Course Blocks

Kindergarten Science

Dear teacher,

Science, especially for the younger students, should rely heavily on observation and discussion. Many times children notice things that adults miss, but likewise, many times adults can clarify the questions that children have. As such, both teacher and child are able to be scientists together.

Enjoy your study of God's creation!

News forum

Week 1

Topics:

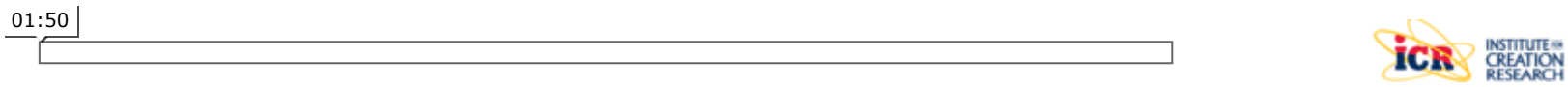
- Creation
- Days of Creation

Textbook reference and written work:

- Read Genesis 1

Suggested Daily Schedule:

- Day 1: Talk about each day of creation and where we see the things that were created
  - Make a list of the things you talk about- you will go exploring in the coming weeks!
    - There are many different ways to make this list: Click **here** for a pre-made chart
- Day 2: Look again at your list
  - Is there anything you want to add?
  - Draw a picture of as many of the things on your list as you can. Feel free to use as many sheets of paper as you want!
  - Bonus video:
  - https://vimeo.com/222692365



  - **That's a Fact - Creation Days** from **Institute for Creation Research** on **Vimeo**.

    Genesis says that God created the universe in six days. But some people question what the word “day” means! What is a creation day?

Week 2

Topics:

- Light and Dark
- Day and Night

Textbook reference and written work:

- Read Genesis 1. After you are done, reread vs. 3-5

Suggested Daily Schedule:

- Day 1: Talk about light and dark.
  - Questions to discuss:
    - Where do you see light?
    - Where is it dark?
    - How do you make the dark no longer dark?
  - Explore: Find a room or other place that is dark. Figure out how to make the room light (turn on the light, turn on a flashlight, light a candle, etc.)
- Day 2: Talk about day and night
  - Questions to discuss: (Feel free to extend this line of questioning, ex. who works at night, what animals or insects do you see at night, etc.)
    - How do you know it is day?
    - How do you know it is night? (Be careful with this one, especially if your kids go to bed before the sun goes down in the summer! We don't want to be responsible for youngster logic lobbying for a later bedtime because it isn't dark.)
    - What do we do during the day?
    - What do we do at night?
  - Explore: If desired, let your child stay up later one night to observe the outdoors at night (even if just through a house or car window). The next day, have him draw what he remembers seeing.

Week 3

Topics:

- Sky

Words to Remember:

-

Textbook reference and written work:

- Genesis 1:6-8

Materials:

- Sky Log
- Bowl of water
- Small mirror
- White paper
- Sunny day

Suggested Daily Schedule:

Day 1: Sky

- Explore:
  - Go outside and look at the sky during the day.
  - What do you see? (Take your time with this, especially if it is a cloudy day.)
- Discuss:
  - There are all sorts of things that we can see as it relates to the sky:
    - Color (you would be amazed at how many different colors you can observe in the sky
    - Animals (birds, insects)
    - Clouds (again, the variety of colors and shapes!)
- Explore:

- Keep a sky log for two weeks. Each day during that two weeks, go outside and make observations. Record the observations.
- Be sure to discuss day to day how things are similar or different in your observations

Day 2: Why is the sky blue (or not blue)?

- Read: Why is the sky blue? (see below)
- Discuss:
  - When is the sky blue?
  - When is the sky not blue? (sunset, sunrise, storms)
- Explore: If desired, let your child stay up later one night to observe the sunset. The next day, have him draw what he remembers seeing.
- Explore more:
  - Place the bowl of water near a sunny window or outside
  - Hold the mirror partially in the water and point the reflection to the white paper
  - What do you see on the paper? (a rainbow)

Why is the sky blue?

Week 4

Topics:

- Sky
- Clouds

Words to Remember:

- Cloud (ORIGIN Old English clūd‘mass of rock or earth’; probably related to clot.)
- Water vapor
- Fog
- Cirrus: High-altitude clouds; cloud forming wispy filamentous tufted streaks (ORIGIN early 18th cent. (in the sense ‘tendril’): from Latin, literally ‘a curl.’)
- Cumulus: Mid-altitude clouds; a cloud forming rounded masses heaped on each other above a flat base at fairly low altitude. (ORIGIN mid 17th cent. (denoting a heap or an accumulation): from Latin,‘heap.’)
- Stratus: Low-altitude clouds; cloud forming a continuous horizontal gray sheet, often with rain or snow. (ORIGIN early 19th cent.: modern Latin, from Latin, literally ‘strewn,’ past participle of sternere .)

Textbook reference and written work:

- Genesis 1:6-8

Materials:

- Sky Log
- Cloud pictures
  - Fog
  - Cirrus clouds
  - Cumulus clouds
  - Stratus clouds
- Empty 2-liter bottle with cap
- Matches
- Water

Suggested Daily Schedule:

Day 1: What are clouds?

- Explore:
  - Go outside and look for clouds. Sometimes clouds are everywhere, but sometimes clouds are few and far between.
  - How can this be?
- Discuss:
  - Three things are needed for clouds to form:
    - water vapor (water in the form of gas)
    - dust, smoke, etc.
    - a drop in air pressure
  - Sometimes these three things come together very near the ground. We call this cloud on the ground fog.
  - Some clouds are still low, but much higher than fog. We call these clouds stratus clouds. These clouds tend to be gr
    and contain rain or snow.

    - The clouds higher than stratus clouds are cumulus clouds.
- Explore:
    - Look at the cloud pictures.
    - Practice the names of the kinds of clouds and being able to correctly identify the kinds of clouds.
    - As you continue your sky log, note the kinds of clouds you see.

Day 2: How is a cloud formed?

- Review: What are the three things needed for a cloud to form? (water vapor, dust/smoke/particle of some sort, and drop in air pressure)
- Explore:
    - Go outside and observe the clouds. (If there aren't clouds, looking them up on the Internet is a viable second option) What different shapes do you see? As you point out the shapes, be sure to practice the type of cloud you see
- Explore more: Make a cloud
    - Place a small amount of warm water (an inch or two) in a plastic bottle.
    - Put the cap on the bottle.
    - Slowly squeeze hard and then release the sides of the bottle.
    - What happens? (Generally nothing, but condensation may form as the water vapor cools)
    - Remove the cap.
    - Light a match. Hold it near the opening of the bottle and then drop it in the bottle.
    - Place the cap on the bottle to trap some smoke (it is okay if some escapes- you don't want too much smoke)
    - Squeeze the bottle.
    - What happens? (everything clears)
    - Release the bottle (this is the drop in air pressure)
    - What happens? A cloud forms!
    - Repeat the squeezing to form and dissipate the cloud.
    - Here is a video demonstrating a similar activity:

Week 5

Topics:

- Land
- Continent
- Island
- Peninsula

Words to Remember:

- Continent: any of the world's continuous expanses of land (ORIGIN mid 16th cent. (denoting a continuous tract of land): from Latin terra continens ‘continuous land.’)
- Island: a piece of land surrounded by water (ORIGIN Old English īegland, from īeg‘island’ (from a base meaning ‘watery, watered’) + land.)
- Peninsula: a piece of land almost surrounded by water (ORIGIN mid 16th cent.: from Latin paeninsula, from paene ‘almost’ + insula ‘island.’)
- Isthmus: a narrow strip of land with sea on either side, forming a link between two larger areas of land (ORIGIN mid 16th cent.: via Latin from Greek isthmos .)

Textbook reference and written work:

- Genesis 1:9

Materials:

- Globe/World map

Suggested Daily Schedule:

Day 1: Continents

- Read:
  - Genesis 1:9
- Discuss:
  - God did multiple things on Day 3, but the first thing He did was make dry ground appear. This dry ground was called land.
  - The largest pieces of land in the world are called continents. There are 7 continents.
- Explore:
  - Look at a map or globe.
  - Find each of the continents:
    - Africa
    - Antarctica
    - Asia
    - Australia
    - Europe
    - North America
    - South America
  - What do you observe about continents? (they are big, etc.)

Day 2: Land ho!

- Read:
  - Genesis 1:9
- Discuss:
  - Land can take many shapes, sizes, and colors.
  - Some land touches water.
    - Island
    - Peninsula
    - Isthmus
- Explore:
  - Look at a globe or map of the world (or world atlas)
  - Look for islands. How do you know they are islands? (they are surrounded by water)
    - Examples: Greenland, Hawaii,
  - Look for peninsulas. How do you know they are peninsulas? (they are mostly surrounded by water)
  - Look for isthmuses. How do you know they are isthmuses? (it is a piece of land with water on both sides that connects two larger pieces of land)

Week 6

Topics:

- Land
- Hill
- Mountain
- Plateau
- Valley

Words to Remember:

- Hill: a naturally raised area of land, not as high or craggy as a mountain (ORIGIN Old English hyll, of Germanic origin; from an Indo-European root shared by Latin collis and Greek kolōnos ‘hill.’)
- Mountain: a large natural elevation of the earth's surface rising abruptly from the surrounding level (ORIGIN Middle English: from Old French montaigne, based on Latin mons, mont- ‘mountain.’)
- Plateau: an area of relatively level high ground (ORIGIN late 18th cent.: from French, from Old French platel, diminutive of plat ‘level.’)
- Valley: a low area of land between hills or mountains, typically with a river or stream flowing through it (ORIGIN Middle English: from Old French valee, based on Latin vallis, valles)

Textbook reference and written work:

- Genesis 1:9

Materials:

- Topographical Globe/World map
  - Here is an online topographical map
- Wet sand or other material that can be molded into landforms

Suggested Daily Schedule:

Day 1: Topography

- Read:
  - Genesis 1:9
- Discuss:
  - It is amazing how frequently God's creation is spoken of in Scripture and hymnody.
  - Psalm 24, Psalm 50, Psalm 65, and Psalm 98 (among others) speak of hills (and sometimes mountains)
  - Psalms 72 and 90 (among others) speak of mountains
  - Psalm 23 (and others) speak of valleys
  - Pick a few (or all) of these Psalms to read. Listen for hills, mountains, and valleys.
  - Encourage students to listen for mention of God's creation in the liturgy. The Introit, Collect, Gradual, and Verse are all great candidates for hearing mention of God's creation each Lord's Day.
- Explore:
  - Look at a topographical map or globe.
    - If you use the online topographical map, you can adjust the settings so as to clearly see the mountains. Here is one option for settings:
      - In the upper left column, click Basemap and choose Terrain with labels
      - Uncheck World Topographic Map in the left column
  - Find each of the continents:
    - Africa
    - Antarctica
    - Asia
    - Australia
    - Europe
    - North America
    - South America
  - What mountains do you see? (You may zoom in to clearly see the mountains)
- Science Activity:
  - Using sand or another material, form mountains, hills, and a plateau.
  - What are the differences between them? (size, steepness, rounded, or flat tops, etc.)
  - How do you make a valley? (this is kind of a trick question as valleys can only exist in the presence of mountains and hills)

Day 2: Large land

- Read:
  - Genesis 1:9
- Discuss:
  - There are mountains, hills, and plateaus all over the world. Some mountains, hills, and plateaus are more well known than others.
- Explore:
  - Look at a globe or map of the world or the online topographical map
  - Go on a scavenger hunt for these places:
    - Africa
      - Atlas Mountains
    - Antarctica
      - Are there any mountains or hills?
    - Asia
      - Plateau of Tibet
      - Himalayan Mountains
    - Australia
      - Great Dividing Range
    - Europe
      - Alps
    - North America
      - Appalachian Mountains
      - Rocky Mountains

    - South America
        - Andes Mountains

Week 7

Topics:

- Science and Geography

Words to Remember:

- Geography: the study of the physical features of the earth and its atmosphere ORIGIN late 15th cent.: from French géographie or Latin geographia, from Greek geōgraphia, from gē ‘earth’ + -graphia ‘writing.’

Textbook reference and written work:

- Genesis 1:9

Materials:

- Topographical Globe/World map
    - Here is an online topographical map
-

Suggested Daily Schedule:

Day 1: Science and Geography

- Read:
    - Genesis 1:9
- Discuss:
    - Major Stephen H. Long
        - Who was he and what did he do?
- Explore:
    - Look at the map Major Long made
        - What do you observe?
- Discuss:
    - While this map is of Arkansas and other territories, there are many things to observe. For example, what does Long call the plains around what is now Nebraska? (The Great Desert)
    - Read the details around the map. About what can we learn in addition to geography from Long's Map? (animals, plants, climate, etc.)
    - We can use maps for learning a great variety of things!
- Science Activity:
    - Look at Tanner's Map from the same time as Long's map. Look especially at the sections in the bottom left corner. What can you learn about Science from this map?

Day 2: Maps in Science

- Read:
    - Genesis 1:9
- Discuss:
    - We use maps for many things. What are some of these things?
        - Traveling
        - Finding things
        - Looking at a new location
    - We also map things other than land. We map water and air, too!
        - What are some reasons we might map water and air? (Traveling, finding things, etc.)
- Explore:
    - Look at a globe or map of the world or the online topographical map
    - Look at a weather map
    - Look at an ocean map
- Discuss:
    - What similarities do you notice between the maps?
    - What differences do you notice between the maps?
    - What people might use the different types of maps?
    - What can we learn from maps?

Week 8

Topics:

- Water
- Salt water

Words to Remember:

- Water: a colorless, transparent, odorless, tasteless liquid that forms the seas, lakes, rivers, and rain and is the basis of the fluids of living organisms. ORIGIN Old English wæter (noun), wæterian (verb), of Germanic origin; related to Dutch water,German Wasser, from an Indo-European root shared by Russian voda (compare with vodka), also by Latin unda ‘wave’ and Greek hudōr ‘water.’
- Salt water:
- 71% of the Earth is covered with water
- Buoyancy: the ability or tendency to float in water or air or some other fluid.
- Density: the degree of compactness of a substance ORIGIN early 17th cent.: from French densité or Latin densitas, from densus ‘dense.’

Textbook reference and written work:

- Genesis 1:9
-

Materials:

- World map
- Map of the oceans of the world
- Two large clear glasses
- salt
- spoon for stirring
- small cup
- Eye dropper
- Blue crayon or colored pencil
- Fresh egg
- Glass
- Water
- Salt
-

Suggested Daily Schedule:

Day 1: Water

- Read:
  - Genesis 1:9
- Discuss:
  - Look at a map of the world or a globe
  - Find the water.
  - How much water is there?
    - 71% of the Earth is covered with water
  - Two types of water exist:
    - Saltwater
    - Freshwater
- Read: Genesis 1:20-23
  - What did God create in the waters? (creatures)
- Science activity:
  - Fresh water vs. salt water
    - This activity can take many forms. Teachers can help students make water with 3.5% salinity with filtered water so as to eliminate other minerals, but the key lesson to be learned is that there are different kinds of water.
    - Fill each glass of water with water.
    - Put 2 teaspoons of salt in one of the glasses. Stir the salt until it dissolves.
    - Have students visually observe the two glasses.
      - What is similar?
      - What is different?
    - Have the students smell the two glasses.
      - Are there any differences?

