Science

6th Grade: Year-at-a-Glance

2024 – 2025

Q1	Q2	Q3	Q4
Disciplinary Core Ideas/Standards August 5 – October 4	**Disciplinary Core Ideas/Standards October 14 – December 20**	**Disciplinary Core Ideas/Standards January 6 – March 7**	**Disciplinary Core Ideas/Standards March 17 – May 23**
6.PS3: Energy **6.ESS3**: Earth and Human Activity	**6.ESS2**: Earth Systems **6.ESS3**: Earth and Human Activity	**6.ESS2**: Earth Systems **6.LS2**: Ecosystems: Interactions, Energy, and Dynamics	**6.LS2**: Ecosystems: Interactions, Energy, and Dynamics **6.LS4**: Biological Change: Unity and Diversity
Unit 1: Energy (5 weeks)	**Unit 6: Earth's Water (1 week)**	**Unit 8: Weather and Climate (5 weeks)**	**Unit 2: Relationships Among Organisms (2 weeks)**
6.PS3.1	6.ESS2.4	6.ESS2.3	6.LS2.2
6.PS3.2	6.ESS3.3	6.ESS2.5	6.LS2.6
6.PS3.3	**Unit 5: Human Impact on the Environment (3 weeks)**	6.ESS2.6	6.LS2.7
6.PS3.4	6.ESS2.4	**Unit 2: Relationships Among Organisms (4 weeks)**	**Unit 3: Biomes and Ecosystems (5 weeks)**
6.ETS1.2	6.ESS3.3	6.LS2.1	6.LS2.4
Unit 4: Earth's Resources (3 weeks)	**Unit 7: Earth's Systems (4 weeks)**	6.LS2.3	6.LS2.5
6.ESS3.1	6.ESS2.1	6.LS2.4	6.LS2.6
6.ESS3.2	6.ESS2.2		6.LS4.1
6.ESS3.3	6.ESS2.3		6.LS4.2
			6.ETS1.1

Note: Please use this suggested pacing as a guide. It is understood that teachers may be up to 1 week ahead or 1 week behind depending on the needs of their students.

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Memphis-Shelby County Schools Vision:
Our district will be the premier school district attracting a diverse student population and effective teachers, leaders, and staff all committed to excellence.

Curriculum & Instruction Science Team Vision:
Realizing the full potential of the science department members, we collectively share the responsibility for the academic success of the Memphis-Shelby County Schools. This department's culture of daily interactions and productivity reflects our passion and commitment to assisting others in understanding and appreciating the world of science on any platform.

Introduction:
The Curriculum & Instruction Department is committed to supporting high-quality teaching and learning in all classrooms in Memphis-Shelby County Schools. To support the mission and vision of our district, we work strategically and collaboratively to provide quality curricular resources and support. Using these curricular resources and support, schools can ensure every student can engage in standards-aligned, relevant, and impactful educational experiences that will prepare them to be college and career-ready.

Purpose of Curriculum Maps:
A curriculum is a central guide for teaching rigorous academic lessons, creating impactful student experiences, and providing instructional support. Our district's curriculum is not simply a textbook or a set of materials. It is a guide for planning systematically and building student readiness for college and careers. As such, it effectively guides the work of all instructional staff.

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6th Grade Science Quarter 1 Curriculum Map Survey								
Quarter 1			Quarter 2			Quarter 3	Quarter 4	
Structures & Routines	HMH Tennessee Science **Unit 1 Energy**	HMH Tennessee Science **Unit 4 Earth's Resources**	HMH Tennessee Science **Unit 6 Earth's Water**	HMH Tennessee Science **Unit 5 Human Impact on the Environment**	HMH Tennessee Science **Unit 7 Earth's Systems**	HMH Tennessee Science **Unit 8 Weather and Climate**	HMH Tennessee Science **Unit 2 Relationships Among Organisms**	HMH Tennessee Science **Unit 3 Biomes and Ecosystems**
1 week	**5 weeks**	3 weeks	1 week	3 weeks	4 weeks	5 weeks	6 weeks	5 weeks

UNIT 1: ENERGY

Overarching Question(s)

How is energy transferred and conserved?

HMH Tennessee Science Unit 1: Lesson 1	Lesson Length	Essential Question	Vocabulary
Introduction to Energy	1 week	What is energy?	energy, kinetic energy, potential energy, mechanical energy, sound energy, radiant energy, electrical energy, chemical energy, thermal energy, nuclear energy, energy transformation, law of conservation of energy

Standards and Related Background Information	Instructional Focus	Instructional Resources
DCI(s) PS3: Energy **Standard(s)** ***All or a portion of the following standard(s) are introduced and/or addressed in this lesson and may be addressed again in future lessons.**** **6.PS3.1** Analyze the properties and compare the sources of kinetic, elastic potential, gravitational potential,	**Performance-Based Objectives** ***All or a portion of the following PBO(s) are supported in this lesson and may be referenced again in future lessons.**** **6.PS3.1** **SWBAT** develop and use models of energy in a system **IOT** analyze and compare sources of different energy.	**Curricular Materials** HMH Tennessee Science TE, Unit 1, Lesson 1 pp. 10-23 Engage • Engage Your Brain #s 1 and 2, SE p. 5 • Active Reading #s 3 and 4, SE p. 5 Explore

electric potential, chemical, and thermal energy. **6.PS3.2** Construct a scientific explanation of the transformation between potential and kinetic energy. **Explanation(s) and Support of Standard (s) from TN Science Reference Guide** **6.PS3.1** A system contains energy if some objects in the system are moving, or if the system possesses stored energy. Energy due to the motion of large objects is known as kinetic energy. Thermal energy is energy due to the total amount of motion of the particles in a material. Energy that is stored by a system is called potential energy. Specifically, a system stores elastic potential energy when a force stretches an object that can be deformed (spring, rubber band). Gravitational potential energy is stored by a gravitational field when a force moves an object through the gravitational field (e.g., lifted upwards). Electric potential stores energy when a force moves one charged particle across the electric field produced by another charged particle. For any of the above examples, more energy is stored when the force moves the object a greater distance. (E.g., stretching a spring further stores more elastic potential energy) When different components are listed in the description of a system, the system will have different energy types. For example, a system which includes the Earth and a	**SWBAT** construct and argument that energy is stored based on an object's position **IOT** differentiate between gravitational potential and elastic potential energy. **SWBAT** construct an explanation about energy in objects **IOT** explain how objects have different forms energy. **SWBAT** develop an argument using evidence from the properties of an energy source **IOT** describe the source of the energy. **6.PS3.2** **SWBAT** design an investigation to demonstrate kinetic and potential energy **IOT** explain the factors that affect them. **SWBAT** plan and carry out an investigation of energy changes through transformation in a closed, stable system **IOT** explain the transformation between potential and kinetic energy. **Learning Outcomes** • Compare and provide examples of kinetic and potential energy. • Describe other forms of energy and provide examples. • Describe the Law of Conservation of Energy being converted from one form to another.	Kinetic and Potential Energy • Setting Objects in Motion Quick Lab, TE p. 13 • Bungee Jumping Quick Lab, TE p. 13 • Designing a Simple Device S.T.E.M. Lab, TE p. 13 The Law of Conservation of Energy • Diagramming Mechanical Energy Activity, TE p. 12 • Conservation of Energy Quick Lab, TE p. 13 Explain Kinetic and Potential Energy • Active Reading #5, SE p. 6 • Think Outside the Book #6, SE p. 7 • Analyze #7, SE p. 7 Forms of Energy • Visualize It! #8, SE p. 8 • Compare #9, SE p. 9 • Infer #10, SE p. 9 • Active Reading #11, SE p. 10 • Synthesize #12, SE p. 10 • Building Reading Skills, TE p. 20 • Reinforcing Vocabulary, TE p. 15 The Law of Conservation of Energy • Visualize It! #16, SE p. 12 • Active Reading #17, SE p. 13 • Think Outside the Book #18, SE p. 13 • Describe #19, SE p. 13 Elaborate (Extend)

