

Strand I Thinking and Practice

Standard I: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.

Essential Question: What does it take to be a scientist - curiosity, observation skills & record-keeping.

Category	First Grade	End Learning Mastery	Assessment(s)	Resources
Process of Investigation SCIENTIFIC METHOD Benchmark I: Use scientific methods to observe, collect, record, analyze, predict, interpret, and determine reasonableness of data.	1. Make observations, develop simple questions, and make comparisons of familiar situations. 2. Describe relationships between objects and predict the results of changing the relationships			H M Science Unit E Chapter 10 Lesson 2 TE Pgs. E 12-17 The Nature of science Pgs T 29 - 36

Essential Question: What does it take to be a scientist – patience and an open mind.

Category	First Grade	End Learning Mastery	Assessment(s)	Resources
Process of Investigation SCIENTIFIC THINKING Benchmark II: Use scientific thinking and knowledge and communicate findings.	1. Know that simple investigations do not always turn out as planned.			H M Science The Nature of science Pgs T 29 – 36 Unit A Chapter 1 Lesson 3 TE Pgs A 20-27

Essential Question: What does it take to be a scientist – scientific language.

Category	First Grade	End Learning Mastery	Assessment(s)	Resources
Process of Investigation MATH SKILLS Benchmark III: Use mathematical skills and vocabulary to analyze data, understand patterns and relationships, and communicate findings.	1. Use numbers and mathematical language (e.g., “addition” instead of “add to,” “subtraction” instead of “take away”) to describe phenomena.			H M Science Unit E Chapter 10 Lesson 1, 2, 3, 4, TE Pgs E 4-33

Stand II – Content of Science

Standard I (Physical Science): Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.

Essential Question: How do you make vehicles move in/on solids, liquids, gasses (land, ice, sea, air) What are the characteristics of various parts of a car/plane/boat/ice skate?

Category	First Grade	End Learning Mastery	Assessment(s)	Resources
Strand II: Content of Science PHYSICAL SCIENCE Forms of Matter Benchmark I: Recognize that matter has different forms and properties.	1. Observe that the three states of matter (i.e., solids, liquids, and gases) have different properties (e.g., water can be liquid, ice, or steam). 2. Describe simple properties of matter (e.g., hardness, flexibility, transparency).			HM Science 1. Unit E Chapter 11 TE Pgs. E 34-56 2. Unit E Chapter 10 T E Pages E 1 – 11 Watch video Matter Changes

Essential Question: How do animals/plants/humans survive in different climates?

Category	First Grade	End Learning Mastery	Assessment(s)	Resources
Strand II: Content of Science PHYSICAL SCIENCE Properties of Matter Benchmark II: Know that energy is needed to get things done and that energy has different forms.	1. Observe and describe how energy produces changes (e.g., heat melts ice, gas makes car go uphill, electricity makes TV work).			H M Science Unit E Chapter 11 Lesson 2 TE Pgs. E 42 - 47 Unit F Chapter 12 Lessons 1-4 TE Pgs. F 1 - 31

Stand II – Content of Science

Standard I (Physical Science): Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.

Essential Question: How do you make vehicles move in/on solids, liquids, and gases (land, sea, air)?

Category	First Grade	End Learning Mastery	Assessment(s)	Resources
Strand II: Content of Science PHYSICAL SCIENCE Forces of Matter Benchmark III: Identify forces and describe the motion of objects.	1. Describe ways to make things move, what causes them to stop, and what causes a change of speed, or change of direction. 2. Observe that gravity makes things fall to the ground unless something holds them up.			HM Science 1. Chapter 13 lessons 1-3 TE Pgs F 32-56 2. Chapter 13 lesson 1 TE Pgs. F 34 - 39

Strand II Content of Science – LIFE SCIENCE

Standard II (Life Science): Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.

Essential Question: (1&4) How are we the same/different as all other living things? (1,2,3) How do animals/plants survive in different climates?

Category	First Grade	End Learning Mastery	Assessment(s)	Resources
<p>Strand II: Content of Science</p> <p>LIFE SCIENCE Forms & Structure</p> <p>Benchmark I: Know that living things have diverse forms, structures, functions, and habitats.</p>	<p>1. Know that living organisms (e.g., plants, animals) have needs (e.g., water, air, food, sunlight).</p> <p>2. Know that living organisms (e.g., plants, animals) inhabit various environments and have various external features to help them satisfy their needs (e.g., leaves, legs, claws).</p> <p>3. Describe the differences and similarities among living organisms (e.g., plants, animals).</p> <p>4. Observe that living organisms (e.g., plants, animals) have predictable but varied life cycles.</p>			<p>HM Science</p> <p>1. Unit A Chapter 3 Lesson 2 A 62 - 72 Unit B Chapter 4 Lesson 2 TE Pgs. B14-23</p> <p>2. Unit A Chapter 2 Lesson 1,2 TE Pgs.A34 -43 Unit A Chapter 3 Lesson 1 TE Pgs.A 52-61 Unit B Chapter 5 Lesson 1-3 TE Pgs. B 24-48</p> <p>3. Unit B Chapter 4 Lesson 1-2 TE Pgs. B 2-23</p> <p>4. Unit A Chapter 1 Lesson 3 TE Pgs. A 20 – 27 Unit A Chapter 2 Lesson 3 TE Pgs. A 44-51 Unit A Chapter 3 Lesson 2 TE Pgs. A 62-72 Watch Plant Life cycles Video and How Animals Move Vide</p>

Strand II Content of Science – LIFE SCIENCE

Standard II (Life Science): Understand the properties, structures, and processes of living things and the interdependence of living things and their environments

Essential Question: (1) What do we need to stay alive? (2) How are we the same/different as all other living things?