        - Have students taste the two glasses (**be sure students try only try a scant amount of salt water!**)
            - Are there any differences?
- Explore:
    - Where is salt water?
    - Look at a map of the world.
        - Find:
            - Atlantic Ocean
            - Pacific Ocean
            - Arctic Ocean
            - Indian Ocean

Day 2: Salt water

- Read:
    - Genesis 1:9
- Review:
    - Where do we find salt water?
- Explore:
    - Look again at the world map.
    - Using your blue crayon or colored pencil, color all of the salt water.
- Discuss:
    - Is there more land or water on your map?
    - Look at this map of the oceans of the world.
    - The purple lines denote where ships carry cargo all over the world. Some of these routes are newer than others. As you study history, you will learn about people like Marco Polo, Vasco de Gama, Christopher Columbus, Ferdinand Magellen, Hernan Cortez, John Smith, John Cabot, Francis Drake, Ponce de Leon, and Leif Ericson. All of these men, and others, were famous explorers. They mapped trails through the oceans so others could visit where they traveled.
    - Since the times of these explorers, people and goods have spent countless hours traveling the oceans.
- Explore:
    - The oceans are convenient methods of travel for many reasons. One of the many reasons is that boats actually float better in salt water than fresh water.
    - Why is this?
        - Put water in a glass and carefully place a fresh egg in the water. Does it sink or float?
        - Remove the egg and stir salt into the water.
        - Carefully place the egg in the salt water. Does it sink or float? (If it sinks, add more salt and try again)
    - Salt changes the density of water.
    - Greater density allows things to float more easily in water.

Week 9

Topics:

- Water
- Freshwater

Words to Remember:

- Water: a colorless, transparent, odorless, tasteless liquid that forms the seas, lakes, rivers, and rain and is the basis of the fluids of living organisms. ORIGIN Old English wæter (noun), wæterian (verb), of Germanic origin; related to Dutch water,German Wasser, from an Indo-European root shared by Russian voda (compare with vodka), also by Latin unda ‘wave’ and Greek hudōr ‘water.’
- Freshwater: of or found in fresh water; not of the sea
- Lake: a large body of water surrounded by land ORIGIN late Old English (denoting a pond or pool), from Old French lac, from Latin lacus ‘basin, pool, lake.’
- River: a large natural stream of water flowing in a channel to the sea, a lake, or another such stream ORIGIN Middle English: from Anglo-Norman French, based on Latin riparius, from ripa ‘bank of a river.’
- Creek: a stream, brook, or minor tributary of a river ORIGIN Middle English: from Old French crique or from Old Norse kriki ‘nook’; perhaps reinforced by Middle Dutch krēke; of unknown ultimate origin.

Textbook reference and written work:

- Genesis 1:9
-

Materials:

- World map

- Map of the oceans of the world
- Map of large lakes of the world
- Map of large rivers of the world
-

Suggested Daily Schedule:

Day 1: Water

- Read:
  - Genesis 1:9
- Review:
  - Look at a map of the world or a globe
  - Find the water.
  - How much water is there?
    - 71% of the Earth is covered with water
  - Two types of water exist:
    - Saltwater
    - Freshwater
- Read: Genesis 1:20-23
  - What did God create in the waters? (creatures)
- Explore:
  - When it came to salt water, we looked mainly at the oceans.
  - Look at a world map or globe
    - Aside from the big oceans, where else do you see blue?
    - What different shapes and sizes of blue do you see?
    - What are different ways you could describe the shapes and sizes? (long, short, wide, thin, etc.)

Day 2: Fresh water

- Read:
  - Genesis 1:9
- Explore:
  - Look again at the world map.
  - Using your blue crayon or colored pencil, color all of the fresh water (non-ocean).
- Discuss:
  - Lakes and rivers are the main bodies of fresh water on Earth.
    - What is a lake?
      - Be sure to note that a lake must be surrounded by land.
    - Look at the Map of large lakes of the world
    - Point out the lakes.
    - How might you describe lakes? (in the middle of land, etc.)
  - What is a river?
    - Look at the Map of large rivers of the world
    - Point out the rivers
    - How might you describe rivers? (long, crooked, etc.)
  - When we looked at oceans, we noticed that they were all big. When we look at lakes and rivers, what do you notice? (there are all different sizes, etc.)
  - Lakes and rivers are not the only names of bodies of fresh water. Have you heard of a creek? A pond? A stream? What other names of bodies of fresh water do you know?
- Explore:
  -
  - Look at a state or local map. Depending on where you live, a township or plat map could show particularly interesting detail in terms of fresh water.
  - Find streams, creeks, ponds, etc.

Week 10

Topics:

- Plants

Words to Remember:

- Plant: a living organism of the kind exemplified by trees, shrubs, herbs, grasses, ferns, and mosses, typically growing in a permanent site, absorbing water and inorganic substances through its roots, and synthesizing nutrients in its leaves by

photosynthesis using the green pigment chlorophyll. ORIGIN Old English plante‘seedling,’ plantian (verb), from Latin planta ‘sprout, cutting’ (later influenced by French plante) and plantare ‘plant, fix in a place.’

- Flower: the seed-bearing part of a plant ORIGIN Middle English flour, from Old French flour, flor, from Latin flos, flor-.
- Flower-stalks: the main body or stalk of a plant or shrub, typically rising above ground but occasionally subterranean
- Branches: a part of a tree that grows out from the trunk or from a bough
- Leaves: a flattened structure of a higher plant, typically green and bladelike, that is attached to a stem directly or via a stalk
- Stamens: the male fertilizing organ of a flower ORIGIN mid 17th cent.: from Latin, literally ‘warp in an upright loom, thread.’
- Root: the part of a plant that attaches it to the ground or to a support, typically underground, conveying water and nourishment to the rest of the plant via numerous branches and fibers

Textbook reference and written work:

- Genesis 1:9
- (Teacher) Little Green Machines
-

Materials:

- Various plants for students to touch
- Plant diagram
- Tomato
- Celery stalk with leaves attached
- Glass (sturdy enough to support a stalk of celery with leaves attached)
- Water
- Food coloring
- Carrot
- Tree leaves
-

Suggested Daily Schedule:

Day 1: Plants

- Read:
  - Genesis 1:11-13
- Discuss:
  - What sprouted from the earth? (plants, trees, etc.)
  - Plants have different parts than animals.
  - The main parts of a plant are the flower, stalk, branches, leaves, and roots.
  - Look at an example of a plant or the plant diagram and point out each main part of a plant.
- Explore:
  - If possible, take a walk outside and look for as many types of plants as possible. Have students point out the plants. Be sure to correct them if they point out something that is not a plant.
  - Upon noticing and pointing out a plant, have the student identify how he knew it was a plant using the names of the parts he just learned.

Day 2: Plants

- Read:
  - Genesis 1:11-13
- Review:
  - What are some different parts that plants have? (flower, stalk, branch, leaf, root)
- Discuss:
  - Each part of a plant has a special job.
    - Flower:
      - Look at a flower. What do you observe? (color, size, texture, etc.)
      - The job of the flower is to produce a seed. If, for example, you observe a tomato plant, you will notice after time that a yellow flower sprouts. Careful watch of that flower will reveal that the fruit grows from the flower.
      - Explore:

- If you cut open a tomato, what do you see? Seeds!
- Stalk:
  - The stalk of a plant carries food and water to the fruit and it physically supports the leaf, flower, and/or fruit.
  - Look at a stalk of celery. What do you observe?
  - Explore:
    - A stalk of celery makes it relatively easy to see how stalks carry food and water to the leaves, flowers, and/or fruit of a plant.
    - Put water and food coloring in a glass
    - Cut a thin slice (about 1/4 inch) off the bottom of the celery stalk (opposite the leaves)
    - Place the cut side of the stalk in the glass of water
    - Let the stalk sit in the glass of colored water overnight (or longer, if necessary)
    - The next day, look at the stalk of celery.
    - What do you observe?
    - How does water travel through the stalk?
    - Cut another quarter inch off the bottom of the stalk. What do you observe?
- Leaf:
  - The leaf is attached to the stem or stalk and its job is to absorb nutrients from the air (carbon dioxide), expel waste (oxygen), and create food from light (photosynthesis).
  - Take a look again at the celery leaf. Where do you see color in the leaves?
  - Look at a leaf from a tree. What do you observe?
  - Leaves are little machines that produce and distribute food for the rest of the plant.
- Root:
  - Just like a leaf absorbs nutrients, so also do roots absorb nutrients. One thing a leaf doesn't absorb is water and minerals. That is the job of roots.
  - Take a look at a carrot or the roots of another plant. What do you observe?
  - In addition to absorbing nutrients, roots also provide support.
- Explore more:
  - Read Psalm 1
  - What is important for the growth of a tree?
  - In Psalm 1, there is an analogy between man and trees. Just like a tree must be grounded firmly in soil, in what must man be firmly grounded? (God's Word)

Week 11

Topics:

- Plants and light
- Plant colors

Words to Remember:

- Plant: a living organism of the kind exemplified by trees, shrubs, herbs, grasses, ferns, and mosses, typically growing in a permanent site, absorbing water and inorganic substances through its roots, and synthesizing nutrients in its leaves by photosynthesis using the green pigment chlorophyll. ORIGIN Old English plante‘seedling,’ plantian (verb), from Latin planta ‘sprout, cutting’ (later influenced by French plante) and plantare ‘plant, fix in a place.’
- Flower: the seed-bearing part of a plant ORIGIN Middle English flour, from Old French flour, flor, from Latin flos, flor-.
- Flower-stalks: the main body or stalk of a plant or shrub, typically rising above ground but occasionally subterranean
- Branches: a part of a tree that grows out from the trunk or from a bough
- Leaves: a flattened structure of a higher plant, typically green and bladelike, that is attached to a stem directly or via a stalk
- Stamens: the male fertilizing organ of a flower ORIGIN mid 17th cent.: from Latin, literally ‘warp in an upright loom, thread.’

- Root: the part of a plant that attaches it to the ground or to a support, typically underground, conveying water and nourishment to the rest of the plant via numerous branches and fibers

Textbook reference and written work:

- Genesis 1:9
- (Teacher) Plants Built-in Photosynthesis Accelerators
- (Teacher) Tree Ring Dating
-

Materials:

- Various plants for students to touch
- Plant diagram
- Plants and light observations sheet
- 3 styrofoam cups
- Bean plants (or another quick-sprouting plant)
- Soil
- Water
- Permanent marker
- Paper bag or small box
- A variety of green leaves from several different types of trees (try to find several of each type if possible—such as three red maple leaves, four oak leaves, etc.)
- Small drinking glasses (one for each type of leaf) Bowls (one for each glass)
- Hot water
- Isopropyl alcohol (you may know it as clear rubbing alcohol) Plastic wrap
- Filter paper (you can use coffee filters)
- Scissors
- Pencils or pens (one for each glass)
- Tape or clothes pins
- Hiding Their True Colors

Suggested Daily Schedule:

Day 1: Plants and light

- Read:
  - Genesis 1:11-13
- Discuss:
  - Plants need various things to grow:
    - A source of nutrients (soil),
    - Water
    - Sunlight
    - Air (carbon dioxide)
- Explore:
  - Plant bean seeds in three different cups and set them where they will receive sunlight. Be sure to water them!
  - Label one cup Control, one cup Limited Light, and one cup No Light
  - Once they all sprout and have a leaf or two, leave the Control cup where it is, put the Limited Light cup under a box or paper sack for 3-4 hours in the morning, and put the No Light cup under a box or paper sack all day.
  - For four days, record observations on the Plants and light observations sheet.
- Discuss:
  - What happened to each of the plants?
  - What is a key ingredient for the growth of plants? (light)

Day 2: Plant colors

- Read:
  - Genesis 1:11-13
- Review:
  - Light, carbon dioxide, water, and nutrients are all important ingredients for plants to grow.
  - Go outside and look around/take a walk or take a drive and notice all the different colors of plants.
- Read:
  - Hiding Their True Colors
- Explore:
  - Do the activity at the bottom of the article
  - What did you observe?
- Explore more:
  - Does this activity work with non-tree leaves?

- Try it!

Week 12

Topics:

- Trees

Words to Remember:

- Tree: a woody perennial plant, typically having a single stem or trunk growing to a considerable height and bearing lateral branches at some distance from the ground. ORIGIN Old English trēow, trēo: from a Germanic variant of an Indo-European root shared by Greek doru ‘wood, spear,’ drus ‘oak.’
- Roots: the part of a plant that attaches it to the ground or to a support, typically underground, conveying water and nourishment to the rest of the plant via numerous branches and fibers
- Trunk: the main woody stem of a tree as distinct from its branches and roots
- Branches: a part of a tree that grows out from the trunk or from a bough
- Twig: a slender woody shoot growing from a branch or stem of a tree or shrub.
- Flower: the seed-bearing part of a plant, consisting of reproductive organs (stamens and carpels) that are typically surrounded by a brightly colored corolla (petals) and a green calyx (sepals)
- Fruit: the sweet and fleshy product of a tree or other plant that contains seed and can be eaten as food

Textbook reference and written work:

- Genesis 1:9
- (Teacher) Da Vinci Formula Explains Tree Growth
- (Teacher) Tree Ring Dating

Materials:

- Common leaf picture
-
-
-
-

Suggested Daily Schedule:

Day 1: Trees

- Read:
  - Genesis 1:11-13
- Discuss:
  - What sprouted from the earth? (plants, trees, etc.)
  - Plants have different parts than animals.
  - The main parts of a tree are the roots, trunk, branches and twigs, leaves, buds, flowers and fruit.
  - Using the Words to Remember, discuss the job or function of each part of a tree.
  - Look at a tree and point out each main part of the tree.
- Explore:
  - If possible, take a walk outside and look for as many types of trees as possible. Have students point out the trees. Be sure to correct them if they point out something that is not a tree.
  - Upon noticing and pointing out a tree, have the student identify how he knew it was a plant using the names of the parts he just learned.

Day 2: Trees

- Read:
  - Genesis 1:11-13
- Review:
  - What are some different parts that trees have? (flower, stalk, branch, leaf, root)
- Discuss:
  - Each part of a tree has a special job. This week and next we will explore these parts.
    - Roots:
      - Think back to what you learned about plant roots. Tree roots also have the job of absorbing nutrients.
      - Explore:
        - The Bible speaks of tree roots. So also does a very famous Advent hymn. LSB 357 lists the "O Antiphons" after the hymn. The "O Antiphon" for December 19 speaks of the Root of Jesse.
        - This antiphon comes from Isaiah 11:1-5 and 10-11. What are the different tree parts mentioned in the hymn, antiphon, and Scripture passage?

        - For an extra challenge, discuss how Jesus could be described as both the Root of Jesse and a Branch that comes forth from the stump of Jesse. Feel free to follow the imagery back to not only the job of the tree parts, but also how that imagery shows us what God has done for us through Christ!
    - Trunk:
        - The trunk of a tree is similar to the stem of a plant: it provides support and transports nutrients.
        - Explore:
            - Look for a tree that has been cut down or ask a friend/neighbor that uses a wood burning furnace if you can look at some recently chopped wood.
            - Look for the rings on the wood. Traditionally, people thought that counting rings on a tree told the age of the tree. We can certainly learn about the age of a tree by counting its rings, but we also know that depending on environmental conditions, sometimes a tree produces no ring or multiple rings in a year.
            - While counting rings may not give us an accurate age of a tree, we can still marvel at God's creation and how He preserves His creation!

Week 13

Topics:

- Trees

Words to Remember:

- Tree: a woody perennial plant, typically having a single stem or trunk growing to a considerable height and bearing lateral branches at some distance from the ground. ORIGIN Old English trēow, trēo: from a Germanic variant of an Indo-European root shared by Greek doru ‘wood, spear,’ drus ‘oak.’
- Roots: the part of a plant that attaches it to the ground or to a support, typically underground, conveying water and nourishment to the rest of the plant via numerous branches and fibers
- Trunk: the main woody stem of a tree as distinct from its branches and roots
- Branches: a part of a tree that grows out from the trunk or from a bough ORIGIN Middle English: from Old French branche, from late Latin branca ‘paw.’
- Twig: a slender woody shoot growing from a branch or stem of a tree or shrub.
- Flower: the seed-bearing part of a plant, consisting of reproductive organs (stamens and carpels) that are typically surrounded by a brightly colored corolla (petals) and a green calyx (sepals)
- Fruit: the sweet and fleshy product of a tree or other plant that contains seed and can be eaten as food

Textbook reference and written work:

- Genesis 1:9
- (Teacher) Da Vinci Formula Explains Tree Growth
- (Teacher) Tree Structure and Biology
- (Teacher) Tree Ring Dating

Materials:

- Common leaf picture
- Various fruit (both edible and non-edible)
-

Suggested Daily Schedule:

Day 1: Trees

- Read:
    - Genesis 1:11-13
- Review:
    - The main parts of a tree are the roots, trunk, branches and twigs, leaves, buds, flowers and fruit.
    - Using the Words to Remember, discuss the job or function of each part of a tree.
    - Look at a tree and point out each main part of the tree.
- Discuss:
    - Each part of a tree has a special job.
        - Branches and twigs:
            - Branches grow from the trunk of the tree
            - Twigs grow from the branches of the tree.
            - The trunk, branches, and twigs all have the same layers (look at the diagram in Tree Structure and Biology)
            - Like the trunk, the branches and twigs store food and regulate chemicals that are moved throughout the tree, both up from the roots and down from the leaves.
- Explore:
    - There are several interesting websites for tree identification. Below are two examples:

        - While these sites do not contain ads, the philosophy of the hosting organizations may not be in line with that of Wittenberg Academy. However, the tools they provide are a good resource for teachers and students.
    - Discover Life
    - What tree is that?

