

6th Grade Science:

Instruction will be guided from the 6th *Grade Science: Level Red* book. The flow of class is usually has the students take notes on day 1 and then a lab/activity to reinforce the material on day 2, for each section. There are 3-4 sections per chapter. At the end of a chapter, students will have 1 review day before that chapter's test. Chapters should be done in less than 2 weeks. In this quarter we will focus primarily on the physical sciences, towards the end of the quarter we will finish up with a bit of earth science.

Motion, Forces, and Simple Machines.

Students will:

- Define speed and acceleration.
- Relate acceleration to change in speed.
- Calculate distance, speed, and acceleration.
- Describe how forces affect motion.
- Calculate acceleration using Newton's second law of motion.
- Explain Newton's third law of motion.
- Define work.
- Distinguish the different types of simple machines.
- Explain how machines make work easier.

Energy

Students will:

- Explain what energy is.
- Describe the forms energy takes.
- Compare and contrast potential energy and kinetic energy.
- Distinguish between temperature and heat.
- Identify important uses of heat.
- Explain how heat moves.
- Determine how chemical energy is transformed.
- Explain how reaction rates are changed.

Electricity and Magnetism

Students will:

- Describe how electric charges exert forces on each other.
- Define an electric field.
- Explain how objects can become electrically charged.
- Describe how lightning occurs.
- Describe how an electric current flows.
- Explain how electrical energy is transferred to a circuit.
- Explain how current, voltage, and resistance are related in a circuit.
- Distinguish between series and parallel circuits.
- Describe how magnets exert forces on each other.
- Explain why some materials are magnetic.
- Describe how objects become temporary magnets.
- Explain how an electric generator produces electrical energy.

Waves

Students will:

- Explain the relationship between waves, energy, and matter.
- Describe the differences between transverse waves and compressional waves.
- Describe the relationship between the frequency and wavelength of a wave.
- Explain why waves travel at different speeds.
- Explain how waves can reflect from some surfaces.
- Explain how waves change direction when they move from one material to another.
- Describe how waves are able to bend around barriers.

Rocks and Minerals

Students will:

- Identify the difference between a mineral and a rock.
- Describe the properties that are used to identify minerals.
- Explain how extrusive and intrusive igneous rocks are different.
- Describe how different types of sedimentary rocks form.
- Describe the conditions needed for metamorphic rocks to form.
- Explain how all rocks are linked by the rock cycle.

*Forces Shaping Earth**Students will:*

- Describe how Earth's interior is divided into layers.
- Explain how plates of Earth's lithosphere move.
- Discuss why Earth's plates move.
- Describe how Earth's mountains form and erode.
- Compare types of mountains.
- Identify the forces that shape Earth's mountains.

7th Grade Science:

Instruction will be guided from the *7th Grade Science: Level green* book. The flow of class is usually has the students take notes on day 1 and then a lab/activity to reinforce the material on day 2, for each section. There are 3-4 sections per chapter. At the end of a chapter, students will have 1 review day before that chapter's test. Chapters should be done in less than 2 weeks.

*Adaptations over Time**Students will:*

- Describe Lamarck's hypothesis of acquired characteristics and Darwin's theory of natural selection.
- Identify why variations in organisms are important.
- Compare and contrast gradualism and punctuated equilibrium.
- Identify the importance of fossils as evidence of evolution.
- Explain how relative and radiometric dating are used to estimate the age of fossils.
- List examples of five types of evidence for evolution.
- Describe the differences among living primates.
- Identify the adaptations of primates.
- Discuss the evolutionary history of modern primates.
- Understand the Church's teaching on evolution.

