



## Pacing Guide – 2nd Grade Harcourt Science

The expectation is at least 30 min. 2 x week

Approx Week	Topic	Grade Level Indicators	ELA Focus	Days
1.	<b>Ready, Set, Science</b>  What Inquiry Skills Will We Use? pp. 2 – 9	SI-6 Recognize that explanations are generated in response to observations; events and phenomena. SI-7 Use appropriate tools and simple equipment/instruments to safely gather scientific data (e.g., magnifiers, non-breakable thermometers, timers, rulers, balances and calculators and other appropriate tools). SI-8 Measure properties of objects using tools such as rulers, balances and thermometers. SI-10 Share explanations with others to provide opportunities to ask questions, examine evidence and suggest alternative explanations.	<b>Main Idea and Details</b> IT-4, WP-6	2
2.	<b>Ready, Set, Science!</b>  What Science Tools Will We Use? pp. 10 – 17	SI-6 Recognize that explanations are generated in response to observations, events and phenomena. SI-7 Use appropriate tools and simple equipment/instruments to safely gather scientific data (e.g., magnifiers, non-breakable thermometers, timers, rulers, balances and calculators and other appropriate tools). SI-8 Measure properties of objects using tools such as rulers, balances and thermometers. SI-10 Share explanations with others to provide opportunities to ask questions, examine evidence and suggest alternative explanations.	<b>Main Idea and Details</b> IT-4	2
3.	<b>Ready, Set, Science!</b>  How Do Scientist Work? pp. 18 – 23	SI-6 Recognize that explanations are generated in response to observations, events and phenomena. SI-7 Use appropriate tools and simple equipment/instruments to safely gather scientific data (e.g., magnifiers, non-breakable thermometers, timers, rulers, balances and calculators and other appropriate tools). SI-8 Measure properties of objects using tools such as rulers, balances and thermometers. SI-9 Use whole numbers to order, count, identify, measure and describe things and experiences. SI-10 10. Share explanations with others to provide opportunities to ask questions, examine evidence and suggest alternative explanations.	<b>Sequence</b> IT-2	2
4.	<b>Ready, Set, Science!</b>  End of Chapter pp. 24 – 25	All chapter objectives		2

**Science Benchmarks - KEY**

Earth and Space Science – ESS  
 Life Science – LS  
 Physical Science – PS  
 Science and Technology – ST  
 Scientific Inquiry – SI  
 Scientific Ways of Knowing – SWOK

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5.	<b>Life Sciences</b> <b>Chapter 3</b> Lesson 1: What Do Living Things Need? pp. 106 – 113 * Plants are needed	LS-1 Explain that animals, including, people, need air, water, food, living space and shelter; plants need air, water, nutrients (e.g., minerals), living space and light to survive. LS-2 Identify that there are many distinct environments that support different kinds of organisms. LS-5 Explain that food is a basic need of plants and animals (e.g., plants need sunlight to make food and to grow, animals eat plants and/or other animals for food, food chain) and is important because it is a source of energy (e.g., energy used to play, ride bicycles, read, etc). SI-5 Use evidence to develop explanations of scientific investigations. (what do you think? How do you know?) SI-6 Recognize that explanations are generated in response to observations, events and phenomena.	<b>Compare and Contrast</b> RP-3, WP-4, WA-6  <b>Math</b> DAP-1	2
6.	<b>Life Sciences</b> <b>Chapter 3</b> Lesson 2: How Are Living Things the Same and Different? pp. 114- 121	LS-1 Explain that animals, including, people, need air, water, food, living space and shelter; plants need air, water, nutrients (e.g., minerals), living space and light to survive. LS-4 Compare similarities and differences among individuals of the same kind of plants and animals, including people. SI-6 Recognize that explanations are generated in response to observations, events and phenomena. ST-10 Share explanations with others to provide opportunities to ask questions, examine evidence and suggest alternative explanations. SWOK-4 Demonstrate that in science it is helpful to work with a team and share findings with others.	<b>Compare and Contrast</b> AV-1, WP-11  <b>Math</b> DAP-2	2
7.	<b>Life Sciences</b> <b>Chapter 3</b> Lesson 3: What is an environment: pp. 122 – 131	LS-1 Explain that animals, including, people, need air, water, food, living space and shelter; plants need air, water, nutrients (e.g., minerals), living space and light to survive. LS-2 Identify that there are many distinct environments that support different kinds of organisms. LS-3 Explain why organisms can survive only in environments that meet their needs (e.g., organisms that once lived on Earth have disappeared for different reasons such as natural forces or human-caused effects). LS-5 Explain that food is a basic need of plants and animals (e.g., plants need sunlight to make food and to grow, animals eat plants and/or other animals for food, food chain) and is important because it is a source of energy (e.g., energy used to play, ride bicycles, read, etc). LS-6 Investigate plant/animal adaptations; 6. Investigate the different structures of plants and animals that help them live in different environments (e.g. lungs, gills, leaves and roots). SI-2 Ask “how do you know” questions (not “why” questions” in appropriate situations and attempt to give reasonable 2answers when others ask questions. SI-6 Recognize that explanations are generated in response to observations, events and phenomena.	<b>Main Idea and Details</b> RP-3, IT- 404 606	2