Day 2: Trees

- Read:
    - Genesis 1:11-13
- Review:
    - What are some different parts that trees have? (fruit, stalk, branch, leaf, root)
- Discuss:
    - Each part of a tree has a special job.
        - Fruit:
            - When you think of fruit, of what do you think? (apple, orange, banana, etc.)
            - What about acorn or pine cone?
            - While much of the fruit we think of is fruit we eat, some trees produce fruit that we do not eat. Remember that the main purpose of the fruit is to contain the seed and the purpose of the seed is to produce more plants.
            - Explore:
                - Find the fruit of a tree (acorn, pinecone, apple, banana, etc.)
                - Can you find the seeds within the fruit?
                - How are the seeds different and similar?
                - How does God provide for the further production of these plants? In other words, what are some of the different ways the seeds are protected?
                - Enjoy the fruit of God's creation!

Week 14

Topics:

- Sun
- Moon
- Stars

Words to Remember:

- Sun: the star around which the earth orbits. The sun is the central body of the solar system. It provides the light and energy that sustains life on earth, and its position relative to the earth's axis determines the terrestrial seasons. The sun is a star of a type known as a G2 dwarf, a sphere of hydrogen and helium 870,000 miles (1.4 million km) in diameter that obtains its energy from nuclear fusion reactions in its interior, where the temperature is about 15 million°C. The surface is a little under 6,000°C. ORIGIN Old English sunne, of Germanic origin; related to Dutch zon and German Sonne, from an Indo-European root shared by Greek hēlios and Latin sol.
- Moon: the natural satellite of the earth, visible (chiefly at night) by reflected light from the sun. The earth's moon orbits the earth in a period of 29.5 days, going through a series of phases from new moon to full moon and back again during that time. Its average distance from the earth is some 239,000 miles (384,000 km) and it is 2,160 miles (3,476 km) in diameter. The bright and dark features that outline the face of "the man in the moon" are highland and lowland regions, the high regions being heavily pockmarked by craters due to the impact of meteorites. The moon has no atmosphere, and the same side is always presented to the earth. ORIGIN Old English mōna, of Germanic origin; related to Dutch maan and German Mond, also to month, from an Indo-European root shared by Latin mensis and Greek mēn 'month,' and also Latin metiri 'to measure' (the moon being used to measure time).
- Star: a fixed luminous point in the night sky that is a large, remote incandescent body like the sun.
  True stars were formerly known as the fixed stars, to distinguish them from the planets or wandering stars. They are gaseous spheres consisting primarily of hydrogen and helium, there being an equilibrium between the compressional force of gravity and the outward pressure of radiation resulting from internal thermonuclear fusion reactions. Some six thousand stars are visible to the naked eye, but there are actually more than a hundred billion in our own Galaxy, while billions of other galaxies are known. ORIGIN Old English steorra, of Germanic origin; related to Dutch ster,German Stern, from an Indo-European root shared by Latin stella and Greek astēr .
- Orbit: the curved path of a celestial object or spacecraft around a star, planet, or moon, especially a periodic elliptical revolution.
- Galaxy: a system of millions or billions of stars, together with gas and dust, held together by gravitational attraction. ORIGIN late Middle English (originally referring to the Milky Way): via Old French from medieval Latin galaxia, from Greek galaxias (kuklos)'milky (vault),' from gala, galakt- 'milk.'

Textbook reference and written work:

- Genesis 1:14-19

- (Teacher) Not Just Another Star
- (Teacher) A Perfect Partner

Materials:

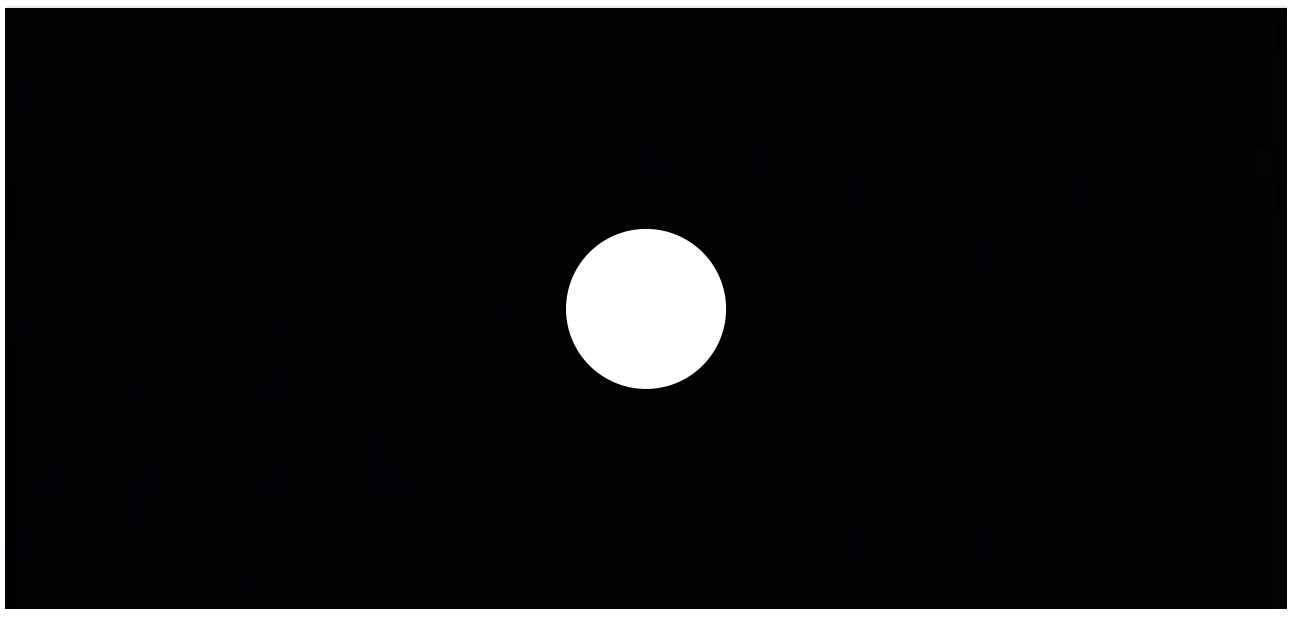
- Solar System
-

Suggested Daily Schedule:

Day 1: The Sun and other stars

- Read:
  - Genesis 1:14-19
- Review:
  - People need energy from the sun, but they need help to be able to use it. God provided one way for people to use the sun's energy through plants.
    - View: Plants

Plants Answers in Genesis.mp4



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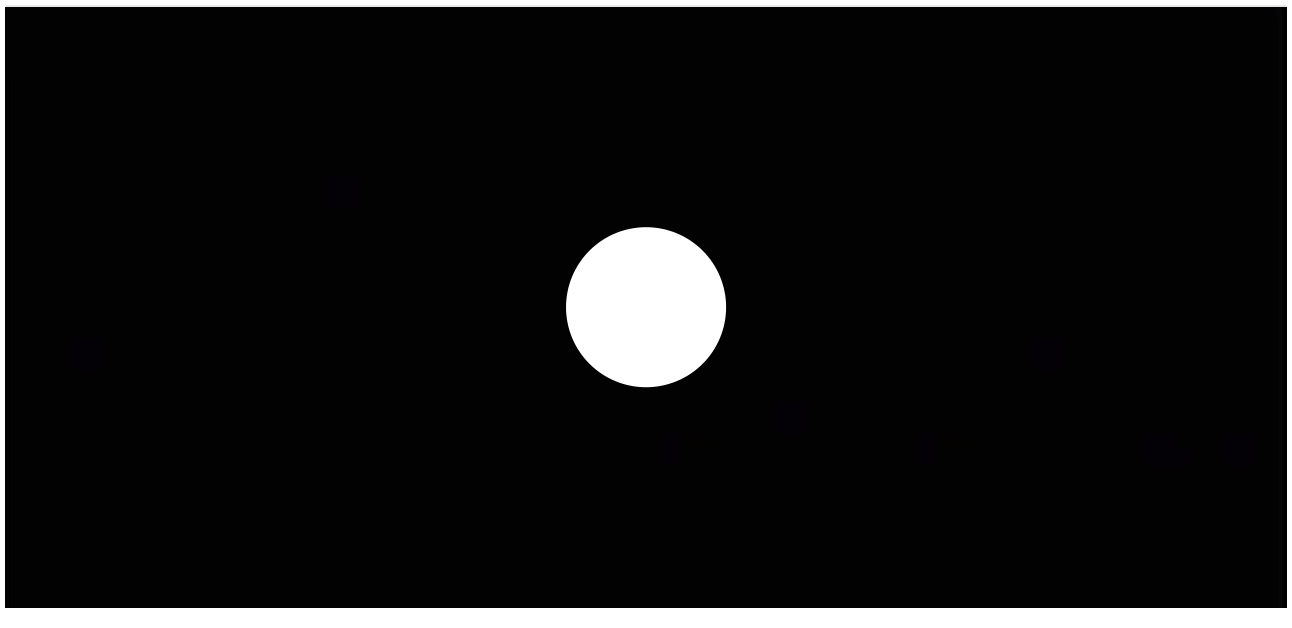
- Discuss:
  - What does the sun provide? (heat, light, energy, etc.)
  - When do you see the sun? (during the day)
  - Think about your Geography lessons about day and night. How does the sun impact day and night? (Feel free to let students use a globe and lamp to demonstrate their answer.)
  - We will speak more about the sun next week when we discuss seasons.
- Explore:
  - Look at this graphic of the Solar System.
  - Where is Earth in relation to the Sun?
    - We will learn more about the other planets next week.
  - View:
    - The Sun:

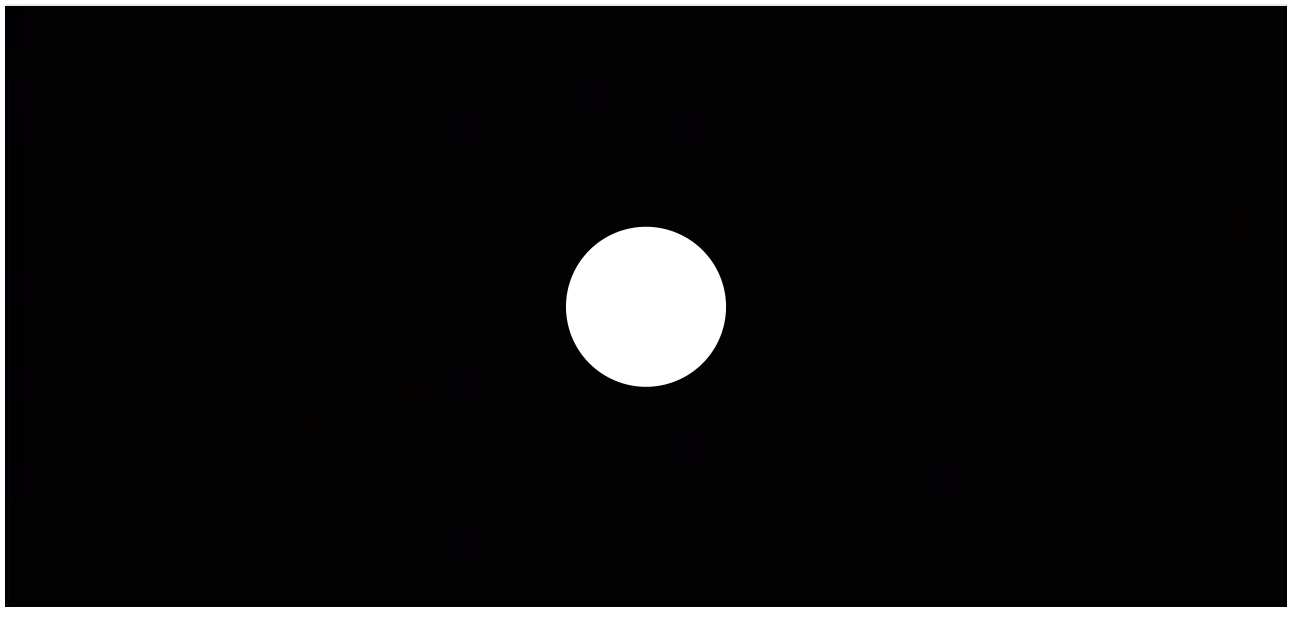
Sun Answers in Genesis.mp4



- Discuss:
  - What is a star?
  - What is a galaxy?

- View: Stars
-

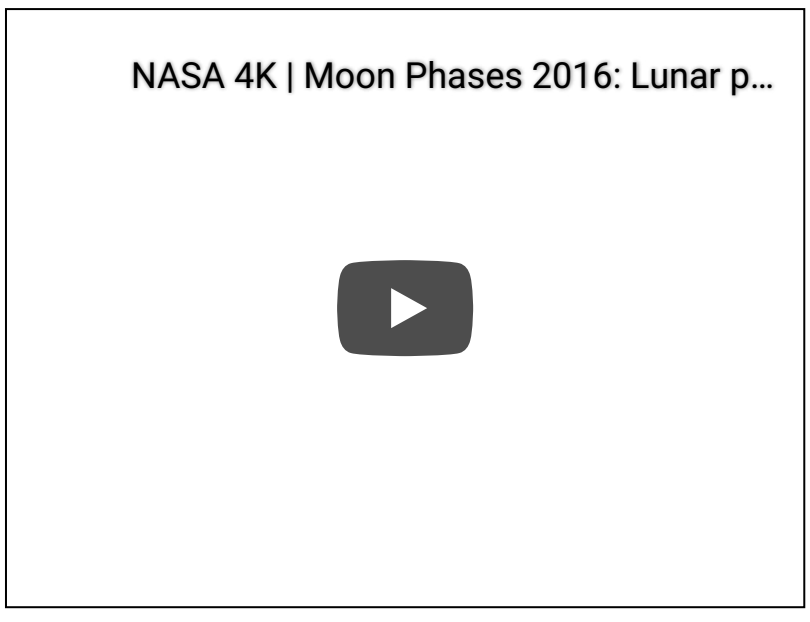
Stars Answers in Genesis.mp4



- Discuss:
  - How are stars different than the Sun?
- Explore:
  - The night sky is extremely fascinating!
  - Here are some star charts for those in the Northern Hemisphere.
    - If you go to http://www.skymaps.com/downloads.html you can access sky charts for other regions of Earth. Check back for other months!