Anatomy

Students will:

- Identify the parts and functions of blood.
- Explain why blood types are checked before a transfusion.
- Give examples of diseases of blood.
- Compare and contrast arteries, veins, and capillaries.
- Explain how blood moves through the heart.
- Identify the functions of the pulmonary and systemic circulation systems.
- Describe functions of the lymphatic system.
- Distinguish the differences between mechanical digestion and chemical digestion.
- Identify the organs of the digestive system and what takes place in each.
- Explain how homeostasis is maintained in digestion.
- Describe the functions of the respiratory system.
- Explain how oxygen and carbon dioxide are exchanged in the lungs and in tissue.
- Identify the pathway of air in and out of the lungs.

- Distinguish between the excretory and urinary systems.
- Describe how the kidneys work.
- Explain what happens when urinary organs don't work.
- Distinguish between the epidermis and dermis of the skin.
- Identify the function of the skin.
- Explain how skin protects the body from disease and how it heals itself.
- Identify the major function of the muscular system.
- Compare and contrast the three types of muscles.
- Explain how muscle action results in the movement of body parts.
- Identify five functions of the skeletal system.
- Compare and contrast movable and immovable joints.
- Describe the basic structure of a neuron and how an impulse moves across a synapse.
- Compare and contrast the central and peripheral nervous systems.
- List the sensory receptors in each sense organ.
- Explain what type of stimulus each sense organ responds to and how.
- Define how hormones function.
- Identify different endocrine glands and the effects of the hormones they produce.
- Describe how a feedback system works in your body.

8th Grade Science:

Instruction will be guided from the 8th *Grade Science: Level Blue* book. The First part of the quarter is based around the changing earth and will shift the attention to outer space and how that has changed over time. The flow of class is usually has the students take notes on day 1 and then a lab/activity to reinforce the material on day 2, for each section. There are 3-4 sections per chapter. At the end of a chapter, students will have 1 review day before that chapter's test. Chapters should be done in less than 2 weeks.

Atomic Structure and the Periodic Table:

Students will:

- Explain how scientists discovered subatomic particles.
- Explain how today's model of the atom developed.
- Describe the structure of the nuclear atom.
- Explain that all matter is made up of atoms.
- Describe the process of radioactive decay.
- Explain what is meant by "half-life".
- Describe how radioactive isotopes are used.
- Describe the history of the periodic table.
- Interpret an element key.
- Explain how the periodic table is organized.
- Recognize the properties of representative elements.
- Identify uses for representative elements.
- Classify elements into groups based on similar properties.
- Identify properties of some transition elements.
- Distinguish lanthanides from actinides.

Atomic Structure, Chemical Bonds, and Chemical Reactions:

Students will:

- Identify how electrons are arranged in an atoms.
- Compare the relative amount of energy of electrons in an atoms.
- Compare how the arrangement of electrons in an atom is related to its place in the periodic table.
- Compare and contrast ionic and covalent bonds.
- Distinguish Between compounds and molecules.
- Identify the difference between polar and nonpolar covalent bonds.
- Interpret chemical shorthand.
- Determine whether or not a chemical reaction is occurring.
- Determine how to read and understand a balanced chemical equation.
- Examine some reactions that release energy and others that absorb energy.
- Explain the law of conservation of mass.
- Determine how to describe and measure the speed of a chemical reaction.
- Identify how chemical reactions can be sped up or slowed down.

Waves, Sound, and Light:

Students will:

- Explain how waves transport energy.
- Describe the properties of waves.
Describe reflection, refraction, and diffraction of waves.
- Describe how sound waves are produced.
- Explain how sound waves travel through matter.
- Describe the relationship between loudness and sound intensity.
- Explain how humans hear sound.
- Identify the properties of light waves.
- Describe the electromagnetic spectrum.
- Describe the types of electromagnetic waves that travel from the sun to Earth.
- Explain human visions and color perception.

6th Grade Social Studies:

Instruction will be guided from the *World Cultures and Geography: Western Hemisphere and Europe* book. In this quarter, students will look at North America, in particular the United States and Canada. If time allows, we will also start looking at Mexico and Latin America. Students will have graphic organizers to fill out as we read through the book and will be assigned homework once the chapter has been read. Students will work on different projects throughout each chapter to gain a deeper understanding of the concepts presented. Once all sections of a chapter are completed, students will take a unit test.

