

Bath Middle School

Science Curriculum Overview

Astronomy

Standards: [Next Generation Science Standards](#)

Topics Covered

Nine Week Course
Planets and the Solar System
Moon, Eclipses, Seasons
Scale of the Universe
The Role of Gravity in Space

Focus Skills and Concepts

- Use internet resources to create a planet slideshow for presentation.
- Use models to show the positions of the Earth and Moon during different moon phases and eclipses.
- Apply understanding of cosmic distances to create a scale model of the solar system.
- Identify the basic characteristics of the planets of our solar system.
- Understand how the position of solar bodies creates different seasons and eclipses.
- Know the difference between rotation and revolution.
- Explain how the laws of motion affect the movement of the planets.
- Identify the differences between stars, planets, and moons.
- Explain how gravity is responsible for the creation of planets, stars, solar systems, and galaxies.

Essential questions students can answer at the end of the course:

- How can we explain the apparent motion of the Sun, Moon, and stars?
- How were the planets and the Solar System formed?
- What causes solar and lunar eclipses?
- What is the reason for different seasons on Earth?
- What is and what causes gravity?

Prerequisite skills critical for success in this class:

- Grade level reading ability
- Addition, subtraction, multiplication, and division of whole numbers
- Basic computer and internet usage skills

Assessments

Planet Research Project

Moon Phase and Eclipse Quiz

Mid Marking Period Assessment

End of Marking Period Assessment

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Social Studies Curriculum Overview

Current Events

Curriculum Used: [Junior Scholastic Magazine](#)

Standards: [Common Core Read and Writing Standards](#)

Topics Covered

Nine Week Course
Local, Regional, and State Events
National Events
World Events

Focus Skills and Concepts

- Describe the purpose and organization of news sources.
- Use geography skills to locate and describe places in the world.
- Define “bias” and identify incidents of bias in the news.
- Read and analyze political cartoons.
- Cite specific textual evidence to support analysis of primary and secondary sources.
- Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.
- Identify aspects of a text that reveal an author's point of view or purpose.
- Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.
- Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.
- Distinguish among fact, opinion, and reasoned judgment in a text.
- Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.
- Draw evidence from informational texts to support analysis, reflection, and research.
- Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.

- Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.

Essential questions students can answer at the end of the course:

- Why is it important to stay informed on current events? What are the consequences of not being informed?
- How does bias play a role in the news? Why should you be aware of it?
- What major issues are currently occurring around the world? How do they impact us?

Prerequisite skills critical for success in this class:

- Reading comprehension
- Critical thinking skills
- Grade level writing skills

Assessments

Argumentative Essay

Summaries

Reading Quizzes

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Science Curriculum Overview

Engineering

Curriculum/Textbook: 2011 Project Lead the Way

Standards: [7th+8th Grade Science Grade Level Content Expectations](#)
[Next Generation Science Standards \(6-8\)](#)

Topics Covered

Nine Week Course
Introduction to Engineering Design Process Introduction to Robotics

Focus Skills and Concepts

- Understand responsible behavior and procedures in the lab.
- Design and test creative designs and solutions.
- Implement the design process with a team and work on projects to accomplish a goal.

Essential questions students can answer at the end of the course:

- How does engineering impact our lives?
- What are some positive and controversial impacts of robotics?

Prerequisite skills critical for success:

- Listening
- Basic math and arithmetic
- ability to work with peers

Major Projects

- Research project on a type of engineering
- Design a marketing plan for a product of the future
- Survival Challenge: implement basic robotics development and programming

Assessments

Pre-test and post-test on knowledge of engineering and robotics

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Science Curriculum Overview

Flight

Curriculum/Textbook: NASA Rocketry Educators Guide

Standards: [7th+8th Grade Science Grade Level Content Expectations](#)
[Next Generation Science Standards \(6-8\)](#)

Topics Covered

Nine Week Course
Introduction to Flight

Focus Skills and Concepts

- Understand responsible behavior and procedures in the lab.
- Design and test creative designs and solutions.
- Implement the design process with a team and work on projects to accomplish a goal.
- Understand and Bernoulli's principle and explain how it applies to flight.
- Explain how density differences in the air create lift.
- Identify the parts of a plane.
- Identify and describe how Newton's forces act upon the flight of a rocket.