Day 2: Moon

- Read:
  - Genesis 1:14-19
- Review:
  - What is the sun?
  - What are stars?
- Discuss:
  - The moon, unlike the Sun or stars, does not emit it's own light. Instead, the moon reflects the sun's light.
  - Just as Earth orbits around the sun, the moon orbits around Earth.
  - What is an orbit?
  - Because of the moon's orbit, we can only see parts of the moon at a time.
  - Look at this Phases of the Moon chart. Many calendars also have phases of the moon included on them. Be sure to note the phases as they changes throughout the days and months!
- View: Phases of the moon



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Week 15

Topics:

- Planets
- Seasons

Words to Remember:

- Sun: the star around which the earth orbits. The sun is the central body of the solar system. It provides the light and energy that sustains life on earth, and its position relative to the earth's axis determines the terrestrial seasons. The sun is a star of a type known as a G2 dwarf, a sphere of hydrogen and helium 870,000 miles (1.4 million km) in diameter that obtains its energy from nuclear fusion reactions in its interior, where the temperature is about 15 million°C. The surface is a little under 6,000°C. ORIGIN Old English sunne, of Germanic origin; related to Dutch zon and German Sonne, from an Indo-European root shared by Greek hēlios and Latin sol.
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- Galaxy: a system of millions or billions of stars, together with gas and dust, held together by gravitational attraction. ORIGIN late Middle English (originally referring to the Milky Way): via Old French from medieval Latin galaxia, from Greek galaxias (kuklos)'milky (vault),' from gala, galakt- 'milk.'
- Season: each of the four divisions of the year (spring, summer, autumn, and winter) marked by particular weather patterns and daylight hours, resulting from the earth's changing position with regard to the sun. ORIGIN
  Middle English: from Old French seson, from Latin satio(n-) 'sowing,' later 'time of sowing,' from the root of serere 'to sow.'
- Planet: a celestial body moving in an elliptical orbit around a star. The planets of the solar system are either gas giants—Jupiter, Saturn, Uranus, and Neptune—or smaller rocky bodies—Mercury, Venus, Earth, and Mars. Pluto, formerly regarded as the ninth planet, was in 2006 reclassified as a dwarf planet. The minor planets, or asteroids, orbit mainly between the orbits of Mars and Jupiter. Only Earth and Venus have substantial atmospheres. ORIGIN
  Middle English: from Old French planete, from late Latin planeta, planetes, from Greek planētēs 'wanderer, planet,' from planan 'wander.'

Textbook reference and written work:

- Genesis 1:14-19
- (Teacher) Moving with the planets
- (Teacher) Church Year p. 5-7
- (Teacher) By the light of the moon
- (Teacher) Telling Time with the Stars

Materials:

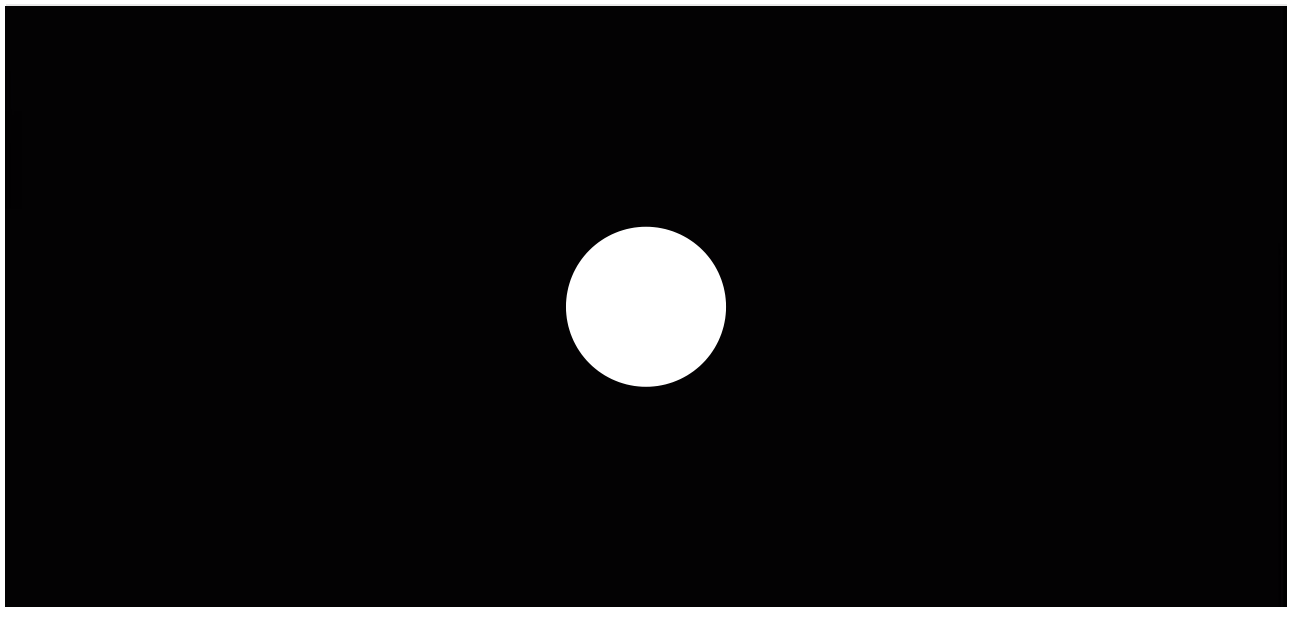
- Solar System
- Seasons
-

Suggested Daily Schedule:

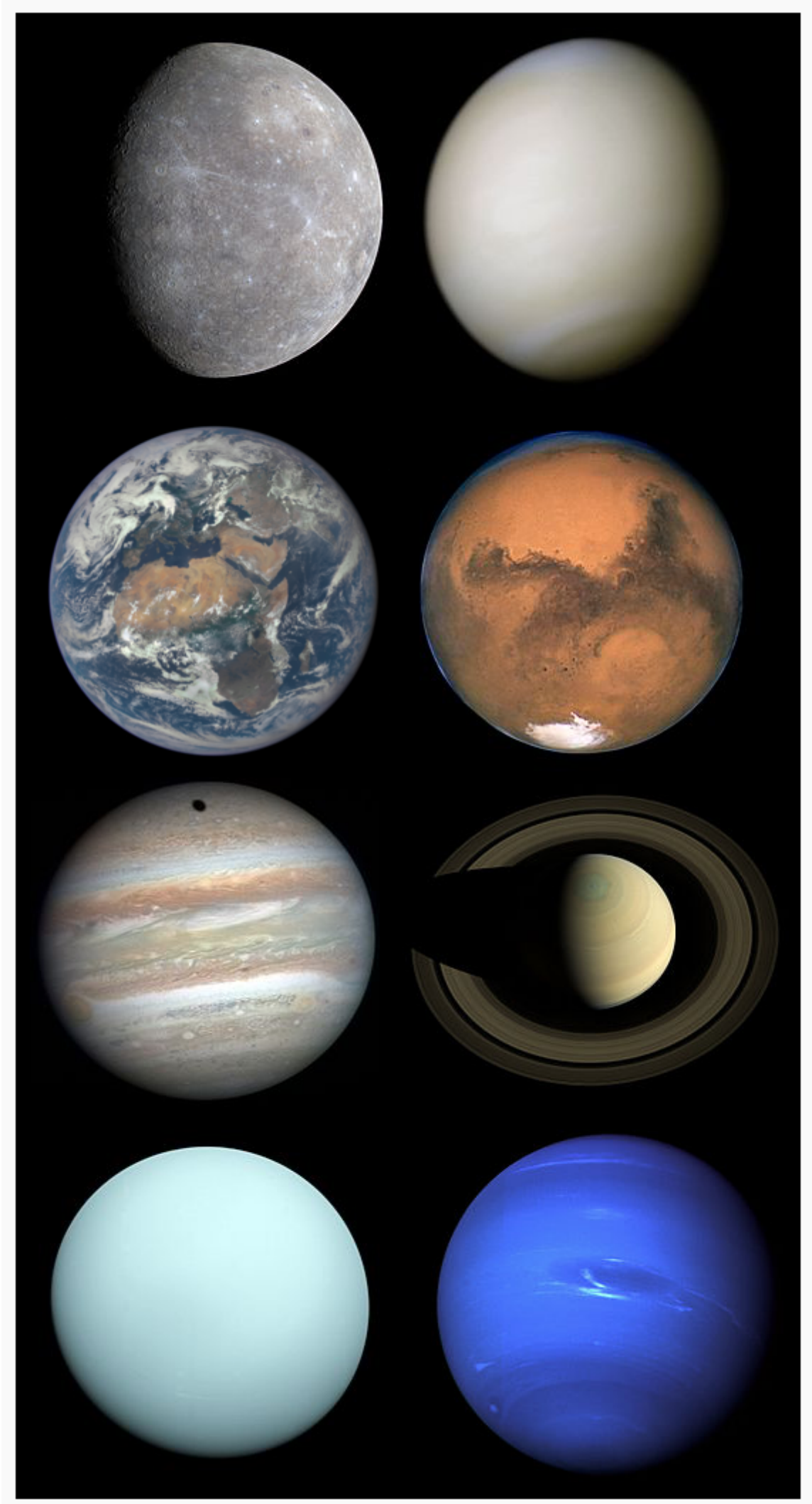
Day 1: Planets

- Read:
  - Genesis 1:14-19
- Review:
  - Earth is one planet in our solar system.
  - Earth was uniquely created by God to support life. Not only does Earth have the perfect atmosphere for sustaining life, it is also the perfect distance from the Sun to sustain life.
- View: Solar System

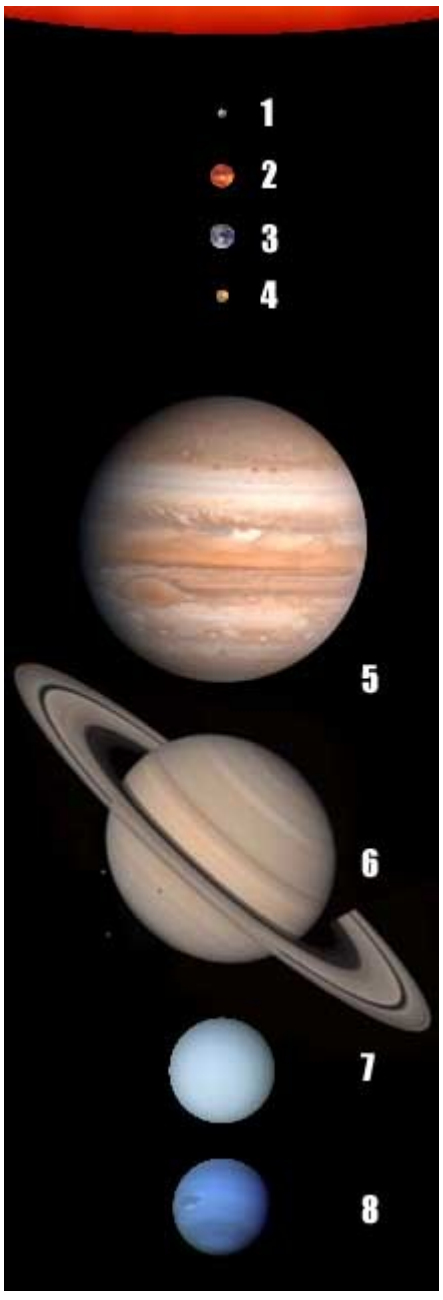
Solar System Answers in Genesis.mp4



- Discuss:
  - What are some of the different things in our solar system? (planets, stars, comets, etc.)
- Explore:
  - Look at this graphic of the Solar System.
  - The order of the planets is as follows (the picture shows the planets in order, just not to scale): Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune



- Here are the planets to scale:



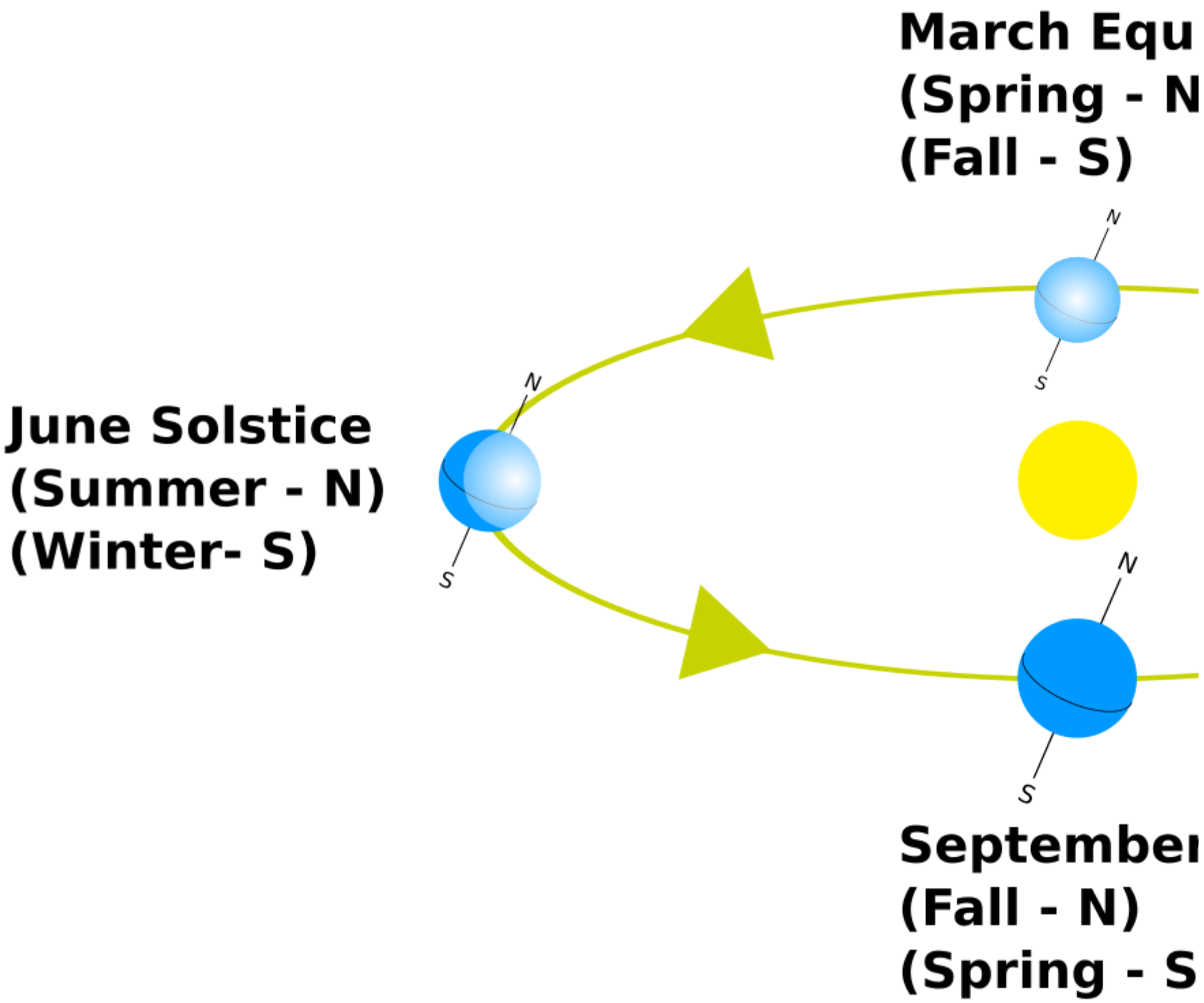
- View:
  - 

Day 2: Seasons

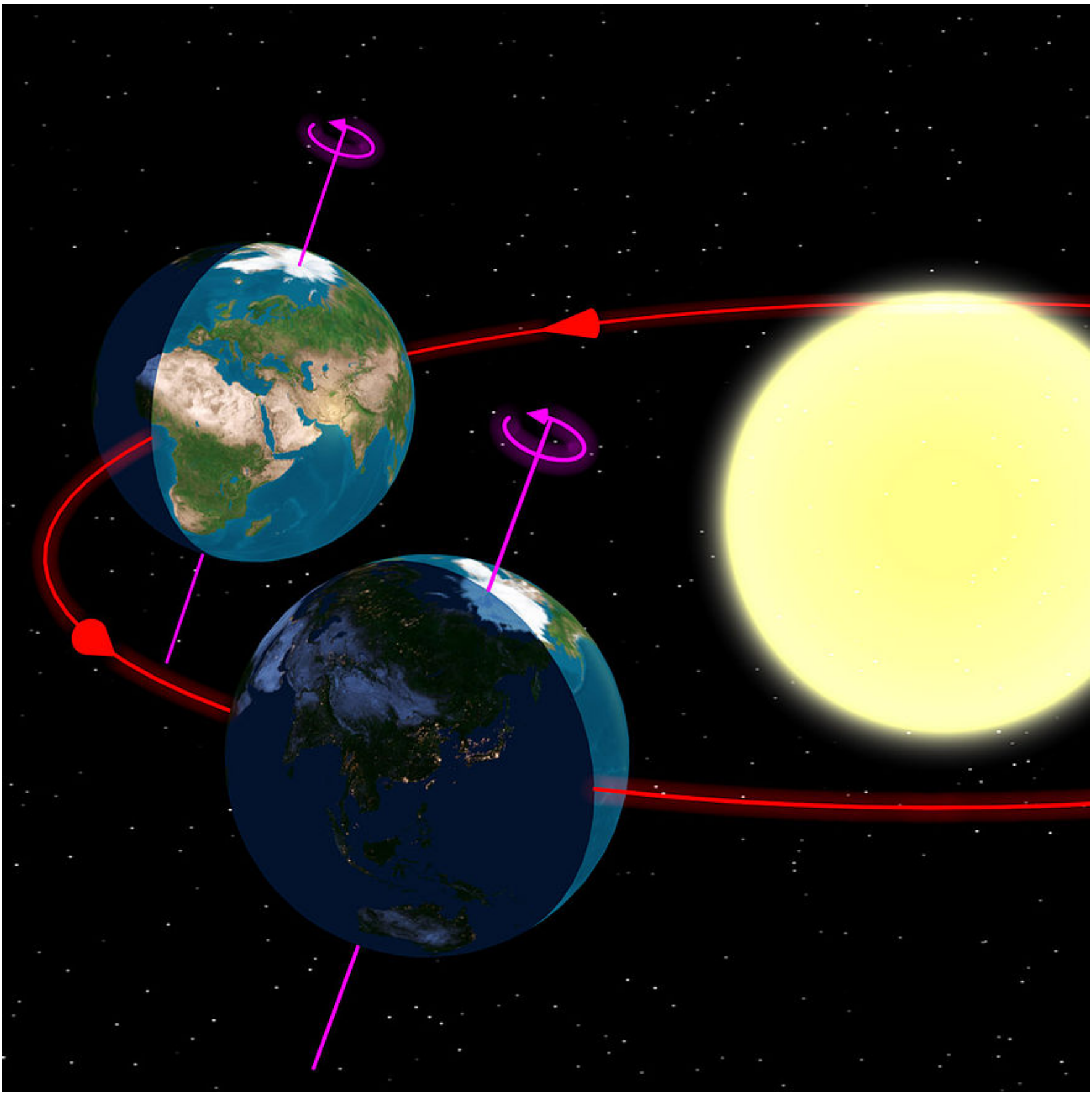
- Read:
  - Genesis 1:14-19
- Review:
  - What is a planet?
  - What are the names of the planets in our solar system?
  - What is their order from the sun?
- Discuss:
  - Genesis 3:14 says, "And let them be for signs and for seasons, and for days and years..." in reference to the sun and moon.
  - Many factors impact when the seasons, days, and years change.
  - Here is one interesting set of facts:

Motion	Speed
Rotation on axis	1,000 miles/hour (at equator)
Revolution around the sun	66,600 miles/hour
Solar-system travel around the galaxy	500,000 miles/hour
Overall motion of the galaxy	1.1 million miles/hour

  - Additionally, the earth revolves around the sun once each year and makes a full rotation on its axis every 24 hours (one day).
  - There are four seasons on earth and those seasons are determined by the rotation, tilt, and position of the earth in relatio to the sun.



- The N stands for Northern Hemisphere and the S stands for Southern Hemisphere.
- Note the tilt of the earth and the position of the earth in relation to the sun.
- Here is another graphic on which you can see the continents:



- The sun is not the only celestial body that impacts the seasons. In fact, the Church Year is also impacted by the heavenly bodies. The date of Easter is determined by the moon. Read Church Year p. 5-7. Take a look at LSB p. xxiii. Now, find a calendar with the phases of the moon. Does Easter fall the Sunday after the full moon that occurs on or after the spring equinox on March 21?
- See if you can confirm the date and timing of Easter in relation to the full moon for other years

- Explore:
  - Have each student complete a Seasons Book.

Week 16

Topics:

- Fish
- Saltwater fish

Words to Remember:

- Fish: a limbless cold-blooded vertebrate animal with gills and fins and living wholly in water
- Saltwater: of or found in salt water; living in the sea

Textbook reference and written work:

- Genesis 1:20-22
- (Teacher)

Materials:

- Pacific Salmon

- Fish Identification website (this site does have ads)
-

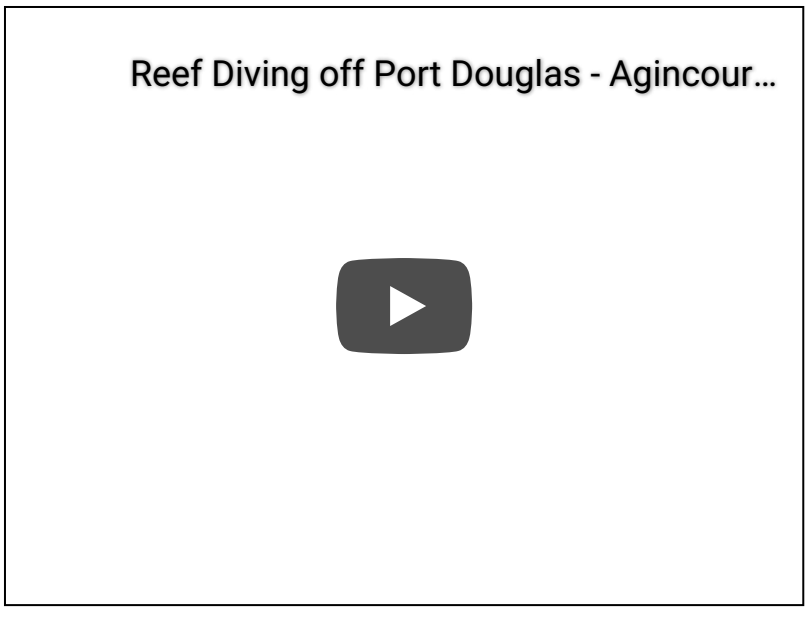
Suggested Daily Schedule:

Day 1:

- Read:
  - Genesis 1:20-22
- Review:
  - Using the World Map, color all the salt water (for our purposes, let us stick with oceans).
- Discuss:
  - Different animals live in different places.
  - While all fish live in water, some fish live in salt water and some live in fresh water.
- Explore:
  - This website allows students to explore types of saltwater fish. Click on the pictures of the fish to learn more about the different types of fish.
    - Allow students the opportunity to marvel at the uniqueness of all the fish!
    - How are the fish similar? How are they different?

Day 2:

- Read:
  - Genesis 1:20-22
- Review:
  - What is salt water?
  - What are saltwater fish?
  - What were some things you observed about saltwater fish when you explored them?
- Discuss:
  - The video we are going to watch today shows many different kinds of saltwater fish swimming.
  - What do you observe about where they live and swim?
- View:
  -



- Explore:
  - Most saltwater fish would die if they were put in fresh water. However, there is a unique fish that can survive in both fresh water and salt water!
  - Read about the Pacific Salmon.
  - Here is a picture of pacific salmon.

Week 17

Topics:

- Fish
- Freshwater fish

Words to Remember:

- Fish: a limbless cold-blooded vertebrate animal with gills and fins and living wholly in water
- Freshwater: of or found in fresh water; not of the sea

Textbook reference and written work:

- Genesis 1:20-22
- (Teacher)

Materials:

- Pacific Salmon
- Fish Identification website (this site does have ads)
-

Suggested Daily Schedule:

Day 1:

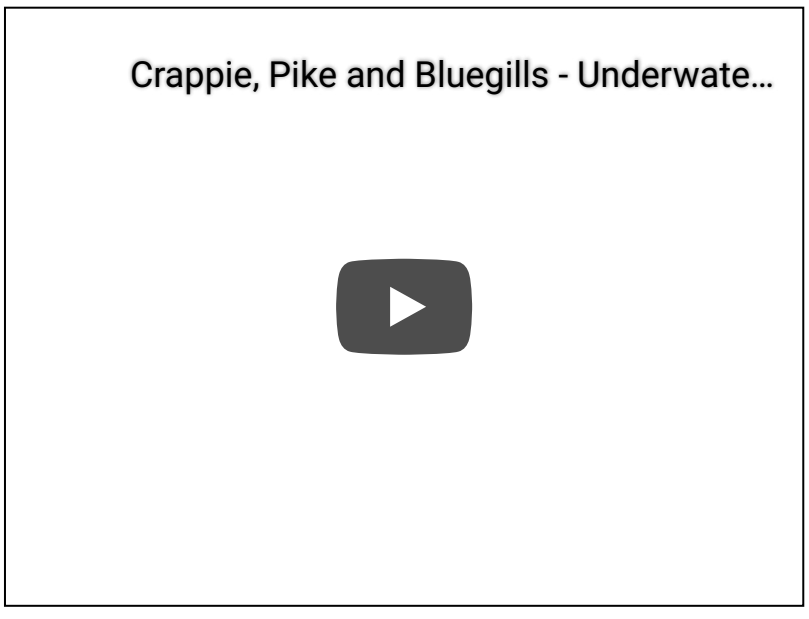
- Read:
  - Genesis 1:20-22
- Review:
  - Using the Map of North America, or a more regional or local map, color all the fresh water (lakes and rivers will probably be the focus).
- Discuss:
  - Different animals live in different places.
  - While all fish live in water, some fish live in salt water and some live in fresh water.
- Explore:
  - This website allows students to explore types of freshwater fish. Click on the pictures of the fish to learn more about the different types of fish.
    - Allow students the opportunity to marvel at the uniqueness of all the fish!
    - How are the fish similar? How are they different?

Day 2:

- Read:
  - Genesis 1:20-22
- Review:
  - What is fresh water?
  - What are freshwater fish?
  - What were some things you observed about freshwater fish when you explored them?
- Explore:
  - If you are able, visit a local lake, river, stream, or creek to watch fish.
  - What differences and similarities do you see in the fish?
  - What differences and similarities do you see between these freshwater fish and the saltwater fish you observed last week?
- View:
  - Jumbo Perch Ice Fishing

  -
  - Yellow Perch

  -
  - Crappie, Pike, and Bluegills



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- Discuss:
  - What did you observe about the freshwater fish?
  - Think back to the videos (or re-watch the videos) of the saltwater fish. What did you observe about the environments in which the fish lived?
  - What did you observe about the environments in which the fish lived?
  - What similarities and differences exist between the two environments?

Week 18

Topics:

- Birds

Words to Remember:

- Bird: a warm-blooded egg-laying vertebrate distinguished by the possession of feathers, wings, and a beak and (typically) by being able to fly.

Textbook reference and written work:

- Genesis 1:20-22
- (Teacher) Bird's Eye View
- (Teacher) Bird's Eye View

Materials:

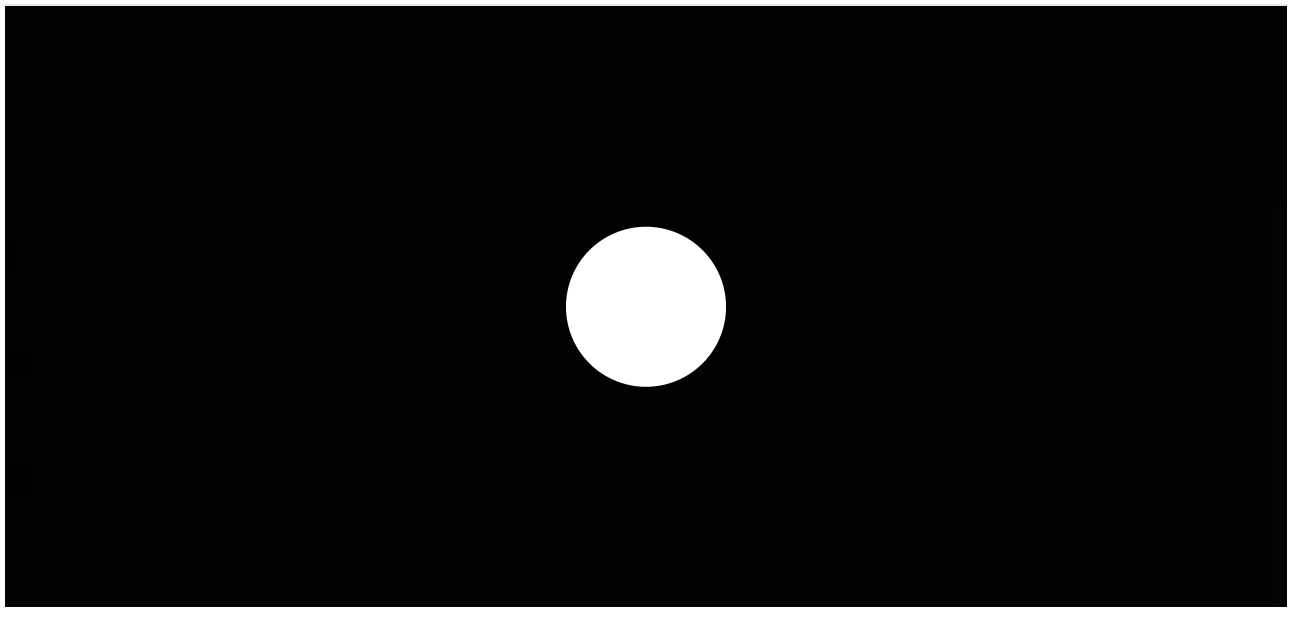
- Bird's Eye View
-
- Eagle sightings
- Hummingbird sightings
- Robin sightings

Suggested Daily Schedule:

Day 1:

- Read:
  - Genesis 1:20-22
- Review:
  - What are some of the characteristics of fish that you remember? What did you observe about different sizes, shapes, and colors of fish?
- View:

Birds Answers in Genesis.mp4



- Discuss:
  - Just as God created different kinds of fish, he also created different kinds of birds. Just as different fish live in different places, so also do different birds live in different places.
  - Thank back to the video (or watch it again). What are some things you observed about birds? What is special about bird bones? What is special
  - How are birds different from fish?
- Explore:
  - Maps are always a fascinating way to give context to observations.
  - Look at the following maps of bird sightings. What can we learn from these maps? Where have birds been seen? Have any of these birds been seen around where you live?
    - Eagle sightings
    - Hummingbird sightings
    - Robin sightings
- Explore more:
  - There is a lot of information on the learner.org site. The site certainly does not have a Christian worldview, but it does have some fascinating maps that are worth checking from time to time.

Day 2:

- Read:
  - Genesis 1:20-22
- Review:
  - What have you observed about birds thus far?
- Read:
  - Bird's Eye View
- Discuss:
  - What is special about bird eyes?
- Explore:
  - There are many birds we could observe and explore. Three common types of birds are robins, hummingbirds, and bald eagles.
  - Look at these pictures.
    - Eagle portrait
    - Eagle flying
    - Robin
    - Hummingbird I
    - Hummingbird II
    - Hummingbird III
  - These are all birds. What similarities do you observe between the birds? What differences do you observe between the birds?
  - What do you observe about their eyes? Beaks? Wings? Coloring? Feet?
    - Note: if you have an ipad or similar device, zoom in on the pictures as you make observations.
- View:
  - Eagle catching salmon

- Robin singing, eating a worm

- Hummingbird

- Explore more:
  - This is a live stream of hummingbirds. They are hit and miss, but worth checking from time to time.

- Discuss:
  - What did you observe about the birds?
  - How do these kinds of birds eat?
  - What did you observe about the environments in which the birds live?
  - What similarities and differences exist between the way the birds eat and where they live?
  - In the video of the different hummingbirds, what different colors did you see? (both the birds and the flowers)

Week 19

Topics:

- Birds

Words to Remember:

- Bird: a warm-blooded egg-laying vertebrate distinguished by the possession of feathers, wings, and a beak and (typically) by being able to fly.
- Beak: a bird's horny projecting jaws; a bill.
- Talon: a claw, especially one belonging to a bird of prey. ORIGIN late Middle English (denoting any heellike part or object): from Old French, literally ‘heel,’ from Latin talus ‘ankle bone, heel.’
- Wing: any of a number of specialized paired appendages that enable some animals to fly
- Migrate: move from one region or habitat to another, especially regularly according to the seasons ORIGIN early 17th cent. (in the general sense ‘move from one place to another’): from Latin migrat- ‘moved, shifted,’ from the verb migrare .

