Grade 5 Next Generation Science Standards
Course Pacing Guide

Narrative and Rationale: The four bundles in this Grade 5 model all have a particular topical focus. Bundle 1 focuses on physical and chemical changes in matter. Bundle 2 builds on Bundle 1 to focus on energy and matter flows in ecosystems. Bundle 3 extends this study to focus on larger Earth systems and how they affect one another. Bundle 4 shifts the scale to the immensely large, as students build understanding of space systems.

By building familiarity with ideas related to the conservation and particulate nature of matter early on in the year, students are prepared to put this knowledge to work in investigating various life and Earth systems in later bundles. 5-PS1-1 is included in Bundles 2 and 3 to help students make this connection.

Note that the practices and crosscutting concepts described in each bundle are intended as end-of-instructional unit expectations and not curricular designations; additional practices and crosscutting concepts should be used throughout instruction in each bundle.

Michigan Model HIV and Reproductive Health **~ 2 weeks**	**Bundle 1** **Physical and Chemical Changes** **~10 weeks**	**Bundle 2** **Matter and Energy in Ecosystems** **~ 10 weeks**	**Bundle 3** **Earth's Major Systems** **~10 weeks**	**Bundle 4** **Stars and the Solar System** **~ 6 weeks**
Resources: MI Model http://www.spsd.net/wp-content/uploads/2018/03/SEX-ED-NEWSLETTER.pdf	**Pearson Resources** **Chapter 1**	**Pearson Resources** **Chapter 3** **Chapter 4**	**Pearson Resources** **Chapter 5** **Chapter 2-1**	**Pearson Resources** **Chapter 6** **Chapter 2-4**
HIV Lessons Puberty Lesson A4 Puberty Lesson B2 Puberty Lesson B3 Puberty Lesson C4	**Bundle Question** **How much does the air weigh?**	**Bundle Question** **What are we made of?**	**Bundle Question** **Where does the rain come from?**	**Bundle Question** **How far away are the stars?**

	NGSS Standards **5-PS1-1.** Develop a model to describe that matter is made of particles too small to be seen. **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-PS1-3.** Make observations and measurements to identify materials based on their properties. **5-PS1-4.** Conduct an investigation to determine whether the mixing of two or more substances results in new substances. **3-5-ETS1-3.** Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or pro	**NGSS Standards** **5-PS1-1.** Develop a model to describe that matter is made of particles too small to be seen. **5-PS3-1.** Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. **5-LS1-1.** Support an argument that plants get the materials they need for growth chiefly from air and water. **5-LS2-1.** Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. **3-5-ETS1-2.** Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.	**NGSS Standards** **5-PS1-1.** Develop a model to describe that matter is made of particles too small to be seen. **5-PS2-1.** Support an argument that the gravitational force exerted by Earth on objects is directed down. **5-ESS2-1.**Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact in Michigan and the Great Lakes basin. **5-ESS2-2.** Describe and graph the amounts of saltwater and freshwater in the Great Lakes to provide evidence about the distribution of water on Earth. **5-ESS3-1.** Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment. **3-5-ETS1-1.** Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.	**NGSS Standards** **5-ESS1-1.** Support an argument that the apparent brightness of the sun and stars is due to their relative distances from the Earth. **5-ESS1-2.** Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.