

5th Grade 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.

The text chosen as a guide for this course is *Handbook of Nature Study* by Anna Botsford Comstock. It was chosen not for its Christian worldview or because it avoids talk of evolution, for neither are true of the text. Instead, it was chosen because of its unwavering zeal for observation of nature. In the observation of nature, even the youngest child can see the wonder and beauty of God's creation.

Do not use the text as a student textbook. Even a handbook of nature study can soon become an obstacle between students and their observation of nature, for soon the student relies on the words they see rather than the nature they can observe. As a teacher, however, it is many times helpful to arm yourself with additional information, especially when it comes to teaching the students the correct vocabulary of nature observation.

Enjoy your study of God's creation!

[Link to 5th Grade text](#)



[News forum](#)

Week 1



Topics:

- Creation
- Days of Creation
- Day 5

Words to Remember:

- Create(d)
- Called (as in "named")
- Genesis 1:1-5 (review from 1st grade)
- Genesis 1:6-8 (review from 2nd grade)
- Genesis 1:9-13 (review from 3rd grade)
- Genesis 1:14-19 (review from 4th grade)
- Genesis 1:20-23

Textbook reference and written work:

- Read Genesis 1, then reread Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) Read [The Meaning of Day](#).
- (Teacher resource) Read [Did God create in 6 days or billions of years?](#)
- (Teacher resource) Read [On the fifth day](#).

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Blank paper or Creation chart template (link below in Suggested Daily Schedule)
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.

Suggested Daily Schedule:

- Day 1:
 - Read Genesis 1
 - (Class activity) Discuss:
 - What does the word CREATE mean?
 - Have some examples ready if the students don't know: If I put Legos together, what did I do? If I draw a picture, what did I do? Feel free, if time allows, to have students demonstrate any of these things. In coming days/weeks,

you can reference how when we create things we have to go step by step, but when God created, with the exception of creating man, He spoke things into being rather than having to go step by step.

- What does the word CALLED mean?
 - Have some examples ready if the students don't know: What do your parents call you? (son, daughter, by my name) So, you are called (insert child's name). Feel free to use other examples.
- (Class activity) Write out what was created on each day as it was recorded in the Bible passage you just read
- (Individual activity) Referencing the list you made, draw/color the 7 days of creation- be sure to practice your numbers and label the days!
 - Click [here](#) for a chart template you can print and copy for the students
- Day 2: Read Genesis 1:20-23
 - Begin memorizing these verses (you have all year to get it done, but the sooner they get it done the better as then you can have them recite it at the beginning of each Science session)
 - Have students get out or finish their drawings from the previous class session
 - (Class activity) Discuss:
 - What existed before creation? (verses 1-2)
 - Look for answers like God, nothing, dark, etc. If you aren't getting any answers, read it again, make a list of the words they hear, and then work through that list to help them think about what existed before creation.
 - What did God make on the 5th Day? (verses 20-23)
 - Have students look at their drawings
 - Make a list of words on the board- feel free to reread the passage if need be- of the things God created on the 5th Day
 - Reference your previous discussion of the words CREATE(D) and CALLED
 - Ask the students again, "Which of these did God CREATE?"
 - Which of these things did God CALL (name)?

Week 2



Topics:

- Feathers as Clothing

Words to Remember:

- Yellowhammer (Alabama)
- Willow Ptarmigan (Alaska)
- Quill
- Barbs
- Web
- Down
- Molting
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Alabama state bird: Yellowhammer](#)
- (Teacher resource) [Alaska state bird: Willow Ptarmigan](#)
- (Teacher resource) Handbook of Nature p. 29-31
- (Teacher resource) [The Evolution of Feathers](#)
-

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- Chicken feathers (or [Feather Diagram](#))
- Bowl/bucket of water
- [Yellowhammer coloring sheet](#)
- [Willow Ptarmigan coloring sheet](#)

Suggested Daily Schedule:

- Day 1:
 - Read/say Genesis 1:1-23
 - Hand out Yellowhammer coloring sheet

- Using information from Yellowhammer teacher resource, tell the students some interesting facts about yellowhammers
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
- Hand out chicken feathers or feather diagram (it is okay if all the feathers are not the same- students should speculate as to whether the feathers are from the back, breast, etc. Use the diagram on p. 30 of Handbook of Nature to help identify potential origin of feathers in hand)
 - Using information from Handbook of Nature and Evolution of Feathers, discuss feathers:
 - Parts of the feather
 - Quill
 - Barb
 - Web
 - Purpose of each part
 - As you identify and define each part, have students locate that part on the feather)
 - Discuss different scenarios (when it is raining, when it is windy, when it is hot, etc.) and how might God's design of bird feathers help the birds get through each of these situations
- Have students gather around a bucket or bowl of water
 - Immerse a feather in a bucket of water
 - Have students observe impact on the different parts of the feather
 - Sprinkle water on a different feather
 - Have students observe impact on the different parts of the feather
 - Are there other scenarios you can replicate? (With or without water)
 - Relate the demonstration and subsequent observations to the previous discussions had about the feathers
- If a chicken is readily available for observation, have students work through the questions on p. 31 of Handbook of Nature
- Day 2:
 - Read/say Genesis 1:1-23
 - Hand out Willow Ptarmigan coloring sheet
 - Using information from Willow Ptarmigan teacher resource, tell the students some interesting facts about Willow Ptarmigans
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Have students recall discussion from day one
 - Check to see if they remember the following words and their definition:
 - Quill
 - Barb
 - Web
 - Ask if anyone thought of anything new or different since last time you discussed feathers
 - New discussion
 - How feathers change as birds grow
 - Chances are, you observed adult feathers on day one
 - Discuss:
 - Down (purpose)
 - Perhaps help students relate this difference between chick feathers and adult feathers to the similarities and differences in baby and adult skin
 - Why are there differences?
 - Talk about environment before babies/chicks are born.
 - Talk about what babies/chicks do in relation to what adults do and why that might impact feather/skin needs.
 - Molting (purpose)
 - Perhaps help students relate this process to things we experience (shed hair, lose skin cells, etc.)

