Brecksville-Broadview Heights City School District

Curriculum Framework

Brecksville-Broadview Heights City Schools
6638 Mill Rd
Brecksville, Ohio 44141

Eighth Grade Science
2025-2026

District Leadership

Superintendent of Schools :: Jeff Harrison
Assistant Superintendent of Schools :: Brian Wycuff
Director of Teaching and Learning :: Dr. David Martin

Board of Education

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Acknowledgment

This document represents a strong effort on the part of the following individuals:

- Kiery Franklin
- Larissa Hoban
- Kelly Kroesen

Brecksville
Broadview Heights
City School District

who we are. where we are going. what we value.

OUR MISSION

The BBHCSD exists to rigorously educate our students to the highest standards, to boldly empower our school family with exciting learning experiences, and to collaboratively engage our community to cultivate productive future citizens of a global society.

OUR VISION

The BBHCSD will be the destination district by pushing the boundaries of academic excellence and expanding innovative opportunities for students, while advocating for all, in a safe and accountable educational environment.

OUR VALUES

- We value academic excellence and providing innovative learning opportunities for all
- We value school safety and security in protocol, thought, and action to create a welcoming school climate
- We value responsible stewardship of the dynamic resources in the BBHCSD
- We value the finest educators and staff to empower our students
- We value transparent, engaging, and collaborative communications
- We value the comprehensive preparedness of our students' future success

OUR CULTURE

The BBHCSD will encourage all to Bee Your Best, Bee The Future, and Bee One Community, and will accomplish this by building safety, sharing vulnerability, and establishing a shared purpose with the values above.

Together, we will ***Protect the Banner of the BBHCSD.***

Instructional & Curricular Philosophy

The curriculum and instruction of the Brecksville Broadview Heights City School District will provide an educational program to assist all students to realize their potential to make a positive impact as contributing members of a global society. Both the curriculum and the instructional process reflect that each student is a unique individual and learner.

Students are prepared for their futures through strong curriculum and instructional practices that cultivate the Attributes of a Bee: Emotionally-Prepared, Future-Ready, Globally-Responsible, and Self-Reliant. Rooted in the district's mission, these competencies reflect our commitment to rigorously **educate** every student to the highest standards, boldly **empower** our school family with inspiring learning experiences, and collaboratively **engage** our community in shaping productive citizens for a global society.

Students are at the center of all we do in the Brecksville Broadview Heights City School District. We practice standards-driven curriculum and instruction in all content areas:

- We anchor all learning in Ohio's learning standards.
- We utilize data-driven, evidence-based instruction and decision making.
- We utilize assessments directly aligned to Ohio's learning standards to collect data on student growth and mastery, adjusting and adapting instruction to meet the learning needs of all students.
- We foster a culture of continuous growth in learning for both students and staff.
- We believe that learning is a lifelong pursuit and that everyone has the capacity to grow and continually learn.
- We provide supportive learning environments that encourage active engagement, curiosity, exploration, and rigorous levels of learning.

Brecksville
Broadview Heights
City School District

EDUCATE. EMPOWER. ENGAGE.

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OUR VISION

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ATTRIBUTES OF A BEE

FUTURE READY

BBH students will become lifelong learners and acquire career knowledge along with core technical skills. Bees will be independent thinkers, problem-solvers and possess communications and listening skills.

EMOTIONALLY PREPARED

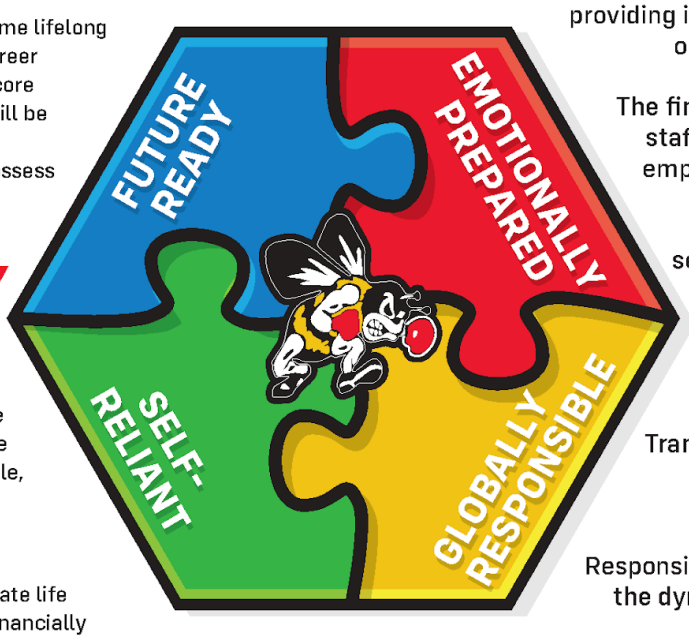
Bees will be self-aware and self-confident and have a growth mindset, while being resilient, adaptable, and flexible.