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8.	<b>Life Sciences</b> <b>Chapter 3</b> <i>Lesson 4:</i> How Do Living Things Survive in Different Places? pp. 132- 141	L2S-3 Explain need for habitats; Explain why organisms can survive only in environments that meet their needs (e.g., organisms that once lived on Earth have disappeared for different reasons such as natural forces or human-caused effects). LS-5 Explain that food is a basic need of plants and animals (e.g., plants need sunlight to make food and to grow, animals eat plants and/or other animals for food, food chain) and is important because it is a source of energy (e.g., energy used to play, ride bicycles, read, etc). LS-6 Investigate the different structures of plants and animals that help them live in different environments (e.g. lungs, gills, leaves and roots). LS-7 Compare the habitats of many different kinds of Ohio plants and animals and some of the ways animals depend on plants and each other. SI-2 Ask “how do we know” questions; LS 2 Identify that there are many distinct environments that support different kinds of organisms. SI-6 Recognize that explanations are generated in response to observations, events and phenomena.	<b>Main Idea and Details</b> IT-4  <b>Math</b> DAP-1	2
9.	<b>Life Sciences</b> <b>Chapter 3</b> <i>End of Chapter</i> pp. 142- 147	All chapter objectives	AV-1	2
10.	<b>Life Sciences</b> <b>Chapter 4</b> <i>Lesson 1:</i> How Do Plant and Animals Get Energy? pp. 150 – 155 * Need plants for investigate	LS-1 Explain that animals, including, people, need air, water, food, living space and shelter; plants need air, water, nutrients (e.g., minerals), living space and light to survive. LS-5 Explain that food is a basic need of plants and animals (e.g., plants need sunlight to make food and to grow, animals eat plants and/or other animals for food, food chain) and is important because it is a source of energy (e.g., energy used to play, ride bicycles, read, etc). LS-6 Investigate the different structures of plants and animals that help them live in different environments (e.g. lungs, gills, leaves and roots). SI-6 Recognize that explanations are generated in response to observations, events and phenomena.	<b>Main Idea and Details</b> IT-4, WP-4	2
11.	<b>Life Sciences</b> <b>Chapter 4</b> <i>Lesson 2:</i> What Are Food Chains and Food Webs? pp. 156 – 161	LS-1 Explain that animals, including, people, need air, water, food, living space and shelter; plants need air, water, nutrients (e.g., minerals), living space and light to survive. LS-5 Explain that food is a basic need of plants and animals (e.g., plants need sunlight to make food and to grow, animals eat plants and/or other animals for food, food chain) and is important because it is a source of energy (e.g., energy used to play, ride bicycles, read, etc). SI-10 Share explanations with others to provide opportunities to ask questions, examine evidence and suggest alternative explanations.	<b>Sequence</b> IT-2, WP-2, WP-15	2

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12.	<b>Life Sciences</b> <b>Chapter 4</b> Lesson 3: How Do People Get Energy? pp. 162- 169	LS-1 Explain that animals, including, people, need air, water, food, living space and shelter; plants need air, water, nutrients (e.g., minerals), living space and light to survive. LS-5 Explain that food is a basic need of plants and animals (e.g., plants need sunlight to make food and to grow, animals eat plants and/or other animals for food, food chain) and is important because it is a source of energy (e.g., energy used to play, ride bicycles, read, etc). SI-6 Recognize that explanations are generated in response to observations, events and phenomena.	<b>Cause and Effect</b> IT-5, IT-4, WA-1	2
13.	<b>Life Sciences</b> <b>Chapter 4</b> End of Chapter pp. 170- 175	All chapter objectives	AV-1	2
14.	<b>Life Sciences</b> <b>Chapter 5</b> Lesson 1: How do Seasons Change Plants? Pg. 178- 185 * Growing bean plants	LS-1 Explain that animals, including, people, need air, water, food, living space and shelter; plants need air, water, nutrients (e.g., minerals), living space and light to survive. LS-5 Explain that food is a basic need of plants and animals (e.g., plants need sunlight to make food and to grow, animals eat plants and/or other animals for food, food chain) and is important because it is a source of energy (e.g., energy used to play, ride bicycles, read, etc). SI-6 Recognize that explanations are generated in response to observations, events and phenomena. SI-10 Share explanations with others to provide opportunities to ask questions, examine evidence and suggest alternative explanations.	<b>Sequence</b> AV-2	2