Textbook reference and written work:

- Genesis 1:20-22
- (Teacher) Bird's Eye View
- (Teacher)

Materials:

- Beaks and Bills diagram
- Bird Observation Chart
- Migration routes map
- 2 liter soda bottle with cap
- 3 or 4 wooden dowels (or unsharpened pencils) each 3/16 of an inch wide and about 8 inches long
- A nail or other sharp object for punching holes in the bottle
- String or wire, 16 to 18 inches long
- Household funnel (optional)
- Bird feeder instructions

Suggested Daily Schedule:

Day 1:

- Read:
  - Genesis 1:20-22
- Review:
  - What are some of the characteristics of birds that you remember? What did you observe about different sizes, shapes, and colors of birds?
- Discuss:
  - Words to remember:
    - Beak
    - Talon
    - Wing
  - Using the bird pictures from last week, point out the beaks, talons, and wings of the birds.
- Explore:
  - Look at and discuss the Beaks and Bills diagram.
  - What are the differences between the different kinds of beaks and bills?
  - How does the shape of the beak or bill relate to the specific purpose for each bird's beak and bill?
- Explore more:
  - Go outside and listen and watch for birds. If there are not many birds around your house or if it is too noisy to hear birds, you may need to go to a wooded or meadow area or a park.
  - Using the Bird Observation Chart, fill in as many categories as possible for each bird you observe.
  - If desired, after your bird observation time, you can then use the What Bird or similar site to identify the bird. There are also phone apps that accomplish the same.
    - Begin with the Location Common option to choose the state (or country) in which you live and click the Next arrow.
    - Continue with more options and clicking the next arrow until you have narrowed it down to only a few or potentially one bird name. Fill the name on your chart.
    - For an extra challenge, begin with the Location Common option as usual, then click the Song or Call Live option to see if you can identify the birds singing the songs you heard.

Day 2:

- Read:

    - Genesis 1:20-22
- Review:
    - What are different ways that we order our days and years? (Church Year, Feasts and Commemorations, calendar, clocks, seasons, night and day, etc.)
- Discuss:
    - Words to remember:
        - Migrate
    - Depending on where you live, you might observe large (or small) groups of birds arriving or leaving at different times of the year. Just as our lives are ordered by God's design, so also are the lives and movements of birds (and other animals).
- Explore:
    - Generally, when you go for a ride in the car, on what do you drive? (road, highway, etc.)
    - The same is true for birds. There are certain routes they always take when they migrate.
    - Look at this Migration routes map of a few species of birds. Do any of the routes pass near you?
    - What oceans do they cross?
    - What continents do they cross?
- Explore More:
    - This animated map shows the migration of birds in the Western Hemisphere. Each dot represents a different species of bird.
    - This map shows each species represented by a number instead of a dot and the corresponding key for the numbers is below the map.
- Explore More:
    - Make a bird feeder:
        - Use the Bird feeder instructions to make a simple bird feeder

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Week 20

Topics:

- Flightless Birds

Words to Remember:

- Bird: a warm-blooded egg-laying vertebrate distinguished by the possession of feathers, wings, and a beak and (typically) by being able to fly.
- Beak: a bird's horny projecting jaws; a bill.
- Talon: a claw, especially one belonging to a bird of prey. ORIGIN late Middle English (denoting any heellike part or object): from Old French, literally ‘heel,’ from Latin talus ‘ankle bone, heel.’
- Wing: any of a number of specialized paired appendages that enable some animals to fly
- Migrate: move from one region or habitat to another, especially regularly according to the seasons ORIGIN early 17th cent. (in the general sense ‘move from one place to another’): from Latin migrat- ‘moved, shifted,’ from the verb migrare .

Textbook reference and written work:

- Genesis 1:20-22
- (Teacher) Penguins
- (Teacher) Emperor of the Ice
- (Teacher) Flightless Birds
- (Teacher) The dodo bird

Materials:

- Flightless Birds Excerpt
- Emperor of the Ice

Suggested Daily Schedule:

Day 1:

- Read:
    - Genesis 1:20-22
- Review:
    - What are some of the characteristics of birds that you remember? What did you observe about different sizes, shapes, and colors of birds?
- Discuss:
    - While most birds can fly, God did create some birds that cannot fly.
- Explore:
    - Look at and discuss the Flightless Birds Excerpt.
    - What do you notice about these birds? Compare their beaks, body shapes, wings, feet, and colors with birds that do fly.

    - What similarities and differences do you notice?
- Explore more:
    - Ostrich Farm

Day 2:

- Read:
    - Genesis 1:20-22
- Review:
    - What is unique about flightless birds? What can some flightless birds do that flying birds cannot?
- Explore:
    - Penguins are a very popular flightless bird.
    - Read Emperor of the Ice.
    - Where do Emperor penguins live?
    - What is unique about Emperor penguins?
- View:
    - Emperor Penguins

- Discuss:
    - Animals and people do things for different reasons. The main source of this difference is that people and animals were created differently. God created man in His image and gave man dominion over the earth. (See Genesis 1-2)
    - Some people think that people and animals are the same and thus they attribute to animals human characteristics. This is called anthropomorphism and is the same thing that we do when we are writing fables. When we write fables (or read fables), the characters are given human characteristics so that we might learn lessons (the moral of the fable).
    - All that said, when we watch videos of animals, we should be in awe of how God has created them to care for their young, but we should never confuse that with thinking that animals and people are the same.
    - Watching God's creation and how God cares for the creatures should remind us that God also cares for us (Matthew 6:25-34).
    - Read the Table of Duties in Luther's Small Catechism. How does God care for children? (He provides parents) How does God care for wives? (He provides husbands) How does God care for husbands? (He provides wives) In other words, God cares for us through the people He has placed around us.

Week 21

Topics:

- Birds for food

Words to Remember:

- Bird: a warm-blooded egg-laying vertebrate distinguished by the possession of feathers, wings, and a beak and (typically) by being able to fly.
- Beak: a bird's horny projecting jaws; a bill.
- Talon: a claw, especially one belonging to a bird of prey. ORIGIN late Middle English (denoting any heellike part or object): from Old French, literally ‘heel,’ from Latin talus ‘ankle bone, heel.’
- Wing: any of a number of specialized paired appendages that enable some animals to fly
- Migrate: move from one region or habitat to another, especially regularly according to the seasons ORIGIN early 17th cent. (in the general sense ‘move from one place to another’): from Latin migrat- ‘moved, shifted,’ from the verb migrare .

Textbook reference and written work:

- Genesis 1:20-22
- (Teacher) Vocation

Materials:

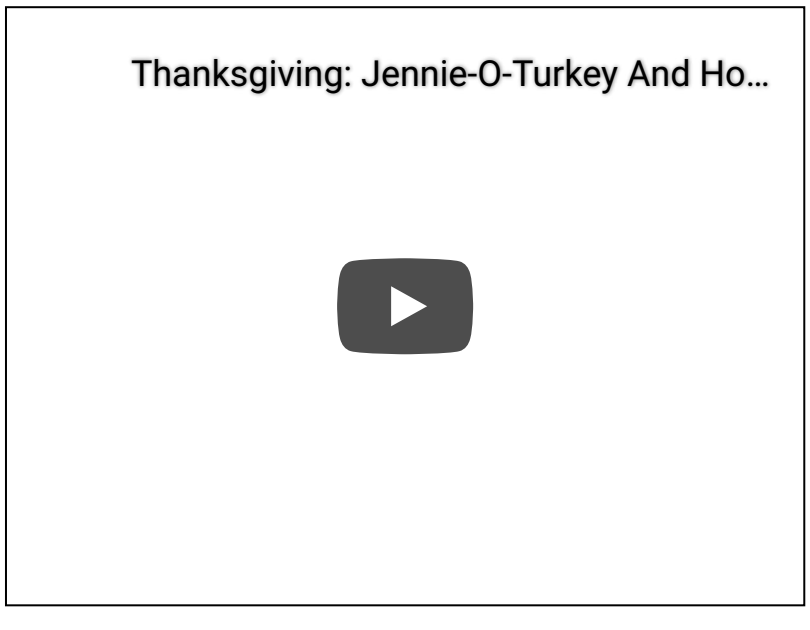
-

Suggested Daily Schedule:

Day 1:

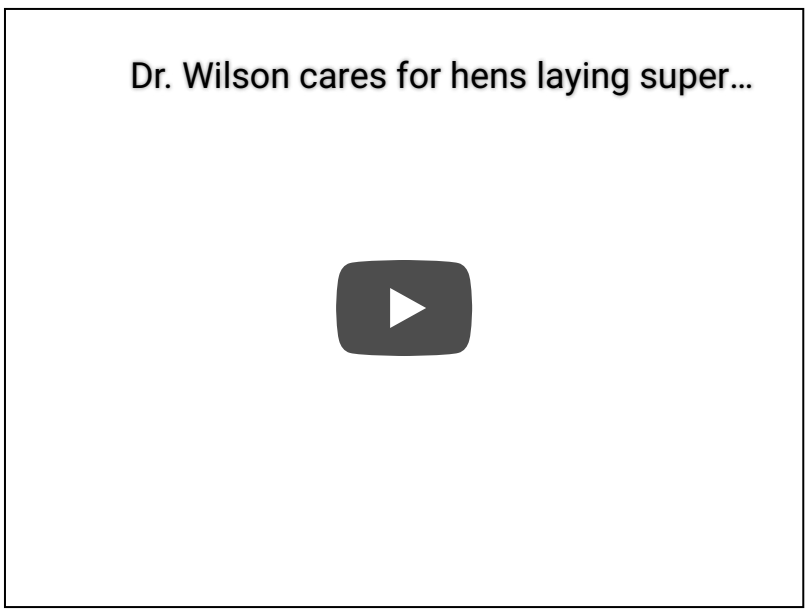
- Read:
  - Genesis 1:20-22
- Review:
  - What is a bird?
- Discuss:
  - Birds are fascinating. Some birds fly, but some birds do not fly. Some birds are brightly colored, but other birds blend in with their surroundings.
  - God also provided some birds for food.
  - Can you think of birds that people eat? (Geese, chickens, turkeys, ducks, pheasants, etc.)
  - When do people commonly eat birds? (Thanksgiving, Christmas, etc.)
  - Can you think of anything associated with birds that people eat? (eggs)
- Explore:
  - Some people hunt for their own turkey, pheasant, duck, or goose for Christmas or Thanksgiving. Other people head to the store to buy a turkey for dinner. Make a list of all the people that serve their neighbor to get that turkey to your table. (farmer, trucker, processing plant workers, grocers, etc.)
  - Here is a video that will tell you more about how turkeys get to your table:
    -

  - What did you observe in the video? After watching the video, do you need to add anyone to your list of neighbors?
- Explore more:
  - Here are a couple of other videos that show more of the processing side:
    -



Day 2:

- Read:
  - Genesis 1:20-22
- Review:
  - God gave people dominion over the earth. He also provides us with food from the plants and animals on earth. Whether it is your mom, dad, or other neighbor, God uses many people to put food on your plate.
  - What is the Fourth Petition of the Lord's Prayer and its explanation?
- Explore:
  - Sometimes we eat birds, but other times we eat their eggs. Just like turkeys, there are many people who serve their neighbors along the way to you finally getting a carton of eggs at the grocery store. Some of those many people are veterinarians.



- Explore more:
  - This video shows a bit more about the production side of eggs.

Week 22

Topics:

- Extinct animals

Words to Remember:

- Extinct: having no living members ORIGIN late Middle English (in the sense ‘no longer alight’): from Latin exstinct- ‘extinguished,’ from the verb exstinguere
- Fossil: the remains or impression of an organism preserved in petrified form or as a mold or cast in rock.

Textbook reference and written work:

- Genesis 1:24-25
- (Teacher) You Don't "Fit" Dinosaurs With the Bible
- (Teacher)
- (Teacher) Dragon Legends

Materials:

- St. George
- Fast-Formed Fossils
- 2 kitchen sponges
- 1 shallow dish
- 1 small pot
- 1 cup of water
- Epsom salt
- Food coloring
- Sauropod chart
- Sauropods Engineered for Size
- T-Rex- Fashioned to be Fearless
- Look For Fossils in Your Backyard

Suggested Daily Schedule:

Day 1:

- Read:
  - Genesis 1:24-25
- Discuss:
  - All of the animals we have studied thus far are still living. There are, however, some animals that are no longer living.
  - Define:
    - Extinct
  - Even though these animals are no longer living, we know they did live based on evidence from the past.
  - Define:
    - Fossil
  - Explore:
    - Read and discuss Fast-Formed Fossils. What are different ways fossils can form?
    - Follow the directions in the article and "fossilize" a sponge.
    - How do the "control" sponge and the "fossilized" sponge compare?
  - Discuss:
    - Fossils are one way that history is preserved and told. Another way is through written history.
- Read:
  - St. George
    - What animal does George encounter that we no longer see today?
    - Dragons are described in many stories throughout history.
- Explore More:
  - Go on a fossil hunt!
  - Read Look For Fossils in Your Backyard
    - Note: the links in the article are dead

Day 2:

- Read:
  - Genesis 1:24-25
- Discuss:
  - There are many fascinating extinct animals: Woolly Mammoth, Mastadons, Saber-tooth Tigers, Dodo birds, etc.
  - Perhaps one of the more popular extinct animals is the dinosaur. Dinosaurs were created on the Sixth Day with all the other animals. Noah took dinosaurs on the ark. Take a look at a few of the many varieties of dinosaurs.
- Read:
  - Sauropods Engineered for Size
  - T-Rex- Fashioned to be Fearless
  - What is unique about sauropods?
  - What is unique about the t-rex?
- Explore:

    - Sauropod chart
        - What do you observe about sauropods in relation to the other items illustrated on the chart?