SELF-RELIANT

Bees will have appropriate life skills, be resourceful, financially savvy, and be self-directed.

GLOBALLY RESPONSIBLE

Our graduates will be engaged citizens, team collaborators, strong stewards of the environment, with broad horizons.



OUR COMMUNITY'S SCHOOL VALUES

Academic excellence and providing innovative learning opportunities for all

The finest educators and staff to constructively empower our students

School safety and security in protocol, action, thought in creating a welcoming school climate

Transparent, engaging and collaborative communications

Responsible stewardship of the dynamic resources in the BBHCSD

Comprehensive preparedness of our students' future college and career pathways

Protecting the Banner of the BBHCSD!

Eighth Grade Science

District Overview of Content

Science education is designed to help students become scientifically literate citizens that are able to use science as a way of knowing about the natural and material world. All students should have sufficient understanding of scientific knowledge and scientific processes to enable them to distinguish what is science from what is not science and to make informed decisions about career choices, health maintenance, quality of life, community and other decisions that impact both themselves and others. Ohio's science standards serve as a basis for what all students should know and be able to do in order to become scientifically literate citizens, equipped with knowledge and skills for the 21st century workforce and higher education. Ohio educators are provided with the content and expectations for learning at each grade level. From this information, district curriculum is developed.

Ohio's Learning Standards for Science is paraphrased from the DEW

Specific Grade Level Overview

One goal of science education is to help students become scientifically literate citizens able to use science as a way of knowing about the natural and material world. All students should have sufficient understanding of scientific knowledge and scientific processes to enable them to distinguish what is science from what is not science and to make informed decisions about career choices, health maintenance, quality of life, community and other decisions that impact both themselves and others. Scientific inquiry, practice, and applications guide the structure of each learning unit and are embedded throughout daily activities.

Eighth grade standards dive into the three main areas of science - earth and space, physical, and life science. The earth and space science standards cover various aspects of Earth's physical features and processes. They delve into understanding how Earth's interior, its layers, and geological processes have shaped the planet's surface over millions of years, resulting in diverse landforms. They also explore plate tectonics, the movement of Earth's lithospheric plates, which is responsible for earthquakes, volcanoes, and the formation of mountains. Additionally, eighth grade physical science standards examine forces and motion including gravitational, magnetic, and electrostatic forces. In the life science units, the main focus is on the importance of continuity for species survival, emphasizing the interconnectedness of ecosystems and the mechanisms that drive evolution and adaptation to ensure the survival of different organisms over time. This includes looking at evolution through a cellular level, relating genetics and cellular reproduction.

**Disclaimer that standards in one quarter may bleed over into another.*

Materials

Interactive Digital Science Labs
Lab Sheets/Worksheets
Lab Supplies/Demos
Student Science Journals
Videos

Assessments

Experiments & Projects
Formative Assessments
Summative Unit Assessments

Content Standards

Ohio's Learning Standards for Science

Scope and Sequence of Knowledge and Skills to Be Learned

First Quarter:
Physical Science

- PS.1 - Objects can experience a force due to an external field such as magnetic, electrostatic or gravitational fields.
- PS.2 - Forces can act to change the motion of objects.

Second Quarter:
Life Science

- LS.1 - Diversity of species, a result of variation of traits, occurs through the process of evolution and extinction over many generations. The fossil records provide evidence that changes have occurred in number and types of species.
- LS.2 - Every organism alive today comes from a long line of ancestors who reproduced successfully every generation.

Third Quarter:
Earth and Space

- ES.1 - The composition and properties of Earth's interior are identified by the behavior of seismic waves.
- ES.3 - A combination of constructive and destructive geologic processes formed Earth's surface.
- ES.4 - Evidence of the dynamic changes of Earth's surface through time is found in the geologic record.

Fourth Quarter:

Earth and Space

- ES.2 - Earth's lithosphere consists of major and minor tectonic plates that move relative to each other.

Life Science

- LS.3 - The characteristics of an organism are a result of inherited traits received from parent(s).