Curriculum Guide for 1st Grade Science

Unit 1: Life Science: Animals

9 weeks

S1.1, S1.2, S1.5

Biblical Worldview Essential Questions
What can we learn about God from learning about his creation?
God provides for his creation. How is this demonstrated in mammals, birds, fish and insects?
Does God mention creatures in the Bible?

Objectives	Methods	Resources	Assessment
The students will Mammals 1. distinguish between living and nonliving things 2. Recognize animals as a diverse group of living things. 3. understand that mammals are a special group of animals. 4. recognize some mammals that live in the woodlands. 5. explore a mammals ability to maintain body temperature. 6. understand that technology can be used as a connections between people and the environment. 7. review concepts presented about mammals. Fish 8. learn how the parts of a fish help it to survive in its habitat. 9. identify parts of a fish. 10. recognize differences in fish design. 11. learn that most fish lay eggs and what happens to the eggs. 12. compare saltwater and freshwater. 13. learn how some fish were designed with special colors and features that help them survive. 14. demonstrate knowledge about fish. Birds 15. learn that birds are part of God's creation. 16. learn about some parts of a bird. 17. study how the design of a bird's beak determines what it eats. 18. understand that birds' feet are suited for their environment. 19. study some different types of bird habitats. 20. understand the life cycle of birds and why birds migrate.	• Lecture • Guided class discussion • Group reading • Blackline Masters • Thermos experiment • Ball activity • Fish size activity • Saltwater/freshwater activity • Fishing pole activity • Two straw activity • Model of an insect activity • Insect examination activity • Float or sink observations • Bagel birdseed feeders	• Teacher and student text (Purposeful Design, *Science Level 1*) • Blackline Masters (Purposeful Design, *Science Level 1*) • Thermos with warm water, cup for each student • Large ball • Yarn, empty spool • Salt, black construction paper, hand lenses, two clear plastic containers of water, teaspoon, stirrer, paper towel • Fishing pole or long stick, magnet, length of yarn, 15 paper clips • Two straws (one filled with sugar), tape, balance scale • 3 marshmallows per student, 9 cotton swabs per student • Insects, hand lenses • Paper towels, cups of water, paper slips, toothpicks	• Blackline Masters (Purposeful Design, *Science Level 1*)Response to classroom questions. • Chapter reviews (Purposeful Design, *Science Level 1 Student Notebook*) • Chapter tests. • Individual projects on mammals, fish, birds and insects • Students worksheets • Student's oral presentations animal reports

21. understand that the design of birds has led to the design of aircraft. 22. demonstrate knowledge about birds. <u>Insects</u> 23. identify an insect as having three main body parts and six legs. 24. identify the eyes, mouth, antennae, and legs of an insect. 25. understand the variety of insect mouthparts, antennae, legs, and wings. 26. understand that insects change shape as they grow up. 27. understand that there is a great variety of insect species. 28. demonstrate knowledge about insects.			

Curriculum Guide for 1st Grade Science

Unit 2: Physical Science

9 weeks

S1.3,S1.5

Biblical Worldview Essential Questions
What does the Bible say about movement and work?
How can machines be used to fulfill God's purposes?

Objectives	Methods	Resources	Assessment
The students will Movement 1. recognize movement in their world. 2. understand some ways that things move. 3. understand that vibrations make sound and help us to hear. 4. understand that some substances move more quickly than others. 5. demonstrate knowledge of how some things move. Machines 6. relate to how machines make work easier. 7. understand that the wheel and inclined plane help make work easier. 8. understand that the lever and the pulley help make work easier. 9. demonstrate an understanding of some ways that machines make work easier.	• Lecture • Guided class discussion • Group reading • Blackline Masters • What is Vibrating activity • Inclined Planes activity	• Teacher and student text (Purposeful Design, *Science Level 1*) • Blackline Masters (Purposeful Design, *Science Level 1*) • Four empty 35mm film canisters, jelly beans, rice, paper clips, seeds, tuning fork, small container of water • Rulers, pencils, small balls, straws, tissue boxes, small paper cups, erasers, marshmallows, toy cars, cardboard strip	• Blackline Masters (Purposeful Design, *Science Level 1*)Response to classroom questions. • Chapter reviews (Purposeful Design, *Science Level 1 Student Notebook*) • Chapter tests. • Student made pinwheel project • Oral presentation of their simple machine

Curriculum Guide for 1st Grade Science

Unit 3: Earth and Space Science
4 weeks
S1.5, S1.6

Biblical Worldview Essential Questions
How does God provide for our needs?
What does the Bible say about seasons?
God created the heavens and the Earth. What does this tell us about God?
How does our knowledge of space affect our view of God?