falling ball possess both kinetic energy and gravitational potential energy. If the Earth is not included, the system cannot contain gravitational potential energy, because that would require Earth's gravitational field. **6.PS3.2** The role of forces: If we see that the motion of an object is changing, we know that kinetic energy of the object is increasing or decreasing and that there must be a force causing the change to the motion of the object (5.PS2.1). Therefore, forces are ways to transfer energy to or from an object. Potential energy can be transferred to kinetic energy when an object storing potential energy exerts a force. For example, when a person pulls back a slingshot, the force they exert on the elastic bands stores elastic potential energy (6.PS3.1). If the person releases the slingshot, the elastic potential energy stored in the bands allows the bands to exert a force on the projectile, which builds the kinetic energy of the projectile. Transfers of kinetic energy to potential energy are also possible. For example, when we see that a ball thrown straight upwards begins to slow down as it reaches its highest height, we know that its kinetic energy is decreasing. Kinetic energy has been transferred from the ball and is becoming potential energy, stored in the Earth's gravitational field.	• Describe and provide examples of the transformation between potential and kinetic energy. **Suggested Phenomena**  Phenomenon Explanation (Teacher Background): Click on the picture to show the fireworks explosion. The solid chemicals packed into the cardboard case don't simply rearrange themselves into other chemicals: some of the chemical energy locked inside them is converted into four other kinds of energy (heat, light, sound, and the kinetic energy of movement). Students can complete a See Think Wonder Template while viewing the video.	Reinforce and Review • The Law of Conservation of Energy Process Chart, TE p. 16 • Visual Summary, SE p. 14 Going Further • Space Science Connection, TE p. 16 • Why It Matters, SE p. 11 Evaluate Formative Assessment • Reteach, TE p. 17 • Throughout TE • Lesson Review, SE p. 15 Summative Assessment • Energy Alternative Assessment, TE p. 17 • Lesson Quiz **Links to Optional Lessons, Additional Resources, Nonfiction Text/ELA Supports, ESL Scaffolds and Support, and Available Hands-On Resources for loan are in the Teacher Resource Toolkit on pp. 28-29 of this curriculum map.**

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Suggested Science and Engineering Practice(s)
Developing and Using Models **6.PS3.1**
Planning and Carrying Out Controlled Investigations **6.PS3.2**

Suggested Crosscutting Concept(s)
Energy and Matter **6.PS3.1**
Stability and Change **6.PS3.2**

Phenomenon Explanation (Teacher Background): Click on the image above to show the video, and stop at 1:10. Students can complete a See Think Wonder Template while viewing the video clip. The Gravity Light converts potential energy that is stored in a weight into light. The principles involved in this design are very similar to the principles in a cuckoo clock, with the potential energy of the weight being converted to solar energy rather than kinetic energy. Gravity Lights can replace kerosene lights in the developing world with a safe alternative. The phenomenon can be used to illustrate the conversion of potential gravitational energy into other forms of energy. More importantly, it conveys the message of sustainability and social responsibility.

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1 week	**5 weeks**	3 weeks	1 week	3 weeks	4 weeks	6 weeks	7 weeks	7 weeks

UNIT 1: ENERGY

Overarching Question(s)

How is energy transferred and conserved?

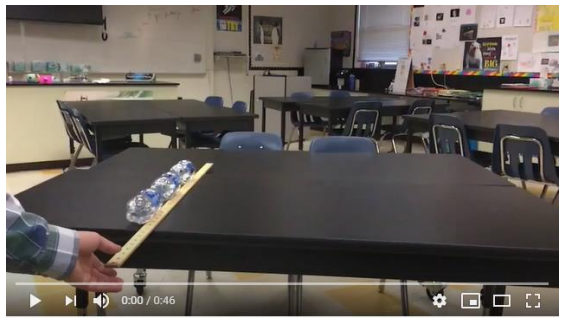
HMH Tennessee Science Unit 1: Lesson 2	Lesson Length	Essential Question	Vocabulary
Kinetic and Potential Energy	2 weeks	How can we calculate kinetic and potential energy?	potential energy, kinetic energy, elastic potential energy, gravitational potential energy, mechanical energy

Standards and Related Background Information	Instructional Focus	Instructional Resources
DCI(s) PS3: Energy **Standard(s)** ***All or a portion of the following standard(s) are introduced and/or addressed in this lesson and may be addressed again in future lessons. *** **6.PS3.1** Analyze the properties and compare the sources of kinetic, elastic potential, gravitational potential, electric potential, chemical, and thermal energy.	**Performance-Based Objectives** ***All or a portion of the following PBO(s) are supported in this lesson and may be referenced again in future lessons. *** **6.PS3.1** **SWBAT** develop and use models of energy in a system **IOT** analyze and compare sources of different energy. **SWBAT** construct and argument that energy is stored based on an object's position **IOT** differentiate between gravitational potential and	**Curricular Resources** HMH Tennessee Science TE, Unit 1, Lesson 2 pp. 24-36 Engage • Engage Your Brain #s 1 and 2, SE p. 19 • Active Reading #3, SE p. 19 Explore Kinetic Energy • Identify Potential and Kinetic Energy Quick Lab, TE p. 27

