

6th Grade Science
Ms. Brindley
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Planning: 9:05 – 10:10am
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Welcome to 6th Grade Science! I am happy to have you as part of my science class. Sixth grade science curriculum focuses on the scientific method of inquiry as it relates to living and physical science. Our year will be divided into 6 units of study with an emphasis on the scientific method of inquiry integrated within the content. This basically means we will be doing as many experiments as possible. The **SCIENTIFIC METHOD** is “**thinking like a scientist.**” Students will demonstrate an understanding of the nature of scientific inquiry throughout each of the 6 units of study.

UNIT SUMMARIES

At the end of each unit, students should be able to describe and explain the following material. Students should be able to have an in-depth conversation with YOU about each unit at the end of each and throughout. Please talk to your child about what they are learning each day because you are your child’s first teacher.

1. Diversity of Life

Living things are classified into 6 kingdoms based on their characteristics. Plants and animals have structures and systems that have specific functions. Members of both kingdoms can adapt, or change, to survive in their environments. Living things are made of cells. Animal cells, plant cells, and microorganisms have different structures for different functions. Cells reproduce by dividing themselves.

2. Patterns of Life

Parents pass traits to offspring in genes. The information in the genes is contained in the DNA molecule, and it determines the offspring’s characteristics. The diversity among living things results from genetic variation and environmental factors. Living and nonliving things interact in ecosystems by transferring energy and matter in food chains and food webs. Ecosystems change over time because of natural factors and human activities.

3. Earth and its Resources

Earth’s surface includes landforms and bodies of water. Many of the landforms result from the movement of huge plates in earth’s crust. Forces such as weathering and erosion also change earth’s surface. Earth’s resources include minerals, rocks, air, and water. Some resources are renewable and some are nonrenewable. Conservation is necessary to help preserve nonrenewable resources.

4. **Weather and Space**

Measuring atmospheric properties and observing precipitation and cloud formation help us determine the climate of an area and predict the weather. The Earth-Sun-Moon system moves through the solar system, resulting in phenomena like tides and eclipses. The sun is one of many stars in the Milky Way, which is one of billions of galaxies in an expanding universe.

5. **Matter**

Matter can be described by physical properties and classified as an element or a compound. Heat and pressure on matter determine if the matter is a solid, liquid, or gas. Substances keep their properties when combined in a mixture. Matter undergoes chemical changes when bonds are broken and formed. Knowing a substance's chemical properties can help us predict how it will interact with other matter.

6. **Forces and Energy**

Forces change the characteristics of an object's motions. Energy is the ability to do this work, and it takes many forms. Simple machines make work easier. Energy takes many forms, including heat, sound, light, and electricity. Some energy forms need a medium for travel, and some forms do not. Electricity and magnetism are closely related forces.

Science class will consist of reading science content, hands on investigations, data collection and analysis, writing, presentations, projects, group work, and **HOMEWORK**. This curriculum is designed using National Science Standards, Kentucky Academic Expectations and Core Content, and Bracken County Curriculum. Students will be expected to complete various daily activities, as well as, several projects throughout the year. Students are required to keep a binder containing notes, daily assignments, and all assessments. This binder is their study guide for all assessments and will help prepare them for high school and college science classes. Homework should be minimal if students work effectively during class. However, **children do need extra reinforcement due to time constraints at school**. Please encourage and help you child to complete their homework each night. Major project information will be sent home prior to assignment, thus giving parents information on specific requirements, project timelines, and a due date.

SUPPLIES NEEDED

- One 1-inch 3-ring binder
- Loose leaf paper (preferably wide ruled)
- Pencils
- Pens
- Highlighter
- 5 Tab Divider

GUIDELINES TO SUCCESS

Students and teachers are committed to the following:

PRESENT – Learning is more effective when we are all present to work together towards reaching our goals.

PROMPT – Learning is enhanced when students are on time, in their seats with pencils sharpened and binders out, ready for class to begin promptly.

PREPARED – Learning improves when students are prepared with binders, pencils, and paper for authentic challenging learning activities.

PRODUCTIVE – Learning is advanced by being attentive, cooperative, actively participating in class, and producing high quality work.

POSITIVE – Learning is increased when we approach class activities with a positive attitude.

GRADING

Grades will be based on the following

- **CLASSWORK** – Daily class work and/or lab sheets will be collected and assessed. Students will receive a grade on his/her own work and/or contribution to the lab group task.
- **HOMEWORK** – Any homework that is assigned will NOT be an introduction to the material. Homework will always be a reinforcement of materials that have already been covered in class. Homework will be graded for accuracy.
- **ASSESSMENTS** – Written assessments, open-response questions, presentations, projects, unit assessments, and semester assessments will prepare students for high school and college classes. Assessments will be graded for accuracy in science content and spelling and grammar will be a small portion of the grade.

Grades will be weighted. All assessments will be 60% and homework/classwork will be 40% of their quarterly grade.

An individual grade will not be given for behavior or participation. However, when a student's behavior interferes with his/her lab group's ability to complete a task, he/she will be removed from the group. This may affect his/her class assignment or daily grade.

COOPERATIVE GROUP BEHAVIOR – incorporating the 5 P's in the guidelines for success, will ensure successful science lab groups.

PARENTS

I hope you will take an active role in your child's educational career and progress. The best ways to help your child is to use the agenda provided by the school. The student agenda is an organizational planner that we expect all students to use every day during every class. The purpose of the agenda is to have students record their daily assignments and activities during each and every school day. Used daily, the agenda is a way parents help monitor their child's progress and communicate with teachers by writing a note if questions arise. Likewise, I will send notes home in the agenda as a first attempt at communication with you.

Please encourage your child to use the agenda by discussing it each night and signing to let us know you what is going on at school daily. This is a valuable communication between home and school, feel free to use it.

I am looking forward to working with you and your child this year. Please feel free to contact me anytime throughout the year if you have any questions or concerns.

Lila M. Brindley

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Student Signature

Parent Signature