Category	First Grade	End Learning Mastery	Assessment(s)	Resources
Strand II: Content of Science LIFE SCIENCE Life Forms in the Environment Benchmark II: Know that living things have similarities and differences and that living things change over time	1. Identify differences between living and nonliving things. 2. Recognize the differences between mature and immature plants and animals (e.g., trees/seedlings, dogs/puppies, cats/kittens).			HM Science 1. Unit B Chapter 4 Lesson 2 TE Pgs. B1-13 Watch Living Or Nonliving Video 2. Unit A Chapter 1 Lesson 3 TE Pgs. A 20 – 27 Unit A Chapter 2 Lesson 3 TE Pgs. A 44-51

Essential Question: (1,2) What do we need to stay alive? (3) How are we the same/different from all other living things?

Category	First Grade	End Learning Mastery	Assessment(s)	Resources
Strand II: Content of Science LIFE SCIENCE Life Forms in the Environment Benchmark III: Know the parts of the human body and their functions	1. Describe simple body functions (e.g., breathing, eating). 2. Describe the basic food requirements for humans. 3. Describe how some parts of human bodies differ from similar parts of other animals (e.g. hands and feet/paws; ears).			Macmillan/McGraw-Hill Health & Wellness 1. Unit B Chapter 3 Lessons 5-9 TE B 54-63 2. Unit B Chapter 4 Lesson 1-5 TE B 68-79 3. HM Science Unit A Chapter 2 Lesson 1 TE Pgs. A30-35 Unit A Chapter 3 Lesson 1 TE Pgs. A54-61

Strand II Content of Science – EARTH AND SPACE SCIENCE

Standard III (Earth and Space Science): Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.

Essential Question: How does a spinning Earth change the appearance of things in the sky?

Category	First Grade	End Learning Mastery	Assessment(s)	Resources
<p>Strand II: Content of Science</p> <p>EARTH & SPACE SCIENCE Universe/Solar System</p> <p>Benchmark I: Know the structure of the solar system and the objects in the universe</p>	<p>1. Observe the changes that occur in the sky as day changes into night and night into day.</p> <p>2. Describe the basic patterns of objects as they move through the sky:</p> <ul style="list-style-type: none"> • sun appears in the day • moon appears at night but can sometimes be seen during the day • sun and moon appear to move across the sky • moon appears to change shape over the course of a month. <p>3. Recognize that the sun, moon, and stars all appear to move slowly across the sky.</p>			<p>H M Science</p> <p>1. Unit D Chapter 9 Lesson 1 TE Pgs. D 42-49</p> <p>2. Unit D Chapter 9 Lesson 2 TE Pgs. D 50-55</p> <p>3. Unit D Chapter 9 Lesson 4 TE Pgs. D 64-72</p>

Standard III (Earth and Space Science): Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.

Essential Question: (1) How do we know if rain/snow is coming? (2) How do animals/plants survive in different climates?

Category	First Grade	End Learning Mastery	Assessment(s)	Resources
<p>Strand II: Content of Science</p> <p>EARTH & SPACE SCIENCE Earth</p> <p>Benchmark II: Know the structure and formation of Earth and its atmosphere and the processes that shape them</p>	<p>1. Know that simple tools can be used to measure weather conditions (e.g., thermometer, wind sock, hand held anemometer, rain gauge) and that measurements can be recorded from day to day and across seasons.</p> <p>2. Know that there are different climates (e.g., desert, arctic, rainforest).</p>			<p>H M Science 1. Unit D Chapter 8 Lessons 2, 4, 5 TE Pgs. D 12-19, 26-41</p> <p>Unit E Chapter 10 Lesson 2 TE Pgs. E 12-17 2. Unit B Chapter 5 Lessons 1,2,3 TE Pgs. B 24- 45 Watch video Let's Explore The Woods</p>

Strand III Science & Society – DISCOVER / INVENT Scientific Influence

Standard I: Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by, individuals and societies.

Essential Question: (1) How do we keep germs from spreading? (2,3) How do animals/plants, humans survive in different climates? (3) How do we make tools/machines as safe as possible? (4) What does it take to be a scientist?

Category	First Grade	End Learning Mastery	Assessment(s)	Resources
<p>Strand III: Science and Society</p> <p>Discover / Invent Scientific Influence</p> <p>Benchmark I: Describe how science influences decisions made by individuals and societies</p>	<p>1. Know that germs can be transmitted by touching, breathing, and coughing, and that washing hands helps prevent the spread of germs.</p> <p>2. Describe how science has assisted in creating tools (e.g., plows, knives, telephones, cell phones, computers) to make life easier and more efficient.</p> <p>3. Describe how tools and machines can be helpful, harmful, or both (e.g., bicycles, cars, scissors, stoves).</p> <p>4. Know that men and women of all ethnic and social backgrounds practice science and technology.</p>			<p>Macmillan/McGraw-Hill Health & Wellness 1. Unit D Chapter 8 Lessons 1- 3 TE 178-184</p> <p>H M Science 4. The Nature of Science TE 29</p>

KEY

magenta – introduce
green – develop
master – red

progress - black
extend - turquoise