6.PS3.2 Construct a scientific explanation of the transformation between potential and kinetic energy. 6.PS3.3 Analyze and interpret data to show the relationship between kinetic energy and the mass of an object and its speed. **Explanation(s)and Support of Standard(s)** TN Science Reference Guide **6.PS3.1** A system contains energy if some objects in the system are moving, or if the system possesses stored energy. Energy due to the motion of large objects is known as kinetic energy. Thermal energy is energy due to the total amount of motion of the particles in a material. Energy that is stored by a system is called potential energy. Specifically, a system stores elastic potential energy when a force stretches an object that can be deformed (spring, rubber band). Gravitational potential energy is stored by a gravitational field when a force moves an object through the gravitational field (e.g., lifted upwards). Electric potential stores energy when a force moves one charged particle across the electric field produced by another charged particle. For any of the above examples, more energy is stored when the force moves the object a greater distance. (E.g., stretching a spring further stores more elastic potential energy) When different components are listed in the description	elastic potential energy. **SWBAT** construct an explanation about energy in objects **IOT** explain how objects have different forms energy. **SWBAT** develop an argument using evidence from the properties of an energy source **IOT** describe the source of the energy. **6.PS3.2** **SWBAT** design an investigation to demonstrate kinetic and potential energy **IOT** explain the factors that affect them. **SWBAT** plan and carry out an investigation of energy changes through transformation in a closed, stable system **IOT** explain the transformation between potential and kinetic energy. **6.PS3.3** **SWBAT** ask questions about what affects kinetic energy of an object **IOT** explain the cause-and-effect relationship between kinetic energy, mass, and speed. **SWBAT** analyze and interpret kinetic energy data **IOT** explain the relationship between kinetic energy and the mass and speed of an object. **SWBAT** create and interpret kinetic energy graphs	• Energy of a Tennis Ball Activity, TE p. 26 • Kinetic Energy Virtual Lab, TE p. 27 Potential Energy • Investigate Potential Energy Quick Lab, TE p. 27 Mechanical Energy • Roller Coaster Ride Daily Demo, TE p. 27 • Mechanical Energy Exploration Lab, TE p. 27 Explain Kinetic Energy • Active Reading #5, SE p. 20 • Visualize It! #6, SE p. 20 • Do the Math, SE p. 21**Guided practice to assist students with understanding the relationship between kinetic energy and the mass of an object and its speed. ** Potential Energy • Think Outside the Book #8, SE p. 22 • Visualize It! #9, SE p. 22 Mechanical Energy • Active Reading #11, SE p. 24 • Visualize It! #12, SE p. 24 • Analyze #13, SE p. 24 Elaborate (Extend) Reinforce and Review • Word Triangles Graphic Organizer, TE p. 30 • Visual Summary, SE p.26 Going Further • Physical Education Connection, TE p. 30

of a system, the system will have different energy types. For example, a system which includes the Earth and a falling ball possess both kinetic energy and gravitational potential energy. If the Earth is not included, the system cannot contain gravitational potential energy, because that would require Earth's gravitational field. **6.PS3.2** The role of forces: If we see that the motion of an object is changing, we know that kinetic energy of the object is increasing or decreasing and that there must be a force causing the change to the motion of the object (5.PS2.1). Therefore, forces are ways to transfer energy to or from an object. Potential energy can be transferred to kinetic energy when an object storing potential energy exerts a force. For example, when a person pulls back a slingshot, the force they exert on the elastic bands stores elastic potential energy (6.PS3.1). If the person releases the slingshot, the elastic potential energy stored in the bands allows the bands to exert a force on the projectile, which builds the kinetic energy of the projectile. Transfers of kinetic energy to potential energy are also possible. For example, when we see that a ball thrown straight upwards begins to slow down as it reaches its highest height, we know that its kinetic energy is decreasing. Kinetic energy has been transferred from the ball and is becoming potential energy, stored in the Earth's gravitational field.	**IOT** describe the cause-and-effect relationship of kinetic energy to mass and speed of an object. **SWBAT** write a claim about the relationship between mass and speed of an object **IOT** explain why the most massive object has the most speed**.** **Learning Outcomes** • Describe/explain examples of kinetic energy. • Calculate an object's kinetic energy given its mass and speed. * *Guided practice with teacher to assist with understanding the relationship between kinetic energy and the mass of an object and its speed.** • Analyze and interpret data to show the relationship between the object's kinetic energy, mass, and speed. • Describe/explain examples of potential energy. • Describe mechanical energy and provide examples. **Suggested Phenomena** First Person View: Manta Roller Coaster at SeaWorld - YouTube Phenomenon Explanation The video shows a first-person viewpoint of what it's like to ride the Manta Rollercoaster at SeaWorld Orlando. The teacher should guide the discussion, reminding	• Real-World Connection, TE p. 30 Evaluate Formative Assessment • Reteach, TE p. 31 • Throughout TE • Lesson Review, SE p. 27 Summative Assessment • Kinetic and Potential Energy Alternative Assessment, TE p. 31 • Lesson Quiz **Links to Optional Lessons, Additional Resources, Nonfiction Text/ELA Supports, ESL Scaffolds and Support, and Available Hands-On Resources for loan are in the Teacher Resource Toolkit on pp. 28-29 of this curriculum map.**

6.PS3.3 Typically, scientists would determine the relationships between these properties using graphs. However, students in 6th grade have not yet covered the necessary graphing concepts. Instead, students can show the relationships using ratios. The ratio of change to mass to change in kinetic energy will be a constant ratio, however, the ratio of change in speed to change in kinetic energy will not be a constant ratio. In other words, if the mass of an object is doubled, the kinetic energy will also double. However, if the speed of an object doubles, the kinetic energy will more than double. If the speed doubles, the kinetic energy will increase four times. If the speed triples, the kinetic energy will increase to nine times its initial value. Students are likely to recognize this increase as squaring given (6.EE.A.1). **Suggested Science and Engineering Practice(s)** Developing and Using Models **6.PS3.1** Planning and Carrying Out Controlled Investigations **6.PS3.2** Analyzing and Interpreting Data **6.PS3.3** **Suggested Crosscutting Concept(s)** Energy and Matter **6.PS3.1** Stability and Change **6.PS3.2** Scale, Proportion, and Quantity **6.PS3.3**	students that energy is something they covered in 4th grade (4.PS3.3: Describe how stored energy can be converted into another form for practical use.) Discussion Prompts: 1. What types of energy did we see in the video? 2. What are some examples of how one type of energy led to another? Based on answers to the class discussion prompts, students can complete a See Think Wonder Template while viewing the video.	



Phenomenon Explanation (Teacher Background): The faster an object moves, the more kinetic energy it has. So kinetic energy depends, in part, on speed. Kinetic energy also depends on mass. If two objects move at the same speed, then the one that has more mass will have more kinetic energy. The video shows water bottles with different masses sliding across the table at different speeds. Click on either image to view the video clip. Students can complete a See Think Wonder Template while viewing the video.