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15.	<b>Life Sciences</b> <b>Chapter 5</b> Lesson 2: How Do Seasons Change Animals? pp. 186 – 195	LS-1 Explain that animals, including, people, need air, water, food, living space and shelter; plants need air, water, nutrients (e.g., minerals), living space and light to survive. LS-2 Identify that there are many distinct environments that support different kinds of organisms. LS-5 Explain that food is a basic need of plants and animals (e.g., plants need sunlight to make food and to grow, animals eat plants and/or other animals for food, food chain) and is important because it is a source of energy (e.g., energy used to play, ride bicycles, read, etc). LS-6 Investigate the different structures of plants and animals that help them live in different environments (e.g. lungs, gills, leaves and roots). LS-7 Compare the habitats of many different kinds of Ohio plants and animals and some of the ways animals depend on plants and each other. LS-8 Compare the activities of Ohio's common animals (e.g., squirrels, chipmunks, deer, butterflies, bees, ants, bats and frogs) during the different seasons by describing changes in their behaviors and body covering SI-6 Use observations; 6. Recognize that explanations are generated in response SI-7 Use appropriate tools and simple equipment/instruments to safely gather scientific data (e.g. , magnifiers, non-breakable thermometers, timers, rulers, balances and calculators and other appropriate tools). SI-9 Use whole numbers to order, count, identify, measure and describe things and experiences.	<b>Main Idea and Details</b> IT-4 , WA-1	2

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16.	<b>Life Sciences</b> <b>Chapter 5</b> Lesson 3: What Are Some Ohio Habitats? pp. 196- 205	LS-1 Explain that animals, including, people, need air, water, food, living space and shelter; plants need air, water, nutrients (e.g., minerals), living space and light to survive. LS-2 Identify that there are many distinct environments that support different kinds of organisms. LS-3 Explain why organisms can survive only in environments that meet their needs (e.g., organisms that once lived on Earth have disappeared for different reasons such as natural forces or human-caused effects). LS-5 Explain that food is a basic need of plants and animals (e.g., plants need sunlight to make food and to grow, animals eat plants and/or other animals for food, food chain) and is important because it is a source of energy (e.g., energy used to play, ride bicycles, read, etc). LS-7 Compare the habitats of many different kinds of Ohio plants and animals and some of the ways animals depend on plants and each other. LS-8 Compare the activities of Ohio's common animals (e.g., squirrels, chipmunks, deer, butterflies, bees, ants, bats and frogs) during the different seasons by describing changes in their behaviors and body covering LS-9 Compare Ohio plants during the different seasons by describing changes in their appearance. SI-6 Recognize that explanations are generated in response SI-10 Share explanations with others to provide opportunities to ask questions, examine evidence and suggest alternative explanations. SWOK-4 Demonstrate that in science it is helpful to work with a team and share findings with others.	<b>Compare and Contrast</b> RP-3, WA-1	2
17.	<b>Life Sciences</b> <b>Chapter 5</b> End of Chapter pp. 206- 211	All chapter objectives	AV-1, WA-4	2
18.	<b>Physical Sciences</b>  <b>Chapter 6</b> Lesson 1: What Causes Sound? pp. 224 – 229	PS-1 Explore how things make sound (e.g., rubber bands, tuning fork and strings). PS-2 Explore and describe sounds (e.g., high, low, soft and loud) produced by vibrating objects. SI-6 Recognize that explanations are generated in response to observations, events and phenomena.	<b>Cause and Effect</b> IT-4	2

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19.	<b>Physical Sciences</b> <b>Chapter 6</b> Lesson 2: How Does Sound Travel? pp. 230 – 237	PS-1 Explore how things make sound (e.g., rubber bands, tuning fork and strings). PS-2 Explore and describe sounds (e.g., high, low, soft and loud) produced by vibrating objects. SI-6 Use observations 6. Recognize that explanations are generated in response to observations, events and phenomena. SI-9 Use numbers 9. Use whole numbers to order, count, identify, measure and describe things and experiences.	<b>Main Idea and Details</b> IT-4, WP-7	2
20.	<b>Physical Sciences</b> <b>Chapter 6</b> Lesson 3: How Do We Make Different Sounds? pp. 238 – 243	PS-1 Explore sound production 1. Explore how things make sound (e.g., rubber bands, tuning fork and strings). PS-2 2. Explore and describe sounds (e.g., high, low, soft and loud) produced by vibrating objects. SI-5 Use evidence to develop explanations of scientific investigations. (What do you think? How do you know?)	<b>Cause and Effect</b> 404 615	2
21.	<b>Physical Sciences</b> <b>Chapter 6</b> Lesson 4: What Is Light? pp. 244 – 249	PS-3 Explore with flashlights and shadows that light travels in a straight line until it strikes an object. SI-5 Use evidence to develop explanations of scientific investigations. (What do you think? How do you know?) SI-6 Recognize that explanations are generated in response to observations, events and phenomena. SI-8 Measure properties of objects using tools such as rulers, balances and thermometers. SI-9 Use whole numbers to order, count, identify, measure and describe things and experiences.	<b>Main Idea and Details</b> IT-4, WP-3	2
22.	<b>Physical Sciences</b> <b>Chapter 6</b> End of Chapter pp. 250 – 255	All chapter objectives	AV-1	2
23.	<b>Earth and Space Sciences</b>  <b>Chapter 1</b> Lesson 1: What Are Stars and Planets? pp. 30 – 35	ES-1 Recognize that there are more stars in the sky than anyone can easily count. SI-6 Recognize that explanations are generated in response to observations, events and phenomena.	WP-5	2

