



## Science

**Instructor** Jackie Morgan

**Phone** (512) 660-4674

**Office** Classroom #14

**E-mail** [morgan@blancoriveracademy.org](mailto:morgan@blancoriveracademy.org)

**Office Hours:** Monday and Wednesday by appointment.

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### **Textbooks/Resources:**

*Science Explorer* by Pearson

### **Description:**

Science at BRAC will be an integrated program that shall serve as a stepping stone from elementary science to high school courses such as biology, chemistry, and physics. The purpose is to give an overview of common strands in each discipline. Class is structured around project based learning that incorporates engaging and interactive lessons that are inquiry based. This year curriculum will focus on physical science with course work including the structure of atoms, chemical properties of elements and compounds, the periodic table, investigation of chemical reactions and the difference between physical and chemical changes. Students will also study astronomy, Newton's law of inertia, the law of action-reaction, and the difference between force, motion, and acceleration.

### **Goals:**

1. Develop an excitement for exploring science that will help students see the wonders of the world through the eyes of a scientist.
2. Learn to use the scientific method including hypothesizing, coming to conclusions, and understanding how to write those findings in a lab report.
3. Perform investigations using critical evaluation, problem solving, and scientific reasoning.
4. Successfully interpret data and exercise analytical skills to perform lab and field investigations.
5. Depart for the next grade level with a general grasp of major concepts that will be helpful when explored further in the future.

### **Expectations:**

1. Each student is responsible for participation in the classroom and weekly science lab.
2. Each student is responsible for coming to class prepared. This includes having their science notebook, lab journal, homework, writing utensils, appropriate technology, or any other item ready and accessible at the beginning of class.
3. Homework assignments are expected at the beginning of class. One letter grade will be taken off an assignment for every class period it is late. For example, if a lab is due Wednesday but is turned in the next class period, Friday, the highest grade that lab will receive is 89. The following Monday will be 79, and so forth.
4. Students will adhere to all safety rules and procedures in the science lab.
5. Each student is expected to come to class ready to participate in the Three R's - Be Respectful, Be Responsible, Be Reasonable. We will all hold one another accountable to these three expectations in order to have a successful, fun, and productive learning atmosphere.

## Technology Policy:

Being prepared for class and participating includes not having inappropriate technology out during instructional time. Cell phones, tablets, and iPods are to be kept in backpacks or in cubbies unless they are being used for a special purpose, i.e. in a presentation or when allowed to listen to music. Students will have an opportunity to check their phone during breaks and during lunch. Students may only use computers during class when it is necessary for the lesson. The student may only have applications and websites open that are necessary and applicable for the lesson. Cell phones seen during class will be collected and kept on the desk until the end of that class period. Students misusing laptops during class will be asked to close their laptop and share with a neighbor until the end of the class period. At the end of the day, students may check for messages from parents before leaving the classroom for pick up, but once we leave students are to keep cell phones put away until they are in the car. Continual misuse of technology will result in contacting the parents and a student unable to use abused technology for the remainder of the day.

## Evaluation:

1. Daily Work, Quizzes, and Labs - 60%
2. Exams and Projects - 40%

## Scope and Sequence:

### Matter and Energy

Unit 1 — Nature of Science

Unit 2 — Atoms

Unit 3 — Elements and Compounds

Unit 4 — Periodic Table

Unit 5 — Chemical Formulas

Unit 6 — Substances

Unit 7 — Metals

Unit 8 — Density

### Earth and Space

Unit 9 — Earth's Axis & the Effects

Unit 10 — Lunar Cycles

Unit 11 — Our Sun

Unit 12 — Components of the Universe

Unit 13 — Plate Tectonics

Unit 14 — Weather

### Force and Motion

Unit 15 — Speed, Velocity, and Acceleration

Unit 16 — Laws of Physical Science

Unit 17 — Work and Motion

Unit 18 — Potential vs. Kinetic Energy

Unit 19 — Energy Transformations

### Organisms and Environments

Unit 20 — Oceans and Aquatic Ecosystems

Unit 21 — Natural Selection, Evolution, and Adaptations

Unit 22 — Effect of Environmental Changes on Organisms

Unit 23 — Classification and Kingdoms