph the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.	5-ESS2-2 Interacting Systems - Describe how water evaporating and condensing in the atmosphere results in rainfall. - Develop a model to explain how changes in one of Earth's systems (spheres) results in a change to one (or more) of the other systems.