



Bedford Public Schools

Grade 6 – Science

JGMS Science Program

The goal of the Science Program at JGMS is to develop the science and engineering practices for students through learning about concepts related to Earth, Life, Physical, and Engineering sciences. Through the three years, the eight science and engineering practices will serve as the basis for students to understand concepts about the physical and biological worlds. In each year of the program, students will spend time learning about each area of science and build on their scientific practices.

Sixth Grade Science

In grade 6 science, students are introduced to basic science and engineering skills and practices. Beginning with observing the world around them and asking questions, students are guided through the scientific process of planning and conducting experiments as a way to understand the world. Mathematical concepts and thinking are also emphasized and used as evidence to help support claims developed as a result of experimentation. A major emphasis of the year is for students to develop a grade appropriate scientific literacy skill set.

In Grade 6, students inquire about the structure and function of the world around them. The integration of earth, life, and physical sciences with technology/engineering provides the foundation for more complex topics in the following years. Students are introduced to a wide range of topics from bacteria to the Earth's place in the Universe. Of the eight scientific and engineering practices, the grade 6 curriculum focuses on:

- Planning and Conducting an Experiment
- Develop and Use of Models
- Use Evidence to Support Claims



Learning Expectations

[Grade 6 Science](#)

Grade 6 Science

| Enduring Understandings In order to meet the standards, the students will need to understand that . . . | Essential Questions In order to understand, students will need to consider questions such as . . . | Knowledge and Skills Learning this material will require students to . . . |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Developing and using models. • Analyzing and interpreting data. • Planning and carrying out investigations. • Engaging in argument from evidence. • Constructing explanations and designing solutions. • Obtaining, evaluating, and communicating information. • Asking questions and defining problems. • Using mathematics and computational thinking. | <ul style="list-style-type: none"> • How are measurements and data used to answer scientific questions? • How does the form and behavior of waves impact our perception of sound and light? • How does the structure of organelles relate to their function as well as the function of a cell as a whole? • How are fossils evidence of both changes of the Earth and the life on it? • How does the position of the Earth, Sun, and Moon affect our perception of the moon's appearance? | <ul style="list-style-type: none"> • Students use the Metric system to measure mass, length, and volume and use this information to describe matter. This information is used to analyze density and identify matter based on its properties. • Using experimental design, students conduct inquiries and analyze data integrating mathematical concepts, such as graphing skills, in their communication of their results. Culminating in a student designed experiment. • Students analyze and interpret models of waves and describe how their properties, specifically amplitude, frequency, and wavelength affect sound and light. • Students differentiate between prokaryotic and eukaryotic cells and describe the function of the organelles in each. |

| Enduring Understandings In order to meet the standards, the students will need to understand that . . . | Essential Questions In order to understand, students will need to consider questions such as . . . | Knowledge and Skills Learning this material will require students to . . . |
|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | <ul style="list-style-type: none">• Using fossil evidence, students support the argument that the Earth has undergone changes over time, physical as well as biological.• Students use models of the Earth, Moon, and the Sun to demonstrate how their relative positions cause lunar phases and eclipses. |