Essential questions students can answer at the end of the course:

- How do things fly? Planes, Balloons, Rockets
- How do Newton's laws of motion apply to objects in flight?

Prerequisite skills critical for success:

- Listening
- Basic math and arithmetic
- Ability to work with peers

Major Projects

- Plane: design, build, fly
- Rocket: design, build, launch
- Hot Air Balloon: design, build, launch

Assessments

Projects assessment and quizzes on the principles related to the 3 projects

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Math Curriculum Overview

Fractions

Standards: [Common Core State Standards](#)

Topics Covered
Nine Week Course
Basic Fraction Concepts
Order Fractions
Equivalent Fractions
Compare Fractions
Computation with Fractions

Focus Skills and Concepts

- Represent and identify fractions, mixed numbers, and improper fractions.
- Change improper fractions to mixed numbers and mixed numbers to improper fractions with visual representations.
- Use benchmarks like 0, $\frac{1}{2}$ and 1 to place fractions, mixed numbers, and improper fractions on a number line.
- Find equivalent fractions with models and with computation.
- Compare fractions with a variety of strategies such as common denominators, common numerators, and using benchmarks.
- Add and subtract fractions, mixed numbers, and improper fractions with like and unlike denominators.
- Multiply and divide fractions, mixed numbers, and improper fractions with like and unlike denominators.

Essential questions students can answer at the end of the course:

- How does changing the denominator in a fraction change the picture?
- How does changing the numerator in a fraction change the picture?
- What are some different ways of comparing numbers besides getting common denominators?
- Why do I need common denominators to add and subtract?

Prerequisite skills critical for success in this class:

- Understanding of basic facts in addition, subtraction, multiplication, and division from 0-1
- Ability to find half of a number
- Understanding of different ways to represent fractions visually (unit bar, circles, set model)

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Math Curriculum Overview

Geometry

Curriculum Used: [Go Math! By Houghton Mifflin Harcourt](#)

Student Website: <https://www-k6.thinkcentral.com/ePC/start.do>

Standards: [Common Core State Standards for Geometry Grade 6](#)

Topics Covered

Nine Week Course

Area
Surface Area
Volume

Focus Skills and Concepts

- Calculate area and perimeter of polygons.
- Calculate area after changing dimensions.
- Plotting polygons on a coordinate plane and finding their side lengths.
- Calculate surface area and volume of three-dimensional figures.

Essential questions students can answer at the end of the course:

- What is the relationship between area and perimeter?
- What is the relationship between volume and surface area?

Prerequisite skills critical for success in this class:

- Understanding of basic facts in addition, subtraction, multiplication, and division from 0-12
- Addition, subtraction, multiplication, and division of fractions
- Basic geometric formulas of area and perimeter for rectangles, triangles
- Basic organizational skills

Assessments

Pre-Assessment Chapters 10 and 11

Mid-Chapter Checkpoints Chapter 10 and 11

End of Module Assessments Chapters 10 and 11

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English/Language Arts Curriculum Overview

Journalism

Student Website: <https://sites.google.com/a/bath.k12.mi.us/bath-press/>

Standards: [Common Core Standards Grade 6](#)