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1 week	**5 weeks**	3 weeks	1 week	3 weeks	4 weeks	6 weeks	7 weeks	7 weeks

UNIT 1: ENERGY

Overarching Question(s)

How is energy transferred and conserved?

HMH Tennessee Science Unit 1: Lesson 3	Lesson Length	Essential Question	Vocabulary
Thermal Energy and Heat	1.5 week	*What is the relationship between heat and temperature? *	thermal energy, heat, conduction, conductor, insulator, calorie, convection, radiation, temperature, degrees

Standards and Related Background Information	Instructional Focus	Instructional Resources
DCI(s) PS3: Energy ETS1: Engineering Design **Standard(s)** ***All or a portion of the following standard(s) are introduced and/or addressed in this lesson and may be addressed again in future lessons. *** **6.PS3.4** Conduct an investigation to demonstrate the way that heat (thermal energy) moves among objects through radiation, conduction, or convection.	**Performance-Based Objectives** ***All or a portion of the following PBO(s) are supported in this lesson and may be referenced again in future lessons. *** **6.PS3.4** **SWBAT** plan and conduct an investigation of heat transfer **IOT** explain thermal energy transfers between objects by conduction, convection, and radiation. **6.ETS1.2** **SWBAT** plan and carry out a controlled	**Curricular Resources** HMH Tennessee Science TE, Unit 1, Lesson 3 pp. 38-51 Engage • Engage Your Brain #s 1 and 2, SE p. 31 • Active Reading #s 3 and 4, SE p. 31 Thermal Energy • Thermal Energy in a Bottle Daily Demo, TE p. 40 Changes of State

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6.ETS1.2 Design and test different solutions that impact energy transfer.

Explanation(s)and Support of Standard(s)

TN Science Reference Guide

6.PS3.4 In everyday language, "heat" is used to refer to thermal energy (the motion of particles) and energy transfer. Students should comprehend the difference between these two uses and understand that scientists only use the term heat when referencing energy transfer from one object to another.

The colloquial use of "heat" to describe the amount of warmth an object possesses should be abandoned, in favor of the use of "thermal energy." Thermal energy is the total energy due to the movement of particles in a substance. Thermal energy is related to temperature which can be measured using a thermometer, however thermal energy must also account for mass of the sample.

There are three specific means of heating: conduction, convection, and radiation. Radiation (infrared or visible light) can be seen as a form of heating, but is unique from conduction and convection, because it can transfer energy across empty space. Students can observe changes in thermal energy (by recording temperature) or changes in state (by observing pure substances) using investigation to design tests which determine the effectiveness of a device under varying conditions **IOT** track energy changes through transformation in a system.

SWBAT construct and test a device **IOT** observe differences in thermal energy transfer among different materials.

Learning Outcomes

- Define thermal energy.
- Differentiate between thermal energy, temperature, and heat.
- Explain that adding heat to or removing heat from a system may result in a change of state.
- Describe and provide examples of conduction, conductor, insulator, convection, and radiation.

Suggested Phenomena

Relaxing Music & Campfire • Relaxing Guitar Music, Soothing Music, Calm Music - YouTube (review video before sharing with students)

- Observing the Transfer of Energy Quick Lab, TE p. 40

Explore

Methods of Thermal Energy Transfer

Exploring Thermal Conductivity Quick Lab, TE p. 41

- Simple Heat Engine Quick Lab, TE p. 41

Explain

Thermal Energy

- Active Reading #5, SE p. 32
- Apply #6, SE p. 33
- Temperature and Thermal Energy, TE p. 41

Heat

- We're in Hot Water, TE p. 40
- Apply #7, SE p. 34
- Visualize It! #8, SE p. 35
- Active Reading #9, SE p. 35

Changes of State

- Heat Race Activity, TE p. 40
- Think Outside the Book #10, SE p. 36
- Active Reading #11, SE p. 36

Methods of Thermal Energy Transfer

- Classify #12, SE p. 37
- Active Reading #13, SE p. 38
- Classify #14, SE p. 38

Elaborate (Extend)

Reinforce and Review

- Which Way Did the Energy Go? Activity, TE p. 44

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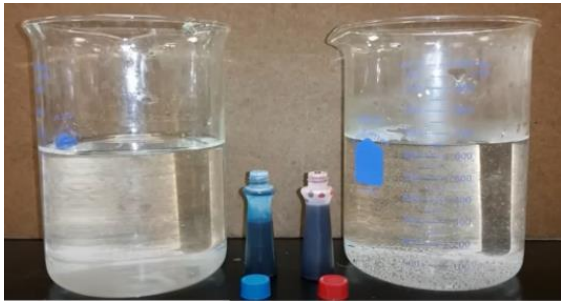
any of the above methods of heating. **6.ETS1.2** Even design solutions that meet criteria and constraints for a successful design may fail in production. The tests should be designed to expose failure in specific components of a device. The results of these tests can then be used to create a comprehensive solution. Design tasks might relate to selecting materials to minimize or maximize energy transfer into or out of a system by minimizing heat loss, or sound production or by maintaining initial kinetic energies. Not all design challenges require the creation of a physical device. For example, this standard could pair with other ESS standards on assessing human impacts but address how a device operating the in the field might be powered. **Suggested Science and Engineering Practice(s)** Planning and Carrying out Controlled Investigations **6.PS3.4, 6.ETS1.2** **Suggested Crosscutting Concept(s)** Systems and System Models **6.PS3.4** Structure and Function **6.ETS1.2**	Phenomenon Explanation ***(Teacher Background):*** Heat is the movement of thermal energy from a warmer object to a cooler object. Thermal energy is the sum of the kinetic energy and potential energy in a material. Temperature represents the average kinetic energy in a material. This photo shows various forms of thermal energy transfers. For example, convection carries the flames and smoke from the fire upward. The air around the fire heats and rises. The ground under the fire will get hot, heated by conduction. Radiation from the fire heats the camper. Students may mention concepts from the following standard: (4.PS3.3: Describe how stored energy can be converted into another form for practical use.) Students can complete a See Think Wonder Template after examining the video.  Phenomenon Explanation (Teacher Background):	• Visual Summary, SE p. 40 Going Further • Why It Matters, SE p. 39 Evaluate Formative Assessment • Reteach, TE p. 45 • Throughout TE • Lesson Review, SE p. 41 Summative Assessment • Thermal Energy and Its Transfer Alternative Assessment, TE p. 55 • Lesson Quiz **Links to Optional Lessons, Additional Resources, Nonfiction Text/ELA Supports, ESL Scaffolds and Support, and Available Hands-On Resources for loan are in the Teacher Resource Toolkit on pp. 28-29 of this curriculum map.**

	Food coloring moves differently in hot water than cold water. Students can complete a See Think Wonder Template after watching the video.  Phenomenon Explanation (Teacher Background): After an overnight snow shower, most of the snow has melted from this parking lot. The remaining snow seems to match the shape of a shadow cast by an adjacent building. Students can complete a See Think Wonder Template after examining the picture.	