Unit 2: The United States and Canada

Students will:

- Compare the differences in population density between the United States and Canada.
- Explain the Varied climates found in the United States and Canada.
- Identify the Major Economic activities in the United States and Canada.
- Name the 50 U.S. States and their capitals.
- Name Canada's 10 provinces and 3 territories, and their capitals.
- Identify the advantages and disadvantages of the United States' varied geography.
- Explain how the United States grew from a group of small colonies to a strong nation and world power.
- Point out ways in which America's diverse population has influenced its culture.
- Describe the government and economy of the United States and explain the relationship between them.
- Identify Canada's four geographic regions and each region's key features.
- Explain why Canada's diversity is the result of regional differences and historic events.
- Describe how immigration has influenced Canada's diversity and Culture.
- Analyze how Canada's Resources for educated population has shaped its government and economics.

6th Grade Word Skills:

Instruction will be guided from the *6th Grade Spelling: Lessons and Activities* from our literature series. Every week, students will have a list of words to work with. Students will be assigned different tasks (thinking critically, proofreading, sorting, etc.) to help practice and understand the words. At the end of each week, students will take a spelling test to see how well they performed on those week's spelling words.

- Lesson 10: Easily Confused Words
- Lesson 12: Changing y to i
- Lesson 13: Unstressed Endings
- Lesson 14: Spelling Patterns
- Lesson 15: Spelling Patterns part 2
- Lesson 16: Adding -ed and -ing
- Lesson 18: Noun Suffix -ance/-ence

6th Grade Religion

Instruction will be guided from the *6th Grade Catholic Connections* book. We will use our Bibles to read scripture and pull out stories to help better illustrate what we are learning from the book. Students will also do different projects (posters, skits, good works, etc.) to help bring what we are learning to life. Each Chapter should take about 2 weeks to complete.

- *Chapter 6: Creation*
 - *Examine God's creation, included Heaven and Earth*
- *Chapter 7: The Human Person*
 - *Understand that the human person has a soul.*
 - *Explain where original sin and temptation came from.*
- *Chapter 8: The Bible: Covenants*
 - *Examine the different covenants found in the new and old testaments and how they affect our lives.*
- *Chapter 9: Faith: Responding to God*
 - *Understand where our faith comes from and what we are called to do.*
- *Chapter 10: The Bible-The Prophets*
 - *Examine what the prophets did in the bible and how we can learn from them today.*

6th Grade Literature:

Instruction will be guided from the *6th Grade Elements of Literature Book*. Each story will take a little over 1 week to complete. We will read the story and practice the different reading skills associated with that story. Students will have comprehension questions to answer at the end of each short story. This quarter is starting out by finishing up *Hatchet*. Once done, we will start to examine other types of character development and examine some biographies and autobiographies.

*Classroom Reading Book:**Hatchet*

- Examine the trials and tribulations of Brian in *Hatchet*.
- Examine the different parts of literature (plot, characters, etc.)
- Recreate different scenes from the book.

*Character Development:**Ta-Na-E-Ka*

- **Literary Skill:** Understand character and conflict
- **Reading Skills:** Use comparison and contrast

Wartime Mistakes, Peacetime Apologies

- **Reading Skills:** Analyze Informational text by taking logical notes

Blanca Flor

- **Literary Skills:** Understanding Characterization
- **Reading Skills:** Make inferences about a characters

Comparing Literature (The South Paw & Summer Diamond Girl)

- **Literary Skills:** Understand Characterization

- Reading Skills: Compare and Contrast

Dentistry (From the adventures of Tom Sawyer)

- Students will explain the different character development found in this selection.

Biographies and Autobiographies

Storm

- Literary Focus: Understand First-Person Point of View.
- Reading Skills: Find the Main Idea.

The Land I lost

- Literary Focus: Compare first and Third-person narration.
- Reading Skills: Summarize main events.