Topics Covered

Nine Week Course
Argumentative Writing
Explanatory Writing
Narrative Writing

Focus Skills and Concepts

- Write arguments to support claims with clear reasons and relevant evidence.
- Introduce claims and organize the reasons and evidence clearly.
- Support claims with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic.
- Write informative/explanatory texts to examine a topic and convey ideas and concepts by selecting, organizing, and analyzing information.
- Include formatting, graphics, and multimedia in writing when useful to aiding comprehension.
- Develop a topic with relevant facts, definitions, details, quotations, or other information and examples.
- Maintain a formal style throughout writing a column.
- Write narratives to develop real or imagined experiences or events using descriptive details and organizing events appropriately.
- Make a reader interested and informed by sharing plot and setting background information.
- Introduce characters and organize events so a story is told naturally and logically.
- Use dialogue, pacing, and description, to develop experiences, events, or characters.
- Strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach with support from peers and adults.
- Use technology, including the Internet, to produce and publish writing.
- Quote or paraphrase data while avoiding plagiarism.

- Gather relevant information from credible print and digital sources.
- Write over long and short times for different tasks, purposes, and audiences.
- Present claims and evidence, putting ideas in logical order and using relevant descriptions, facts, and details to make clear main ideas and themes.
- Follow rules for respectful discussions, set specific goals and deadlines, and define individual roles as needed.

Essential questions students can answer at the end of the course:

- Why do people read a newspaper?
- How is a newspaper formatted?
- What are some different ways to gather information for a column?
- What is the difference between writing to entertain, to persuade, and to inform?
- How do I conduct an interview?
- How do I peer edit with meaning to improve the writing of my colleagues?

Prerequisite skills critical for success in this class:

- Familiarity with Google Docs and typing skills
- Basic understanding of the six traits of writing
- Ability to speak to other students in a formal matter
- Basic organizational skills

Assessments

Writing Pre-Assessment

End of Course Writing Assessment

Weekly Columns

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English/Language Arts Curriculum Overview

Literature

Standards: [Common Core State Standards Grade 6](#)

Topics Covered
Nine Week Course
Writing Summaries
Close Reading Strategies
Genres
Elements of a Story
Vocabulary
Expository Texts

Focus Skills and Concepts

- Choose from several strategies to determine or clarify the meaning of unknown words.
- Use conventions of Standard English—capitalization, punctuation, and spelling—when writing.
- Interpret figures of speech in context.
- Distinguish among the ideas that a word brings to mind of words with similar definitions.
- Use evidence from the text to support analysis of what the text says exactly as well as what I thought about the meaning of a text.
- Determine a theme or central idea of a text and how it is made clear through particular details.
- Provide a summary of the text that doesn't include personal opinions.
- Describe how a particular story's or drama's plot happens as well as how the characters respond or change as the plot moves toward a resolution.
- Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot.
- Explain how an author develops the point of view of the narrator or speaker in a text.
- Compare and contrast texts in different forms or genres.

- Determine the meaning of words and phrases as they are used in a text, including figurative, connotative (associations), and technical meanings.
- Ask and respond to specific questions with detail by making comments that contribute to the topic, text, or issue under discussion.
- Use text-to-self, text-to-text, and text-to-world connections to improve comprehension.
- Synthesize, make inferences, and ask questions about texts to understand challenging passages.
- Practice reading fluency through classroom read-aloud opportunities.
- Participate in expository text feature searches in newspapers, magazines, and textbooks to help locate helpful features (e.g. glossary, table of contents, captions).
- Identify plot, characters, exposition, rising action, climax, falling action, and exposition.

Essential questions students can answer at the end of the course:

- How do I write a summary of what I just read?
- What are the defining characteristics of literary genres?
- How do I interact with a text to ensure understanding?
- What reading comprehension strategies can I use to break down a difficult text?
- How do all the plot elements fit together to create a story?
- How can I use text features to help me read expository texts?

Prerequisite skills critical for success in this class:

- Read at grade level
- Basic writing skills to demonstrate understanding and comprehension
- Small group communication skills to discuss multiple forms of texts
- Basic organizational skills

Assessments

Pre-Assessment

Unit Assessments

End of Year Assessment

Reading Journals