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1 week	5 weeks	**3 weeks**	1 week	3 weeks	4 weeks	6 weeks	7 weeks	7 weeks

UNIT 2: EARTH'S RESOURCES

Overarching Question(s)

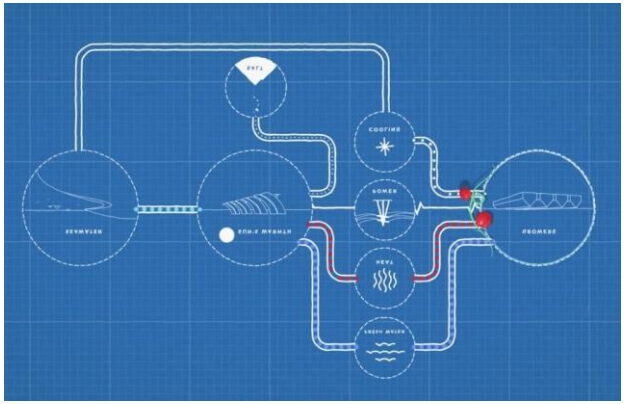
How do the Earth's surface processes and human activities affect each other?

HMH Tennessee Science Unit 4: Lesson 3	Lesson Length	Essential Question	Vocabulary
Nonrenewable Energy Resources	1 week	How do we use nonrenewable energy resources?	energy resource, nuclear energy, fossil fuel, fission

Standards and Related Background Information	Instructional Focus	Instructional Resources
DCI(s) 6.ESS3: Earth and Human Activity **Standard(s)** ***All or a portion of the following standard(s) are introduced and/or addressed in this lesson and may be addressed again in future lessons.**** **6.ESS3.1** Differentiate between renewable and nonrenewable resources by asking questions about their availability and sustainability. **Explanation(s)and Support of Standard(s)**	**Performance-Based Objectives** ***All or a portion of the following PBO(s) are supported in this lesson and may be referenced again in future lessons.**** **6.ESS3.1** **SWBAT** ask questions about renewable and nonrenewable resources **IOT** identify where humans get their resources and patterns in distribution. **SWBAT** define problems related to using resources that are limited **IOT** explain how resources are not stable and can change over time.	**Curricular Materials** HMH Tennessee Science TE, Unit 4, Lesson 3 pp. 268-281 Engage • Engage Your Brain #s 1 and 2, SE p. 243 • Active Reading #s 3 and 4, SE p. 243 • Looking Ahead Probing Questions, TE p. 270 Explore Energy Resources • Modeling Nonrenewable Resources Quick Lab, TE p. 271

from TN Science Reference Guide **6.ESS3.1** Renewable resources are resources that can be regenerated within a human lifetime. While this then infers that non-renewable resources must develop over longer periods of time. Beyond mere memorization of those parameters, students should recognize that the processes that create mineral, groundwater, and energy (fuels) happen at geologic rates as a result of geologic processes. Because geologic processes do not occur uniformly, there is not a uniform distribution of resources. (e.g., oil deposits in the middle east, coal deposits in the western United States, gold deposits in California, the use of Tennessee waterways for hydroelectric power generation.) As humans use nonrenewable resources, they are restored, but in amounts of time that greatly exceed those of near generations. Thus, these resources are considered limited. It is not intended that students memorize the processes for the formation of all non-renewables but to understand that they are connected to geologic processes. A limited number of examples can be used to establish this idea. **Suggested Science and Engineering Practice(s)** Constructing Explanations and Designing Solutions **6.ESS3.1** **Suggested Crosscutting Concept(s)**	**SWBAT** construct explanations and design solutions about renewable and nonrenewable resources **IOT** differentiate between them based on availability and sustainability. **SWBAT** obtain, evaluate, and communicate information about the distribution of resources around earth **IOT** explain the cause-and-effect relationship of geologic rate and geologic processes. **Learning Outcomes** • Differentiate between renewable and nonrenewable resources. • Describe the characteristics of fossil fuels and advantages and disadvantages of using them. • Explain how nuclear energy is created and used to generate electricity. • Explain the advantages and disadvantages of using nuclear energy. **Suggested Phenomenon** Disney unveils Mickey-shaped solar farm - YouTube (review video before sharing with students)	• How Can We Measure the Impact of Nonrenewable Energy? Virtual Lab, TE p. 271 Explain Energy Resources • Do the Math #5, SE p. 244 • Compare #6, SE p. 244 Fossil Fuels • Think Outside the Book #8, SE p. 246 • Active Reading #9, SE p. 247 • Active Reading #11, SE p. 248 Nuclear Energy • Compare #12, SE p. 249 • Active Reading #13, SE p. 250 • Visualize It! #14, SE p. 250 • Evaluate #15, SE p. 251 • Is It Safe? Discussion, TE p. 270 Elaborate (Extend) Reinforce and Review • Process Chart Graphic Organizer, TE p. 274 • Visual Summary, SE p. 252 Going Further • Health Connection, TE p. 274 • Physical Science Connection, TE p. 274 Evaluate Formative Assessment • Reteach, TE p. 275 • Throughout TE • Lesson Review, SE p. 253

Cause and Effect **6.ESS3.1**	Phenomenon Explanation ***(Teacher Background):*** Walt Disney World has been basking in the glow of the Sunshine State and using solar energy for several years, and today, Walt Disney World and Reedy Creek Improvement District (RCID) have teamed up with local utility partners in Central Florida to develop two new 75MW solar facilities. These new solar projects add to a not-so-hidden Mickey shaped solar array, built in collaboration with RCID and Duke Energy, sharing that authentic Disney flair across 22 acres of land, as well as the massive 270-acre, 57MW solar facility built in partnership with RCID and Origis Energy USA. When combined, Walt Disney World's total solar facilities will produce enough renewable energy to power up to 40% of its total annual energy consumption. *Students may mention concepts from the following standard: (4.PS3.3: Describe how stored energy can be converted into another form for practical use.) Discussion Prompts: 1. What types of energy did we see in the video? 2. Can this type of energy be ***re***produced?	Summative Assessment • Nonrenewable Energy Resources Alternative Assessment, TE p. 275 • Lesson Quiz **Links to Optional Lessons, Additional Resources, Nonfiction Text/ELA Supports, ESL Scaffolds and Support, and Available Hands-On Resources for loan are in the Teacher Resource Toolkit on pp. 28-29 of this curriculum map.**

	How? 3. What are some examples of how one type of energy led to another? Based on answers to the class discussion prompts, students can complete a See Think Wonder Template while viewing the video. Alternative Phenomenon  Phenomenon Explanation (Teacher Background): Display the picture for students to view and complete a See Think Wonder Template. Australia's Sundrop Farms uses sunlight to desalinate seawater. The resulting fresh water is used and re-used to power and irrigate four hydroponic greenhouses with 175,000 tomato plants in each. Those sustainable year 'round	

	tomatoes are 15% of Australia's annual tomato produce. And they do all of this in the desert, around 300 kilometers (186 miles) north of Adalaide. This closed-loop system is Sundrop's solution for creating fresh water, energy, and food in a smart and sustainable way. Click here for more teacher background information.	

