

Science 5th Grade Course Outline

Tokyo International Progressive School

Room: 24

Teacher: Mr. Jeffrey Visser

Course Description

This course is designed to develop students' understanding of the natural world through the study of key scientific concepts and the practices of scientific inquiry. Using the **HMH Into Science** resources, students will explore a variety of topics in Earth and space science, physical science, life science, and engineering.

Throughout the course, students will develop their ability to make observations, ask questions, analyze information, communicate scientific ideas, and apply scientific knowledge to real-world situations.

The major themes covered in this course include:

Space Systems: Stars and the Solar System

Students will explore:

- The force of gravity exerted by Earth
- Stars and their observable patterns
- Patterns of daily changes in the sky
- The relationship between Earth, the Sun, and other objects in space

Earth's Systems

Students will investigate:

- The interaction of the **geosphere, biosphere, hydrosphere, and atmosphere**
- The distribution of water on Earth
- How Earth's systems interact with one another
- Ways in which science can be used to understand and protect Earth's resources

Structure and Properties of Matter

Students will explore:

- The particle nature of matter
- Physical and chemical changes
- Properties of different materials
- How substances can be mixed and separated
- How the properties of materials can be used for different purposes

Matter and Energy in Organisms and Ecosystems

Students will investigate:

- How animals obtain energy from food
- How plants grow and use energy and matter
- The movement of matter through ecosystems
- Relationships between plants, animals, and their environments

Engineering Design

Students will develop an understanding of the engineering design process by learning how to:

- Define a problem
- Identify criteria and constraints
- Generate possible solutions
- Develop and plan a prototype
- Test and evaluate solutions
- Improve designs based on evidence and testing

Student Expectations

Students are expected to arrive in class prepared to learn and participate. Students should bring the following materials to every class:

- Pencil case
- Water bottle
- Computer
- Notebook
- Course folder

Students may have **water or tea** during class. Other food and beverages are not permitted unless special permission has been provided.

Upon entering the classroom, students are expected to follow the instructions provided by the teacher, begin the assigned work promptly, and participate appropriately in class discussions and activities.

Textbooks and Course Materials

Students will receive worksheets and other learning materials either in printed form or through Google Classroom. Students will also be provided with a science textbook.

Students are responsible for collecting their textbook from the designated classroom storage area at the beginning of class and returning it to the correct location at the end of class.

Textbooks must be kept in good condition. If a textbook is lost or returned in a condition that prevents it from being used by another student, the student's family may be responsible for the cost of a replacement textbook.

Assignments and Deadlines

Students are expected to submit all assignments by the stated due date.

If an assignment is not submitted by the deadline, a **0** will initially be recorded for the assignment, and the student may be required to attend WIN to complete the missing work.

If a student requires additional time to complete an assignment or assessment, it is the student's responsibility to communicate with the teacher **before the due date** and provide a valid reason for the extension request. If the teacher determines that the reason is legitimate, a new due date will be established.

If the assignment is not submitted by the agreed-upon extended deadline, the assignment will receive a **0**.

Earning Your Grade

Students' final grades will be determined using the following categories:

Category	Weight	Description
6 P's	10%	Students are expected to be Positive, Pleasant, Polite, Prepared, Punctual, and Productive in class.
Daily Work	25%	Includes daily classwork, science activities, assignments, and participation in class discussions.
Quizzes	20%	Short assessments, generally consisting of approximately 5–10 questions, designed to assess students' understanding of recently covered material.
Progress Tests	20%	Summative assessments given at the end of each unit and covering the material studied throughout that unit.
Projects	25%	Formal science projects completed throughout the year. Projects may include research, writing, scientific models, engineering activities, group work, and/or presentations.

The 6 P's

Students are expected to demonstrate the following behaviors consistently:

1. **Positive** – Maintain a constructive attitude toward learning.
2. **Pleasant** – Treat classmates and staff in a friendly and respectful manner.
3. **Polite** – Demonstrate appropriate manners and respect for others.
4. **Prepared** – Arrive with the required materials and be ready to learn.
5. **Punctual** – Arrive to class and submit work on time.
6. **Productive** – Use class time effectively and make a consistent effort.

Projects

A formal science project will generally be assigned at the end of each unit. Projects may require several lessons to complete and will allow students to apply the scientific concepts and skills they have learned.

Projects may include research, scientific writing, creating models, solving problems, engineering design, group work, and/or presentations. Students may be required to complete some project work outside of class.

Students are expected to demonstrate grade-appropriate scientific vocabulary, organization, communication, and understanding of the concepts being assessed.

Grading Scale

Grade	Percentage
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A+	98–100
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A	93–97
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B+	90–92
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B	85–89
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C+	82–84
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C	77–81
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D+	74–76
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D	70–73
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F	69 or below
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Assessment Schedule

Please note that the assessment schedule is tentative and may be adjusted according to student needs, instructional progress, and the school calendar.

Students can generally expect:

- **Quizzes:** Approximately every two weeks
- **Progress Tests and/or Projects:** Approximately once per month
- **Extended Projects:** Longer research, engineering, and/or presentation projects may be assigned throughout the year
- **Quarterly Projects:** At least one extended project will generally be completed each quarter

Students will be informed of major assessments and project deadlines in advance.