Week 23

Topics:

- Insects

Words to Remember:

- Insect: a small arthropod animal that has six legs and generally one or two pairs of wings ORIGIN early 17th cent. (originally denoting any small cold-blooded creature with a segmented body): from Latin (animal) insectum ‘segmented (animal)’ (translating Greek zōion entomon), from insecare ‘cut up or into,’ from in- ‘into’ + secare ‘to cut.’
- abdomen: the part of the body of a vertebrate containing the digestive organs
- thorax: the middle section of the body of an insect, between the head and the abdomen, bearing the legs and wings.
- head: the front or upper part of the body of an animal

Textbook reference and written work:

- Genesis 1:24-25
- (Teacher) Metamorphosis- A Symphony of Miracles

Materials:

- Wonderful Worms
- Butterflies- Rainbow in Living Color
- Moth and Butterfly Differences
- Butterflies and Moths

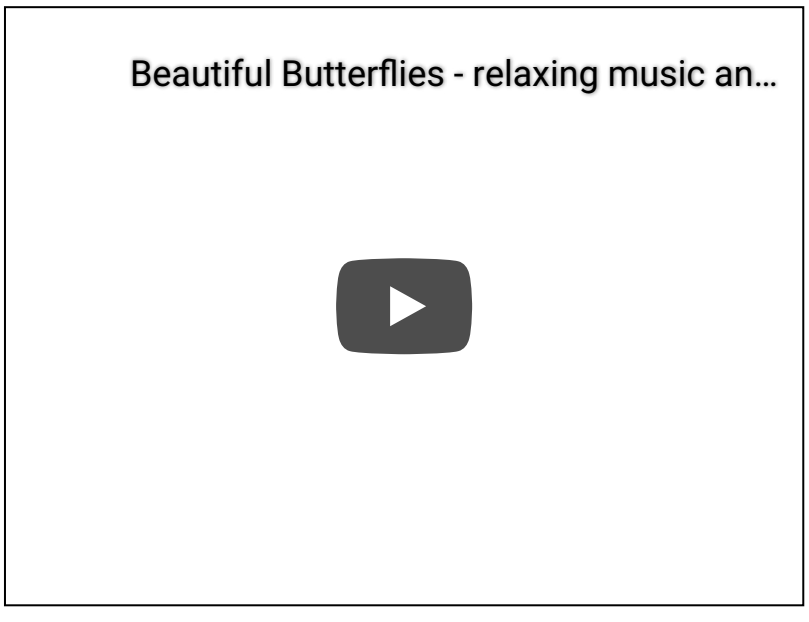
Suggested Daily Schedule:

Day 1:

- Read:
    - Genesis 1:24-25
- Review:
    - Thus far, which animals have we studied? Do you remember which animals were created on which days?
    - Bonus question: do you remember what was created each day on days one through five?
    - Of the animals we have discussed, what is the largest animal you can remember? What about the smallest animal?
    - What was the fastest animal? How about the slowest?
- Discuss:
    - Think about all the ways in which animals move. List as many as possible (roll, jump, crawl, run, slither, etc.)
    - There is a group of animals that between all of them, they might move in all of the ways you listed.
    - These animals are generally known as insects, though some animals commonly thought of as insects actually belong to other classes of animals.
- Define:
    - Words to remember:
        - Insect
- Explore:
    - If the weather allows, go outside and look at the ground (preferably soil, but a sidewalk may work, too). If you look hard enough and are patient, chances are you will see movement. What do you observe?
    - If possible, dig up a shovel of soil and look at it. Do you see any movement? What do you observe?
- Read:
    - Wonderful Worms
    - What are some of the ways worms can be of assistance to humans?
    - Are worms insects? (No)
- Explore More:
    - When you think of farming, what comes to mind?
    - This farmer in Georgia farms worms:

Day 2:

- Read:
  - Genesis 1:24-25
- Review:
  - Worms slither, roll, wriggle, or slide and those are the only ways they will ever move. Butterflies, however, start out crawling and end up flying!
- Read: Butterflies- Rainbow in Living Color
- View:
-
- Discuss:
  - What did you observe about butterflies?
- Explore:
  - There are distinct differences between butterflies and similar flying insects called moths.
  - Look at Moth and Butterfly Differences.
  - What are some of the differences and similarities between moths and butterflies?
  - This site has butterfly identification cards containing beautiful pictures and brief, but helpful, information. The cards have been compiled into one file here: Butterflies and Moths.
    - Note: The compilation file is a very large file.
- Explore more:
  - If you live in an area where butterflies are not prevalent or you have to wait for summer, here are a couple of videos to show butterflies in action:



  - What do you observe about butterflies?
  - How are butterflies different from birds?

Week 24

Topics:

- Insects

Words to Remember:

- Honeybee: a stinging winged insect that collects nectar and pollen, produces wax and honey, and lives in large communities.
- Symbiosis: interaction between two different organisms living in close physical association, typically to the advantage of both. ORIGIN late 19th cent.: modern Latin, from Greek sumbiōsis ‘a living together,’ from sumbioun ‘live together,’ from sumbios ‘companion.’

Textbook reference and written work:

- Genesis 1:24-25
- (Teacher)

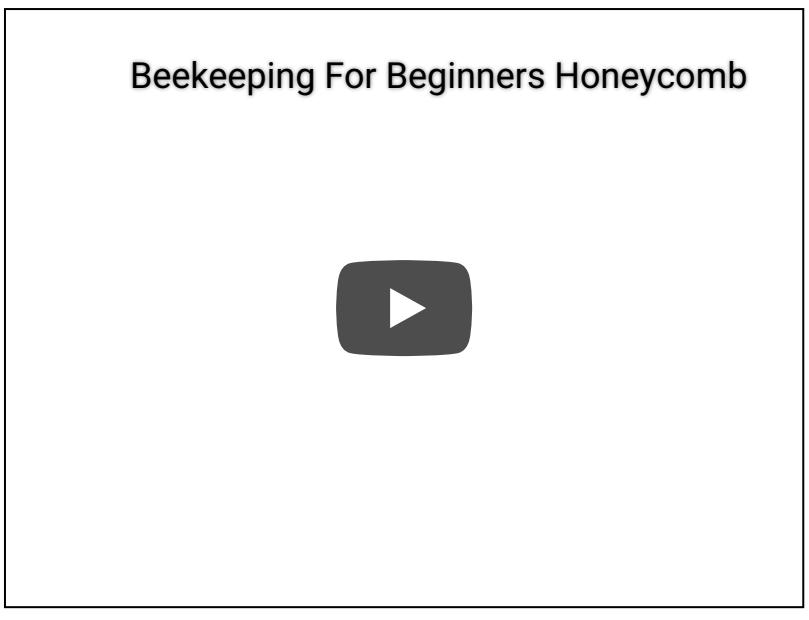
Materials:

- Honeybees
- Symbiosis- The Cooperation of Life

Suggested Daily Schedule:

Day 1:

- Read:
  - Genesis 1:24-25
- Review:
  - Thus far, which animals have we studied? Do you remember which animals were created on which days?
  - Bonus question: do you remember what was created each day on days one through five?
  - Of the animals we have discussed, what is the largest animal you can remember? What about the smallest animal?
  - What was the fastest animal? How about the slowest?
- Read:
  - Honeybees
- Define:
  - Words to remember:
    - Honeybee
- Explore:



- Discuss:

    - What do you observe about bees?
- Explore:
    - Just as when you were observing butterflies, find an area with colorful flowers.
    - If possible, visit a botanical garden/center in the Spring and observe the bees feasting on the flowers.
    - Here is a state by state list of botanical gardens. If you have a chance to visit one, be sure to enjoy the flowers along with the bees (and butterflies)!

Day 2:

- Read:
    - Genesis 1:24-25
- Discuss:
    - Insects, for the most part, are relatively small creatures. As such, they many times work with other organisms to survive. This is called symbiosis.
- Read:
    - Symbiosis- The Cooperation of Life
    - Define:
        - Symbiosis
    - How do ants and fungi get along?
- Explore:

- What do you observe about the ants?

Week 25

Topics:

- Amphibians

Words to Remember:

- Amphibian: a cold-blooded vertebrate animal of a class that comprises the frogs, toads, newts, and salamanders. They are distinguished by having an aquatic gill-breathing larval stage followed (typically) by a terrestrial lung-breathing adult stage.

  ORIGIN
  mid 17th cent. (in the sense ‘having two modes of existence or of doubtful nature’): from modern Latin amphibium ‘an amphibian,’ from Greek amphibion (noun use of amphibios ‘living both in water and on land,’ from amphi ‘both’ + bios ‘life’).

Textbook reference and written work:

- Genesis 1:24-25
- (Teacher)

Materials:

- Frogs vs. Toads
- Poison Dart Frogs- Drop Dead Gorgeous

Suggested Daily Schedule:

Day 1:

- Read:
    - Genesis 1:24-25
- Define:
    - Words to remember:
        - Amphibian
- Read:

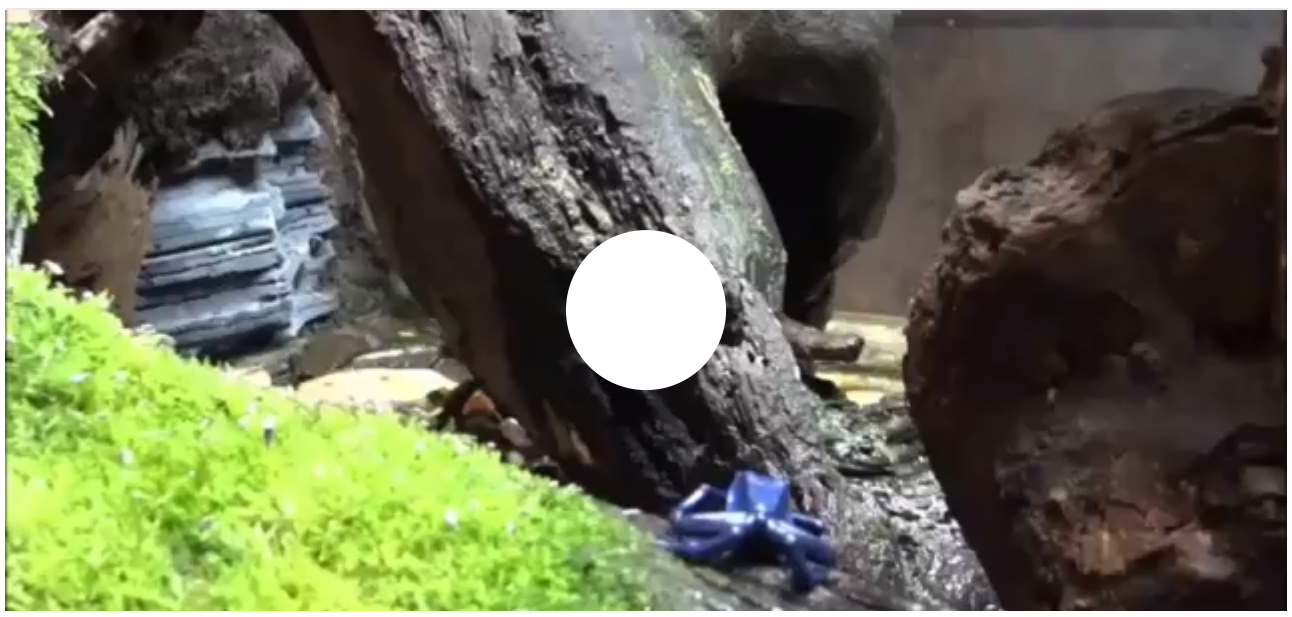
- Frogs vs. Toads
- Explore:

- Discuss:
  - What do you observe about how frogs jump?
  - What body part do they use to jump?
  - Think about other animals you have seen jump. How do frogs jump differently than other animals?

Day 2:

- Read:
  - Genesis 1:24-25
- Review:
  - What is an amphibian?
  - What are the differences between frogs and toads?
  - What are the similarities between frogs and toads?
- Read:
  - Poison Dart Frogs- Drop Dead Gorgeous
- Explore: Amphibian The Transition from Fish to Reptile (from Answers in Genesis)

Amphibian The Transition from Fish to Reptile.mp4



- Discuss:
  - What do you observe about the frogs?
  - What do they eat?
  - How do they move?
  - What colors do you observe?
  - In what sort of environment do the frogs live?

Week 26

Topics:

- Reptiles

Words to Remember:

- Reptile: a vertebrate animal of a class that includes snakes, lizards, crocodiles, turtles, and tortoises. They aredistinguished by having a dry scaly skin and typically laying soft-shelled eggs on

land. ORIGIN
late Middle English: from late Latin, neuter of reptilis, from Latin rept- ‘crawled,’ from the verb repere .

Textbook reference and written work:

- Genesis 1:24-25
- (Teacher) Defense/Attached Systems

Materials:

- Snakes Alive!
- Snapping Turtles
- Loggerhead Sea Turtle

Suggested Daily Schedule:

Day 1:

- Read:
  - Genesis 1:24-25
- Review:
  - What is an amphibian?
  - What are the differences between frogs and toads?
  - What are the similarities between frogs and toads?
- Define:
  - Words to remember:
    - Reptile
- Read:
  - Snakes Alive!
  -
- Explore:
  - http://cobras.org/north-american-snakes-us-map/ (Note: there are ads on this site)
    - Hover over a state to see how many species of snakes in the state
    - Click on the state to learn more about the snakes in that state
    - How many snake species are in the state where you live?
    - Do you know people who live in other states? How many snake species live in those states? Do any of the same snake species live in your state and the other states you explored?

Day 2:

- Read:
  - Genesis 1:24-25
- Read:
  - Snapping Turtles
  - Loggerhead Sea Turtle
- Explore:

  -
- Discuss:
  - What do you observe about the different kinds of turtles?
  - As the video plays, pause with each kind of turtle and find the country of origin or body of water mentioned in association with each turtle
  - Snakes and Turtles are both reptiles. What differences and similarities do you see in snakes and turtles?

Topics:

- Reptiles

Words to Remember:

- Reptile: a vertebrate animal of a class that includes snakes, lizards, crocodiles, turtles, and tortoises. They aredistinguished by having a dry scaly skin and typically laying soft-shelled eggs on land. ORIGIN
  late Middle English: from late Latin, neuter of reptilis, from Latin rept- ‘crawled,’ from the verb repere .

Textbook reference and written work:

- Genesis 1:24-25
- (Teacher) Defense/Attack Structure

Materials:

- Crocodile
- Alligator
- Komodo Dragon
- Chameleon
- Inland Bearded Dragon
- Tokay Gecko
- Gila Monster
- Getting Stuck

Suggested Daily Schedule:

Day 1:

- Read:
  - Genesis 1:24-25
- Review:
  - What is a reptile?
- Define:
  - Words to remember:
    - Reptile
- Read:
  - Crocodile
  - Alligator
- Discuss:
  - What are the differences between crocodiles and alligators?
- Explore:
  - Think back to the animals you discussed last week. How do crocodiles and alligators differ from those animals? How are they the same?

Day 2:

- Read:
  - Genesis 1:24-25
- Read:
  - Komodo Dragon
  - Chameleon
  - Inland Bearded Dragon
  - Tokay Gecko
  - Gila Monster
  -
- Discuss:
  - Where do these different lizards live? Find their place(s) of residence on a map or globe.
  - What differences do you see/read between the lizards? How do these differences match the differences in where they live?
- Explore:
  - Getting Stuck
- Discuss:
  - In what ways has God equipped animals and people to hold on to various things?
  - How has God's creation helped people make things that help people hold on to things? In other words, consider the 'Potential Use' section on the Getting Stuck poster. Can you think of other examples (either real or potential)?

Week 28

Topics:

- Dinosaurs

Words to Remember:

- Dinosaur: extinct reptile ORIGIN mid 19th century: from modern Latin dinosaurus, from Greek deinos ‘terrible’ + sauros ‘lizard.’
- Paleontologist: the branch of science concerned with fossil animals and plants. ORIGIN mid 19th century: from paleo- ‘of prehistoric times’ + Greek onta ‘beings’ (neuter plural of ōn, present participle of einai ‘be’) + -logy.

Textbook reference and written work:

- Genesis 1:24-25
- (Teacher)

Materials:

- Sauropods
- T. rex—Fashioned To Be Fearless
- Hypsilophodon—Least but Not Last

Suggested Daily Schedule:

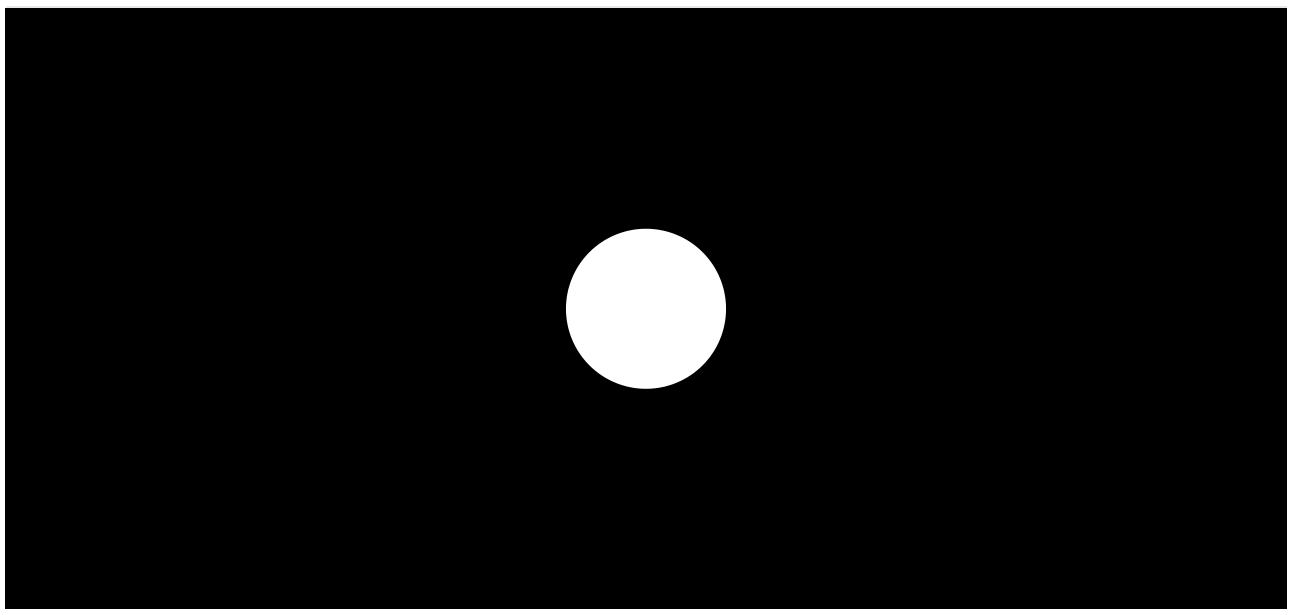
Day 1:

- Read:
  - Genesis 1:24-25
- Review:
  - What is a reptile?
- Define:
  - Words to remember:
    - Dinosaur
    - Paleontologist
- Discuss:
  - A few weeks ago, we discussed dinosaurs because they are extinct animals. Now that you have studied reptiles, let us look once again at dinosaurs.
- Read:
  - Sauropods
  - T. rex—Fashioned To Be Fearless
  - Hypsilophodon—Least but Not Last
- Discuss:
  - What characteristics have the dinosaurs in these articles that make them recognizable as reptiles?
- Explore:
  - In the Sauropods article, the Did You Know? section talks about the derivation of dinosaur names.
  - Discuss each of the names. Work on finding other words that use parts or all of these words. (Examples: Christus Rex, velocity, seismic, seismograph, superficial, brachial artery, etc.)
  - Note: these words may not come naturally to students, but if the teacher has a list of words, students may be able to match the words and then similarities in definitions can be discussed.