6th Grade Science Quarter 1 Curriculum Map Survey								
Quarter 1			Quarter 2			Quarter 3	Quarter 4	
Structures & Routines	HMH Tennessee Science **Unit 1 Energy**	HMH Tennessee Science **Unit 4 Earth's Resources**	HMH Tennessee Science **Unit 6 Earth's Water**	HMH Tennessee Science **Unit 5 Human Impact on the Environment**	HMH Tennessee Science **Unit 7 Earth's Systems**	HMH Tennessee Science **Unit 8 Weather and Climate**	HMH Tennessee Science **Unit 2 Relationships Among Organisms**	HMH Tennessee Science **Unit 3 Biomes and Ecosystems**
1 week	5 weeks	**3 weeks**	1 week	3 weeks	4 weeks	6 weeks	7 weeks	7 weeks

UNIT 2: EARTH'S RESOURCES			
Overarching Question(s)			
How do the Earth's surface processes and human activities affect each other?			
HMH Tennessee Science Unit 4: Lesson 4	**Lesson Length**	**Essential Question**	**Vocabulary**
Renewable Energy Resources	1 week	How do humans use renewable energy resources?	energy resources, hydroelectric energy, wind energy, biomass, solar energy, geothermal energy
Standards and Related Background Information		**Instructional Focus**	**Instructional Resources**
DCI(s) 6.ESS3: Earth and Human Activity		**Performance-Based Objectives** **All or a portion of the following PBO(s) are supported in this lesson and may be referenced again in future lessons. **	**Curricular Materials** HMH Tennessee Science TE, Unit 4, Lesson 4 pp. 282-295

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Standard(s) **All or a portion of the following standard(s) are introduced and/or addressed in this lesson and may be addressed again in future lessons.** **6.ESS3.1** Differentiate between renewable and nonrenewable resources by asking questions about their availability and sustainability. **6.ESS3.2** Investigate and compare existing and developing technologies that will utilize renewable and alternate energy sources. **Explanation(s)and Support of Standard(s)** **from TN Science Reference Guide** **6.ESS3.1** Renewable resources are resources that can be regenerated within a human lifetime. While this then infers that non-renewable resources must develop over longer periods of time. Beyond mere memorization of those parameters, students should recognize that the processes that create mineral, groundwater, and energy (fuels) happen at geologic rates as a result of geologic processes. Because geologic processes do not occur uniformly, there is not a uniform distribution of resources. (e.g., oil deposits in the middle east, coal deposits in the western United States, gold deposits in California, the use of Tennessee waterways for hydroelectric power generation.) As humans use nonrenewable resources, they are restored, but in amounts of time that greatly exceed those of near generations. Thus, these resources are considered limited. It is not intended that students memorize the processes for	**6.ESS3.1** **SWBAT** ask questions about renewable and nonrenewable resources **IOT** identify where humans get their resources and patterns in distribution. **SWBAT** define problems related to using resources that are limited **IOT** explain how resources are not stable and can change over time. **SWBAT** construct explanations and design solutions about renewable and nonrenewable resources **IOT** differentiate between them based on availability and sustainability. **SWBAT** obtain, evaluate, and communicate information about the distribution of resources around earth **IOT** explain the cause-and-effect relationship of geologic rate and geologic processes. **6.ESS3.2** **SWBAT** obtain, evaluate, and communicate information about the pros and cons for specific renewable energy sources **IOT** explain the benefits of renewable energy sources and their impacts on the environment and ecosystems. **SWBAT** create an argument from evidence comparing existing and developing technologies that will utilize renewable and alternate energy sources **IOT** explain the effects and gains of using a	Engage • New Again Activity, TE p. 284 • Engage Your Brain #s 1 and 2, SE p. 257 • Active Reading #s 3 and 4, SE p. 257 • Pick Your Resources Daily Demo, TE p. 285 Explore Energy Resources • How Can We Use Renewable Energy Resources Virtual Lab, TE p. 285 Energy from the Sun • Design a Turbine Quick Lab, TE p. 284 • Understanding Solar Panels Quick Lab, TE p. 285 Explain Energy Resources • Contrast #5, SE p. 258 • Distinguish #7, SE p. 259 • Think Outside the Book #8, SE p. 259 Energy from the Sun • Infer #9, SE p. 260 • Active Reading #10, SE p. 261 • Visualize It! #11, SE p. 261 • Infer #12, SE p. 262 • Visualize It! #14, SE p. 263 • Active Reading #15, SE p. 264 • List #16, SE p. 264 • How It Works Activity, TE p. 284

the formation of all non-renewables but to understand that they are connected to geologic processes. A limited number of examples can be used to establish this idea. **6.ESS3.2** Utilization of natural resources involves weighing environmental, economic, and oftentimes political conversations. Environmental discussions should include models which help to predict effects and gains of using a natural resource on the environment. Economic considerations include the amount of energy which can be harvested for the cost. For example, the economy of installing residential photovoltaic systems depends on the availability of sunlight in a person's location or on their property. Political conversations are impacted by considering global distributions of energy sources. As technologies progress, energy harvesting becomes less expensive and more efficient such that conversations regarding the utilization of renewable and alternate energy sources may shift over time. **Suggested Science and Engineering Practice(s)** Obtaining, Evaluating, and Communicating Information **6.ESS3.2** Constructing Explanations and Designing Solutions **6.ESS3.1** **Suggested Crosscutting Concept(s)** Energy ad Matter **6.ESS3.2** Cause and Effect **6.ESS3.1**	natural resource on the environment. **Learning Outcomes** • Describe how humans use energy resources. • Explain the difference between renewable and nonrenewable energy resources. • Identify the two main kinds of renewable energy resources. • Describe solar energy and how it is harnessed and used. • Explain how energy from wind and flowing water is harnessed and used. • Describe how biomass and alcohol form and how their energy is harnessed and used. • Describe what geothermal energy is and how it is used. **Suggested Phenomenon** Disney unveils Mickey-shaped solar farm - YouTube (review video before sharing with students) Phenomenon Explanation ***(Teacher Background):*** Walt Disney World has been basking in the glow of the Sunshine State and using solar energy for several years, and today, Walt Disney World and Reedy Creek Improvement District (RCID) have	Energy from Earth • List #17, SE p. 265 • The Future of Renewables Activity, TE p. 284 Elaborate (Extend) Reinforce and Review • Pyramid Fold Note, TE p. 288 • Visual Summary, SE p. 266 Going Further • Life Science Connection, TE p. 288 • Social Studies Connection, TE p. 288 Evaluate Formative Assessment • Throughout TE • Lesson Review, SE p. 267 Summative Assessment • Renewable Energy Resources Alternative Assessment, TE p. 289 • Lesson Quiz • Alternate Thinking: Different Forms of Energy S.T.E.M., TE pp. 296-299 **Links to Optional Lessons, Additional Resources, Nonfiction Text/ELA Supports, ESL Scaffolds and Support, and Available Hands-On Resources for loan are in the Teacher Resource Toolkit on pp. 28-29 of this curriculum map.**