Objectives	Methods	Resources	Assessment
The students will Seasons 1. learn that the seasons occur at approximately the same time every year. Students will become aware of the characteristics of each season. 2. study some seasonal changes in plants. 3. study examples of how some animals are affected by seasons. 4. study the affect of seasons on people. 5. study states of matter and temperature. 6. understand evaporation and dissolving of substances. 7. learn about the water cycle, clouds, precipitation, and storms. 8. understand how technology can help people prepare for different kinds of weather. 9. demonstrate an understanding of the seasons. Space 10. discover what causes day and night. The students will understand what causes shadows to change. 11. identify where space is and become familiar with ways to observe space. 12. discover the eight planets that travel in orbits around the sun. They will become aware of the phases of the moon. 13. discover that constellations are groups of stars that form patterns. 14. study several events in the history of space exploration. 15. learn about inventions made because of space science. 16. demonstrate an understanding of Earth, moon, planets, space, stars, and sun concepts.	• Lecture • Guided class discussion • Group reading • Blackline Masters • Seed activity • Ice/water Comparison activity • What Dissolves? activity • Making a Cloud activity • Sun/earth Size activity	• Teacher and student text (Purposeful Design, *Science Level 1*) • Blackline Masters (Purposeful Design, *Science Level 1*) • Orange, apple, avocado, acorns, hand lenses • Clear plastic cups, ice cubes, water • Spray bottle, water, paper towels, salt, clear plastic cups, spoons, sand, masking tape • Glass, hot water, ice cubes, sealable plastic bag • Pea, beach ball	• Blackline Masters (Purposeful Design, *Science Level 1*)Response to classroom questions. • Chapter reviews (Purposeful Design, *Science Level 1 Student Notebook*) • Chapter tests. • Activites/Season project • My Space Report

Curriculum Guide for 1st Grade Science

Unit 4: Life Science: Human Body

9 weeks

S1.1, S1.4, S1.5

Biblical Worldview Essential Questions
How does the design of our bodies show us that God is purposeful in His designs?
How can we honor God with our bodies?

Objectives	Methods	Resources	Assessment
The students will Teeth 1. recognize that God designed teeth and that there are three basic jobs teeth allow people to do. 2. learn about sets of teeth and parts of a tooth. 3. learn about types of teeth. 4. understand the importance of keeping teeth healthy. 5. identify the work of a dentist. 6. demonstrate an understanding of the parts of a tooth and how to care for their teeth. Bones and Muscles 7. learn that bones give people a shape and help people to move. 8. learn how bones protect the body 9. understand that the skeleton is made of bones. They will recognize specific names of some bones. 10. learn ways to keep bones healthy. 11. understand that muscles and joints help people move. 12. demonstrate an understanding of the function of bones and muscles. Heart and Blood 13. learn that the heart pumps blood. 14. discover the shape of their heart and where it is located. 15. learn how cuts heal. 16. learn ways to keep a healthy heart. 17. demonstrate an understanding of the heart and blood. Lungs and Air 18. learn that people need oxygen and acquire it by breathing. 19. discover parts of the body that	• Lecture • Guided class discussion • Group reading • Blackline Masters • Functions of a Kitchen Tool activity • Types of Teeth activity • Taking Care of Teeth activity • Number of Bones activity • Stethoscope activity • Blood Vessels activity • Windpipe activity • Balloons and Bubbles activity	• Teacher and student text (Purposeful Design, *Science Level 1*) • Blackline Masters (Purposeful Design, *Science Level 1*) • Fork, spoon, measuring cup, potato masher, cheese grater • Mirrors, latex gloves • Latex gloves, two bowls, chocolate frosting, chopped peanuts, toothbrush, water, floss, hard-boiled egg, container, cola • Straws • Paper cups, paper towel tubes, tape • Eyedroppers, cups of water, straws, tape • Paper towel tube, pipe cleaners • Small paper cups, water, bubble solution, tiny plastic rings, newspaper	• Blackline Masters (Purposeful Design, *Science Level 1*)Response to classroom questions. • Chapter reviews (Purposeful Design, *Science Level 1 Student Notebook*) • Chapter tests. • Body puzzles • What I ate chart • Food Groups poster • Disease report

help in breathing. 20. learn how some living things take in air. 21. learn some things, other than breathing, that lungs help people do. 22. study the importance of keeping their lungs healthy. 23. understand the dangers of smoking 24. learn life-saving tips. 25. demonstrate an understanding of lungs, breathing, and air. <u>Stomach and Food</u> 26. see examples of the origin of some foods. 27. learn that food gives people energy to work and grow. 28. apply knowledge of the Food Guide Pyramid. 29. identify some organs of the digestive system and the function of each. 30. demonstrate an understanding of food and what happens to it in the body.			