Day 2:

- Read:
  - Genesis 1:24-25
- Explore:
  - Scientists today are still looking for dinosaur bones so as to more fully understand dinosaurs. What is the name of scientists who look for fossils?
- Explore:
-

I Dig Dinosaurs.mp4



Week 29

Topics:

- Celebrating God’s creation in the Psalms and Biblical canticles

Words to Remember:

- Psalm: a sacred song or hymn, in particular any of those contained in the biblical Book of Psalms and used in Christian and Jewish worship ORIGIN Old English (p)sealm, via ecclesiastical Latin from Greek psalmos ‘song sung to harp music,’ from psallein ‘to pluck.’
- Canticle: Sung liturgical text, usually drawn from the Bible
- Matins: Morning service of psalms, readings, and prayers.

Textbook reference and written work:

- Genesis 1:24-25
- (Teacher)

Materials:

- Psalm 104
- All You Works of the Lord (LSB 931)
- Venite from Matins (LSB 220)
- Creation Days Drawing Chart

Suggested Daily Schedule:

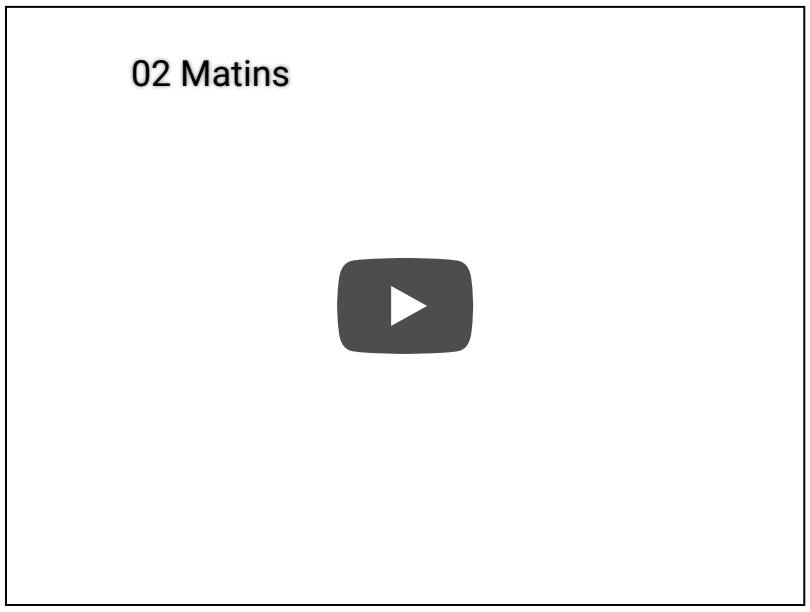
Day 1:

- Review:
  - What did God create each day of Creation Week?
- Define:
  - Words to remember:
    - Psalm
    - Canticle
    - Matins
- Discuss:
  - God’s people have always praised God for His creation
- Read:

    - Psalm 104
- Discuss:
    - How does Psalm 104 mirror the days of creation?
    - Use the Creation Days Drawing Chart to place the things God created on the correct day (either drawing or writing)
-

Day 2:

- Review:
    - Words to remember:
        - Psalm
        - Canticle
        - Matins
- Read:
    - Venite from Matins (LSB 220)
    - You may listen here:



- Discuss:
    - Which members of God's Creation are mentioned in the Venite?
    - Use the Creation Days Drawing Chart to place the members God created on the correct day (either drawing or writing)
    - How does your chart from Day 1 compare to your chart today?
    - How do both of these charts compare to the chart you made the first week of Science?
- Explore more:
    - A Canticle frequently sung during Easter Vigil is All You Works of the Lord (LSB 931 or similar).
    - You can also read the Song of the Three Holy Children in *The Apocrypha: The Lutheran edition with notes* on pp. 253-255
    - Which members of God's Creation are mentioned in this Canticle?
    - How does this list compare with the charts you made previously?

Week 30

Topics:

- Mammals

Words to Remember:

- Mammal: a warm-blooded vertebrate animal of a class that is distinguished by the possession of hair or fur, the secretion of milk by females for the nourishment of the young, and (typically) the birth of live young. ORIGIN early 19th century: anglicized form (first used in the plural) of modern Latin mammalia, neuter plural of Latin mammalis (adjective), from mamma 'breast'
-

Textbook reference and written work:

- Genesis 1:24-25
- (Teacher)

Materials:

- World Map
- Lion
- Tiger
- Grizzly Bear
- Map of Mammals from "Global patterns of terrestrial vertebrate diversity and conservation" Clinton N. Jenkins, Stuart L. Pimm, and Lucas N. Joppa
- Colored Pencils, crayons, or markers
- Lion map
- Tiger map
- Grizzly map (from NatGeo)
- Koala map
- Platypus map
- Two-toed sloth map

Suggested Daily Schedule:

Day 1:

- Review:
  - What did God create each day of Creation?
- Define:
  - Mammal
- Read:
  - Lion
  - Tiger
  - Grizzly Bear
- Discuss:
  - What is particularly fascinating about each mammal?
  - How fast would your parents have to drive to outrun a lion?
  - Look at a map and find out which town or city is about 18 miles away from you. If an animal died in that town and a grizzly was in your town, the grizzly could smell the decaying flesh from your town!
  -
- Explore:
  - Look at your world map, the Map of Mammals, and Lion, Tiger, and Bear maps.
  - Choose Yellow for lions, Orange for Tigers, and Brown for Grizzlies
  - Color on your world map where the different animals live

Day 2:

- Review:
  - Mammal
- Read:
  - Koala
  - Platypus
  - Two-toed sloth
- Discuss:
  - What is unique about koalas, platypuses, and two-toed sloths?
  - How are these three mammals similar to or different from the lion, tiger, and bear?

    -
- Explore more:
    - Using your World Map, articles, and animal maps, fill in where koalas, platypuses, and two-toed sloths live.
    - Choose grey for koalas, purple for platypuses, and green for two-toed sloths.
    - Where do these animals live in relation to one another and the previously explored animals?

Week 31

Topics:

- Mammals

Words to Remember:

- Mammal: a warm-blooded vertebrate animal of a class that is distinguished by the possession of hair or fur, the secretion of milk by females for the nourishment of the young, and (typically) the birth of live young. ORIGIN early 19th century: anglicized form (first used in the plural) of modern Latin mammalia, neuter plural of Latin mammalis (adjective), from mamma ‘breast’

Textbook reference and written work:

- Genesis 1:24-25
- (Teacher)

Materials:

- World Map
- Leopard
- Elephant
- Moose
- Map of Mammals from "Global patterns of terrestrial vertebrate diversity and conservation” Clinton N. Jenkins, Stuart L. Pimm, and Lucas N. Joppa
- Colored Pencils, crayons, or markers
- Pronghorn Antelope
- Zebra
- Cheetah
- Leopard map
- African Elephant map
- Asian Elephant map
- Moose map
- Pronghorn Antelope map
- Mountain Zebra map
- Plains Zebra map
- Cheetah map

Suggested Daily Schedule:

Day 1:

- Review:
    - What did God create each day of Creation?

- Review:
    - Mammal
- Read:
    - Leopard
    - Elephant
    - Moose

- Discuss:
  - What is particularly fascinating about each mammal?
  - Compare the animals. Which is the largest? Which is the smallest? Which is the fastest? Which is the slowest? How does their coloring differ?
  - A gestation period is the amount of time a baby is inside his mother before he is born. How long are baby leopards, elephants, and moose inside their mothers before they are born? How does this compare to how long you were inside your mom before you were born? (Moms, imagine if you had the same gestation period as an elephant!)
  -
- Explore:
  - Look at your world map, the Map of Mammals, and Leopard, Elephant, and Moose maps.
  - Choose Yellow for Leopard, Grey for Elephant, and Brown for Moose
  - Make small x's on your world map where the different animals live (instead of solid coloring, the area should be filled with x's)

Day 2:

- Review:
  - Mammal
- Read:
  - Pronghorn Antelope
  - Zebra
  - Cheetah
- Discuss:
  - What is unique about pronghorn antelopes, zebras, and cheetahs?
  - How are these three mammals similar to or different from the leopard, elephant, and moose?
  -
- Explore more:
  - Using your World Map, articles, and animal maps, fill in where pronghorn antelopes, zebras, and cheetahs live.
  - Choose green for leopards, black for zebras, and orange for cheetahs.
  - Make small x's on your world map where the different animals live (instead of solid coloring, the area should be filled with x's)
  - Where do these animals live in relation to one another and the previously explored animals?

Week 32

Topics:

- Humans

Words to Remember:

- Man: Mankind; the human race; the whole species of human beings; beings distinguished from all other animals by the powers of reason and speech, as well as by their shape and dignified aspect. 'Os homini sublime dedit.'

  And God said, Let us make man in our image, after our likeness, and let them have dominion--Genesis 1:26.
- Male: adjective [Latin masculus, from mas, maris.] Pertaining to the sex that procreates young
- Female: adjective [Latin femella.] Noting the sex which produces young

Textbook reference and written work:

- Genesis 1:26-31
- (Teacher) Differences between human life and animal life

Materials:

- Family tree template- 5 generation
- Family tree template- 10 generation

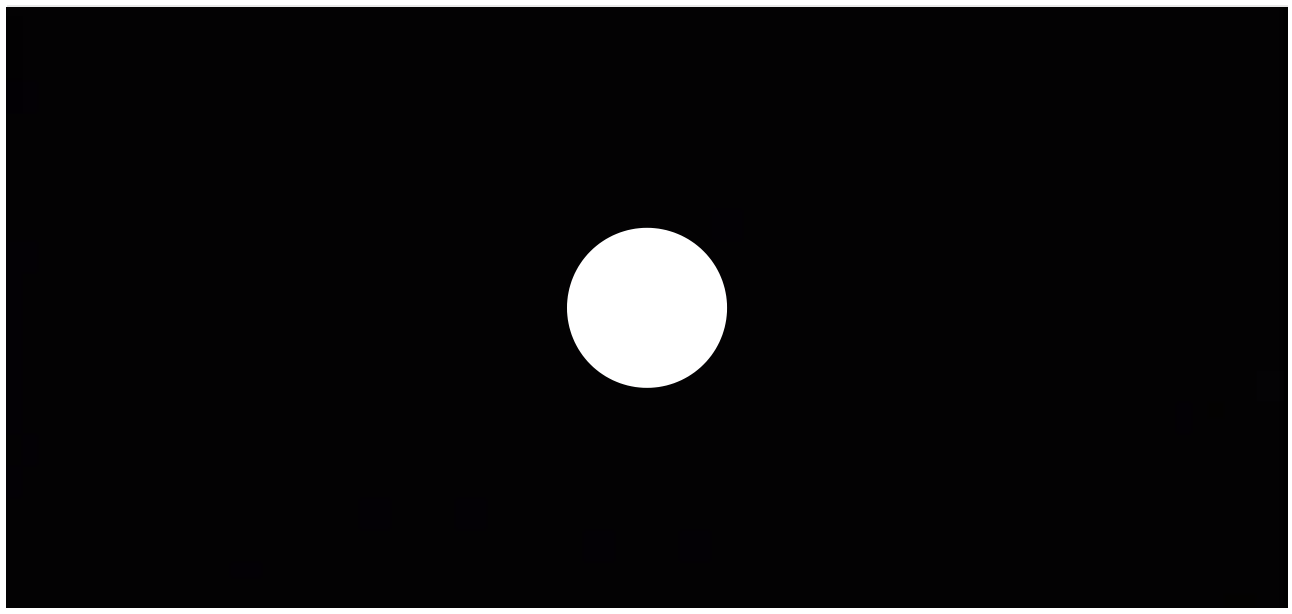
Suggested Daily Schedule:

Day 1: Who is man?

- Read:
  - Genesis 1:1-25

    - Genesis 1:26-31
- Discuss:
    - What did God create before He created man?
    - What are the differences between how God **created** man and animals?
    - God said different things about man than He did about animals. What were the different things God said?
- Watch:

Creation Week Day Six.mp4



- Explore:
    - Look back at all of the other creatures you have studied thus far. Look at the members of your family. How are you and your family uniquely different than the other creatures God made?

Day 2: Male and Female

- Read:
    - Genesis 2:4-25
- Discuss:
    - Whom did God create first in this reading?
    - How did God form the man?
    - What did God say about man being alone?
    - How did God form the woman?
    - Woman is referred to as man's what? (helper)
    - Review Genesis 1:28. To whom did God give children? (Husband and wife)
- Explore:
    - In Genesis 4, Adam and Eve have their first two children, Cain and Abel. Genesis 5 tells us about the descendants of Adam until Noah.
    - A family tree is a way to see to whom you are related.
    - Print off the 10 generation family tree and fill it in (it will be sparse) with the information from Genesis 5.
    - Print off either the 5 generation or 10 generation family tree and fill it in for your own family.
    - If possible, look at pictures of the different generations of your family. Do any of the relatives look like one another?

Week 33

Topics:

- Humans
- Integumentary system

Words to Remember:

- Skin: the thin layer of tissue forming the natural outer covering of the body of a person or animal

Textbook reference and written work:

- Genesis 1:26-31
- (Teacher) The Wonderfully Made Design of the Skin and Its Microbiome

Materials:

- Skin article
- Skin diagram

Suggested Daily Schedule:

Day 1:

- Read:
  - Psalm 139: 13-16
- Define:
  - Skin
- Discuss:
  - In the coming weeks, we will be studying some of the amazing parts of the body. This week, we start with the skin. Though many times ignored, the skin is extremely important.
  - What does Psalm 139 say about Who created us and how we were created?
- Explore:
  - Look at your arm. What all do you see? (skin, spots, hair)
  - Compare your arm to your mom's arm or your dad's arm. What differences and similarities do you see in the skin on your arm versus mom's or dad's arm?
  - If you have a magnifying glass, use it to look at your arm. What do you see now that you could not see previously?
  - Ask permission to look at mom's or dad's arm with the magnifying glass. Do you notice anything you did not notice before?

Day 2:

- Review:
  - What is skin?
- Read:
  - Skin article
- Explore:
  - Recall your previous exploration when you examined your arm. Using the Skin diagram, learn the names of each layer of your skin.
  - What is the function of each of the three layers?
  - Which of the layers can you see on your arm?

Week 34

Not available

Week 35

Not available

Week 36

Not available