	teamed up with local utility partners in Central Florida to develop two new 75MW solar facilities. These new solar projects add to a not-so-hidden Mickey shaped solar array, built in collaboration with RCID and Duke Energy, sharing that authentic Disney flair across 22 acres of land, as well as the massive 270-acre, 57MW solar facility built in partnership with RCID and Origis Energy USA. When combined, Walt Disney World's total solar facilities will produce enough renewable energy to power up to 40% of its total annual energy consumption. *Students may mention concepts from the following standard: (4.PS3.3: Describe how stored energy can be converted into another form for practical use.) Discussion Prompts: 1. What types of energy did we see in the video? 2. Can this type of energy be ***re***produced? How? 3. What are some examples of how one type of energy led to another? Based on answers to the class discussion prompts, students can complete a See Think Wonder Template while viewing the video.	

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6th Grade Science Quarter 1 Curriculum Map Survey								
Quarter 1			Quarter 2			Quarter 3	Quarter 4	
Structures & Routines	HMH Tennessee Science **Unit 1 Energy**	HMH Tennessee Science **Unit 4 Earth's Resources**	HMH Tennessee Science **Unit 6 Earth's Water**	HMH Tennessee Science **Unit 5 Human Impact on the Environment**	HMH Tennessee Science **Unit 7 Earth's Systems**	HMH Tennessee Science **Unit 8 Weather and Climate**	HMH Tennessee Science **Unit 2 Relationships Among Organisms**	HMH Tennessee Science **Unit 3 Biomes and Ecosystems**
1 week	5 weeks	**3 weeks**	1 week	3 weeks	4 weeks	6 weeks	7 weeks	7 weeks

UNIT 2: EARTH'S RESOURCES

Overarching Question(s)

How do the Earth's surface processes and human activities affect each other?

HMH Tennessee Science Unit 4: Lesson 5	Lesson Length	Essential Question	Vocabulary
Managing Resources	1.5 weeks	Why should natural resources be managed?	natural resource, nonrenewable resource, renewable resource, conservation, stewardship

Standards and Related Background Information	Instructional Focus	Instructional Resources
DCI(s) 6.ESS3: Earth and Human Activity **Standard(s)** **All or a portion of the following standard(s) are introduced and/or addressed in this lesson and may be addressed again in future lessons.** **6.ESS3.1** Differentiate between renewable and nonrenewable resources by asking questions about their availability and sustainability.	**Performance-Based Objectives** **All or a portion of the following PBO(s) are supported in this lesson and may be referenced again in future lessons.** **6.ESS3.1** **SWBAT** ask questions about renewable and nonrenewable resources **IOT** identify where humans get their resources and patterns in distribution. **SWBAT** define problems related to using resources that are limited **IOT** explain how	**Curricular Materials** HMH Tennessee Science TE, Unit 4, Lesson 5 pp. 300-313 Engage • Engage Your Brain #s 1 and 2, SE p. 275 • Active Reading #s 3 and 4, SE p. 275 Explore Resources • The Impact of Resource Extraction Quick Lab, TE p. 303

6.ESS3.2 Investigate and compare existing and developing technologies that will utilize renewable and alternate energy sources. **6.ESS3.3** Assess the impacts of human activities on the biosphere including conservation, habitat management, species endangerment, and extinction. **Explanation(s)and Support of standard(s)** **from TN Science Reference Guide** **6.ESS3.1** Renewable resources are resources that can be regenerated within a human lifetime. While this then infers that non-renewable resources must develop over longer periods of time. Beyond mere memorization of those parameters, students should recognize that the processes that create mineral, groundwater, and energy (fuels) happen at geologic rates as a result of geologic processes. Because geologic processes do not occur uniformly, there is not a uniform distribution of resources. (e.g., oil deposits in the middle east, coal deposits in the western United States, gold deposits in California, the use of Tennessee waterways for hydroelectric power generation.) As humans use nonrenewable resources, they are restored, but in amounts of time that greatly exceed those of near generations. Thus, these resources are considered limited. It is not intended that students memorize the processes for the formation of all non-renewables but to understand that they are connected to geologic processes. A limited number of examples can be used to establish this idea.	resources are not stable and can change over time. **SWBAT** construct explanations and design solutions about renewable and nonrenewable resources **IOT** differentiate between them based on availability and sustainability. **SWBAT** obtain, evaluate, and communicate information about the distribution of resources around earth **IOT** explain the cause-and-effect relationship of geologic rate and geologic processes. **6.ESS3.2** **SWBAT** obtain, evaluate, and communicate information about the pros and cons for specific renewable energy sources **IOT** explain the benefits of renewable energy sources and their impacts on the environment and ecosystems. **SWBAT** create an argument from evidence comparing existing and developing technologies that will utilize renewable and alternate energy sources **IOT** explain the effects and gains of using a natural resource on the environment. **6.ESS3.3** **SWBAT** obtain, evaluate, and communicate information about human activities **IOT** explain how humans negatively and positively impact an area.	Explain Resources • Compare #5, SE p. 276 • Visualize It! #6, SE p. 277 • Active Reading #7 SE p. 277 • Visualize It! #s 8-10, SE p. 277 • Renewable or Not? Probing Questions, TE p. 302 Managing Resources • How Resourceful Are You? Activity, TE p. 302 • Active Reading #11, SE p. 278 • Visualize It! #12, SE p. 278 • Apply #13, SE p. 279 • Changing Habits Take It Home, TE p. 302 Advantages and Disadvantages of Managing Resources • Active Reading #14, SE p. 280 • Visualize It! #15, SE p. 280 • Making Changes Discussion, TE p. 302 • Visualize It! #17, SE p. 281 Elaborate (Extend) Reinforce and Review • Magnet Word Graphic Organizer, TE p. 306 • Visual Summary, SE p. 282 Going Further • Math Connection, TE p. 306

