MSD Wayne Township Schools
Science
Grade 5

TwigScience serves as the primary curriculum material for grade 5 Science instruction and has been adapted to ensure alignment with the Indiana Academic Standards for Science.

Timing	Module / Topic	Student Learning Outcomes
Quarter 1	*Haunted House* Scientific Methods and Engineering Design	Students will: • Learn classroom routines, expectations, and teamwork skills. • Engage in scientific methods and engineering processes used to solve problems. • Investigate and observe materials for use in a design solution. • Research and design a solution to a simple challenge.
Quarters 1-2	*Matter Mysteries Hotline* Physical Science: Matter	Students will: • Plan and conduct fair tests. • Plan investigations to observe the properties of materials. • Learn about the properties of materials. • Plan and conduct investigations to observe chemical reactions. • Identify the properties of a mystery mixture to identify substances. • Measure and record the mass and other properties of substances. • Write a scientific explanation using evidence. • Use graphs to record and analyze data. • Use knowledge of properties of materials to design a recipe that meets criteria. • Write a design argument. • Understand that matter is made of particles that are too small to be seen.

		• Carry out investigations and make observations of solids, liquids, and gasses. • Plan and build a three-dimensional model to demonstrate particles of matter.
Quarter 2	*Yellowstone: Uncovered* Physical Science: Matter and Energy Life Science: Ecosystems	Students will: • Explore the phenomena of plant growth, food chains and food webs, matter cycling, energy flow, and decomposition. • Understand that plants need water, air, sunlight, and soil to grow. • Set up an investigation that provides evidence to support a claim. • Understand how matter flows through a food web. • Understand where plants get their matter. • Explain the importance of water, air, sunlight, and soil in relation to the body matter of plants. • Understand the relationships between organisms in the Antarctic Ocean. • Understand why the decline of one organism in a food web affects others in the same web. • Investigate where dead matter goes in an ecosystem. • Understand the movement of matter through a marine ecosystem. • Predict what might happen if a part of an ecosystem is changed. • Understand the positive impact that one keystone animal can have on an ecosystem.
Quarter 3	*H2O Response Team* Earth Science:	Students will: • Explore the phenomena of sphere interactions and ocean salinity. • Understand the relationship between living things and water. • Represent and collect data about water on Earth. • Design and build a model to learn about water pollution. • Research and collect information. • Explain how rain is formed and how different spheres like the hydrosphere and biosphere interact. • Use knowledge to write a scientific explanation.

		• Build a model to understand what makes seawater salty. • Name system interactions that make seawater salty based on information gathered through multiple sources. • Test water-saving solutions. • Design a campaign.
Quarters 3-4	*Galactic Guidebook* Earth and Space Science: Constellations	Students will: • Explore the phenomena of day and night, star brightness, gravity, and the Earth's movement. • Use models to observe and visualize objects in the Solar System. • Conduct an investigation to measure the changing position of a shadow. • Collect and analyze data about shadows and constellations to identify patterns. • Use models to visualize the locations of stars relative to the Earth. • Gather evidence and make observations about sizes and locations of stars relative to Earth. • Write a scientific argument to explain why the Sun appears brighter than other stars. • Determine the size, shape and location of the Sun and the Earth. • Write a scientific argument to explain why we only see stars at night. • Conduct an investigation and make observations about how different objects fall when dropped. • Determine the direction in which objects on Earth fall. • Write a scientific argument to explain why humans don't fall off the Earth. • Collect and analyze data to identify patterns of constellations. • Write a scientific argument to explain why the stars seem to move and return to the same place each year. • Analyze graphs and data to identify patterns in shadows and how the Earth's movement causes changes in shadows.