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24.	<b>Earth and Space Sciences</b> <b>Chapter 1</b> <i>Lesson 2:</i> What Causes Day and Night? pp. 36 – 41 * Outside for shadows	ES-2 Observe and describe how the sun, moon and stars all appear to move slowly across the sky. PS-3 Explore with flashlights and shadows that light travels in a straight line until it strikes an object. SI-6 Recognize that explanations are generated in response to observations, events and phenomena. SI-9 Use whole numbers to order, count, identify, measure and describe things and experiences. SI-10 Share explanations with others to provide opportunities to ask questions, examine evidence and suggest alternative explanations.	<b>Cause and Effect</b> WP-1  <b>Math</b> LT-1, LT-2	2
25.	<b>Earth and Space Sciences</b> <b>Chapter 1</b> <i>Lesson 3:</i> Why does the Moon Seem to Change: pp. 42 – 47	ES-3 Observe and describe how the moon appears a little different every day but looks nearly the same again about every four weeks. SI-6 Recognize that explanations are generated in response to observations, events and phenomena. SI-10 Share explanations with others to provide opportunities to ask questions, examine evidence and suggest alternative explanations.	<b>Cause and Effect</b> AV-1	2
26.	<b>Earth and Space Sciences</b> <b>Chapter 1</b> <i>Lesson 4:</i> What Causes the Seasons? pp. 48 – 55	ES-4 Observe and describe that some weather changes occur throughout the day and some changes occur in a repeating seasonal pattern. SI-6 Recognize that explanations are generated in response to observations, events and phenomena. SI-10 Share explanations with others to provide opportunities to ask questions, examine evidence and suggest alternative explanations.	<b>Cause and Effect</b> WP-6, WA-1	2
27.	<b>Earth and Space Sciences</b> <b>Chapter 1</b> <i>End of Chapter</i> pp. 56 – 61	All chapter objectives	AV – 1, WP - 6	

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28.	<b>Earth and Space Sciences</b> <b>Chapter 2</b> <i>Lesson 1:</i> How Does Weather Change? pp. 64 -71	ES-4 Observe and describe that some weather changes occur throughout the day and some changes occur in a repeating seasonal pattern. SI-6 . Recognize that explanations are generated in response to observations, events and phenomena. SI-10 Share explanations with others to provide opportunities to ask questions, examine evidence and suggest alternative explanations.	<b>Sequence</b> IT-1, IT-2 , WA-4	2
29.	<b>Earth and Space Sciences</b> <b>Chapter 2</b> <i>Lesson 2:</i> Why do we measure Weather? pp. 72 – 79	ES-4 Observe and describe that some weather changes occur throughout the day and some changes occur in a repeating seasonal pattern. ES-5 Describe weather by measurable quantities such as temperature and precipitation. ST-2 Investigate why people make new products or invent new ways to meet their individual wants and needs. SI-6 Recognize that explanations are generated in response to observations, events and phenomena. SI-7 Use appropriate tools and simple equipment/instruments to safely gather scientific data (e.g. , magnifiers, non-breakable thermometers, timers, rulers, balances and calculators and other appropriate tools). SI-8 Measure properties of objects using tools such as rulers, balances and thermometers. SI-9 Use whole numbers to order, count, identify, measure and describe things and experiences.	<b>Main Idea and Details</b> IT-4, WA-4  <b>Math</b> DAP-1, DAP-2	2
30..	<b>Earth and Space Sciences</b> <b>Chapter 2</b> <i>Lesson 3:</i> What is the Water Cycle? pp. 80 – 87	ES-4 Observe and describe that some weather changes occur throughout the day and some changes occur in a repeating seasonal pattern. SI-6 Recognize that explanations are generated in response to observations, events and phenomena.	<b>Cause and Effect</b> IT-4, WP-1  <b>Math</b> DAP-1, DAP-2	2
31.	<b>Earth and Space Sciences</b> <b>Chapter 2</b> <i>End of Chapter</i> pp. 88- 93	. All chapter objectives	AV-1	2

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