6.ESS3.2 Utilization of natural resources involves weighing environmental, economic, and oftentimes political conversations. Environmental discussions should include models which help to predict effects and gains of using a natural resource on the environment. Economic considerations include the amount of energy which can be harvested for the cost. For example, the economy of installing residential photovoltaic systems depends on the availability of sunlight in a person's location or on their property. Political conversations are impacted by considering global distributions of energy sources. As technologies progress, energy harvesting becomes less expensive and more efficient such that conversations regarding the utilization of renewable and alternate energy sources may shift over time. **6.ESS3.3** Beyond creating explanations for observations of changes to the environment, this standard can also be interpreted treated as a design task where students are developing a device to monitor human impacts, similar to 6.ESS2.4. Part of the design process should involve recognizing that many human activities are necessary but analyzing the impacts of the activities can help to develop responsible constraints. Human activities have greatly altered rates of change to Earth's surface. As humans develop land and build roads, large amounts of natural habitat are lost, affecting the species indigenous to that habitat. Students can obtain and evaluate evidence that increases in human populations or	**SWBAT** construct an explanation describing the impacts of human activities on the biosphere **IOT** explain the cause-and-effect relationship of human activities in relation to conservation, habitat management, species endangerment, and extinction. **SWBAT** plan and carryout an investigation to test possible solutions **IOT** explain how to minimize human impact on the wetland environment. **SWBAT** design a solution or device to monitor human impacts **IOT** analyze the impacts of human activities to develop responsible constraints. **Learning Outcomes** • Describe the impacts of resource extraction, use, and disposal. • Explain why resources need to be managed and the role of stewardship and conservation. • Describe the management practices for renewable and nonrenewable resources. • Explain the advantages and disadvantages of managing resources. ***Suggested Phenomena:***	• Earth Science Connection, TE p. 306 <u>Evaluate</u> Formative Assessment • Reteach, TE p. 307 • Throughout TE • Lesson Review, SE p. 283 Summative Assessment • Managing Resources Alternative Assessment, TE p. 307 • Lesson Quiz • Unit 4 Big Idea, SE p. 286 • Unit 4 Review, SE pp. 287-290 **Links to Optional Lessons, Additional Resources, Nonfiction Text/ELA Supports, ESL Scaffolds and Support, and Available Hands-On Resources for loan are in the Teacher Resource Toolkit on pp. 28-29 of this curriculum map.**

increases in the amount of energy consumed per person also increase negative effects, but engineered solutions can mitigate some of these negative effects. For example, development of low energy consumption lightbulbs (such as LED) can reduce the amount of energy used in a home. Assessments of human activities should include models which can assist in making predictions for the efficacy of conservation efforts with competing interests. **Suggested Science and Engineering Practice(s)** Obtaining, Evaluating, and Communicating Information **6.ESS3.2** Constructing Explanations and Designing Solutions **6.ESS3.1** **Suggested Crosscutting Concept(s)** Energy ad Matter **6.ESS3.2** Cause and Effect **6.ESS3.** **1, 6.ESS3.3**	How population growth impacts the planet - Bing video (review video before sharing with students) Phenomenon Explanation ***(Teacher Background):*** The video reflects on the human impact on renewable and nonrenewable resources as our population grows. It also references the amount of waste humans use and the effect on global climate change. The teacher should review the video and pull out the information relevant to this standard. A GOOD STOPPING POINT FOR THIS VIDEO IS AT 1:10. **Discussion Prompts:** Start with a discussion to create awareness of environmental issues and the consumption of renewable and nonrenewable resources by using the following discussion prompts: 1. Is anyone aware of any recent environmental news? What was it about? 2. Have students share their stories. If necessary, prompt students by asking them what stories they have heard about pollution, freshwater scarcity, changing environments, climate change, endangered species, etc. 3. Why do you think we have these	

	problems? Why do we have pollution, why do environments change, or why do animals become extinct? 4. Collect students' answers. Elicit responses that focus on how human activities can damage the environment. **Based on answers to the class discussion prompts, students can complete a See Think Wonder Template while viewing the video.**	

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Teacher Resource Toolkit				
Science Standards Explained	**TN Department of Education Science Standards Support Hub**	**Additional Resources**	**Suggested Sources for Science Nonfiction Text/ ELA Connections**	**Available Hands-On Resources/Kits for Teacher/Student Use (Limited Supply Available for Check-Out)**
Tennessee Academic Science Standards; How They Came To Be.	Science Standards Digital Resources include: • TN Teacher Developed Training Resources • TCAP Practice Tests • K-12 Science Framework Links • TDOE Science Documents • STEM Teaching Tools	• **(Optional) 6th Grade Suggested Lessons Quarter 1 by Unit/Standard** • **(Optional)** Quarter 1 Additional Lessons/Resources • **Suggested Station Rotation Activities** • **ESL Support** Log in - Welcome to ELLevation (ellevationeducation.com) **ELLevation** is a mission-driven education technology (EdTech) company dedicated to helping **English Learners (ELs)** achieve their highest aspirations. • Additional Quarter 1 ESL Supports and Scaffolds • **30 30 30** Vocabulary Resource	HMH Tennessee Science State Standards for English Language Arts Correlation-6th grade.pdf **Printed articles, scientific journals, textbooks** *These resources are online so the teacher can provide printed copies of text from the following sources: Newsela | Content and assessment platform-Limited Free Version DOGO News - Kids news articles! Kids current events; plus kids news on science, sports, and more! Science News Explores | News from all fields of science for readers of any age (snexplores.org) ReadWorks | Award-Winning, EdTech Nonprofit Organization-Sign up for free account. Free Online Reading Passages and Literacy Resources (commonlit.org)	Follow the link for available resources: Hands-On Resources and Kits.xlsx (updated throughout the week) **Contact for Additional Available Resources not listed:** Charles Hayes, Advisor hayesce@scsk12.org Terilyn McChriston, Manager mcchristontj@scsk12.org

Document is subject to revision at any time.

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		• **Quarter 1 Annotated PBOs** • 6th Grade Science Scope and Sequence 2024-2025.docx • 6TH GRADE STANDARDS MSCS SCIENCE STANDARDS GUIDES • **Suggested*** 6-12 PowerPoint Template (55 Minute Class) Lesson Plan.pptx*Change as needed	National Geographic for Kids Science Lab (nationalgeographic.com) Get science experiments, videos, articles, and more. EverWrite Login (newsela.com) Your teaching assistant for student writing Save time and help students become better writers with AI-powered feedback aligned to your priority rubrics.	