Week 3



Topics:

- Feathers as ornament

Words to Remember:

- Cactus Wren (Arizona)
- Mockingbird (Arkansas)
- Powder-down feathers

- Filoplume feathers
- Remiges
- Rectrices
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Arizona state bird: Cactus Wren](#)
- (Teacher resource) [Arkansas state bird: Mockingbird](#)
- (Teacher resource) Handbook of Nature p. 29-31
- (Teacher resource) [The Evolution of Feathers](#)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- Feathers from various birds (pheasant, duck, robin, crow, etc.)
 - consult local hunters or suggest that students keep an eye out for feathers
- [Cactus Wren coloring sheet](#)
- [Mockingbird coloring sheet](#)

Suggested Daily Schedule:

- Day 1:
 - Read/say Genesis 1:1-23
 - Hand out Cactus Wren coloring sheet
 - Using information from Cactus Wren teacher resource, tell the students some interesting facts about Cactus Wrens.
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Have students recall discussion from last week
 - Check to see if they remember the following words and their definition:
 - Quill
 - Barb
 - Web
 - Ask if anyone thought of anything new or different since last time you discussed feathers
 - Hand out various bird feathers. If few feathers are available for the number of students, put the students in groups and give each group a feather.
 - Have students identify the parts of the feather using the words they learned last week
 - Have them note similarities and differences between these feathers and the chicken feathers they observed last week
 - To these observations, add the following words and definitions (from the Evolution of Feathers article)
 - Powder-down feathers
 - Filoplume feathers
 - Remiges
 - Rectrices
- Day 2:
 - Read/say Genesis 1:1-23
 - Hand out Mockingbird coloring sheet
 - Using information from Mockingbird teacher resource, tell the students some interesting facts about Mockingbirds
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Have students recall discussion from day one
 - Check to see if they remember the following words and their definition:
 - Quill
 - Barb
 - Web
 - Powder-down feathers
 - Filoplume feathers
 - Remiges
 - Rectrices
 - Ask if anyone thought of anything new or different since last time you discussed feathers
 - New discussion
 - Discuss:
 - Why would God create birds with different colored feathers? (Both different colors on the same feather and different colors on different birds)

- What is the purpose of different colors (this is an extension of the previous question- dig for answers like different birds live in different environments, etc.)
- Why do different birds have different shaped feathers? (This may have come up in Day 1's discussion, but bring it back up here- dig for answers like different birds do different things: fly different distances, etc.)
- Depending on your students, questions such as the following may be of interest:
 - Is there a difference between feathers of birds that are hunted by people and feathers of birds that are not hunted by people?
 - Feel free to add any other regionally familiar questions that may pique the interest of students.

Week 4



Topics:

- Birds in Flight

Words to Remember:

- California Valley Quail (California)
- Lark Bunting (Colorado)
- Powder-down feathers
- Filoplume feathers
- Remiges
- Rectrices
- Genesis 1:1-23



Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [California state bird: California Valley Quail](#)
- (Teacher resource) [Colorado state bird: Lark Bunting](#)
- (Teacher resource) Handbook of Nature p. 33-35
- (Teacher resource video) [Intricacies of Flight](#)
- (Video) [Designed for Flight](#)
- (Teacher resource) [Four Wing Shapes article](#)
- (Teacher resource) [Fit for Flight](#)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- Umbrella (umbrella could inadvertently get damaged)
- Flat Bed Sheet
- Bird wing (on the off chance you would have access to one of these) or a tame chicken (so you can spread the wing feathers apart) or [Bird Wing Shapes diagram](#)
- [California Valley Quail coloring sheet](#)
- [Lark Bunting coloring sheet](#)

Suggested Daily Schedule:

- Day 1:
 - Read/say Genesis 1:1-23
 - Hand out California Valley Quail coloring sheet
 - Using information from California Valley Quail teacher resource, tell the students some interesting facts about California Valley Quails.
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Have students recall discussion from last week
 - Check to see if they remember the following words and their definition:
 - Quill
 - Barb
 - Web
 - Powder-down feathers
 - Filoplume feathers
 - Remiges
 - Rectrices
 - Ask if anyone thought of anything new or different since last time you discussed feathers

- How flight happens
 - Umbrella experiment:
 - Open umbrella
 - Have students take turns squatting down and pushing the open umbrella up and then reaching as tall as they can and pulling the umbrella down
 - Discuss:
 - Which was harder, pushing up or pulling down?
 - What made it hard? (dig for answers like they were moving air, etc.)
 - Sheet experiment (if multiple students are available):
 - Have students spread out on different sides of the sheet
 - If the day is windy, have students work together to "collect" the wind in the sheet and then move in the opposite direction- as though the sheet could lift them up (having fewer students take turns with this might actually afford a lifting sensation)
 - If the day is not windy, student will have to run a bit to achieve the same result
 - Discuss:
 - What did you have to do to "collect" the air to get the lift sensation? (dig for answers like change the direction of the sheet, change the angle of the sheet, etc.)
 - Would a windy day make flying easier or more difficult? Why?
- Day 2:
 - Read/say Genesis 1:1-23
 - Hand out Lark Bunting coloring sheet
 - Using information from Lark Bunting teacher resource, tell the students some interesting facts about Lark Buntings
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Have students recall discussion from day one
 - Ask if anyone thought of anything new or different since last time you discussed feathers
 - Wing types
 - Bring out Bird wing, tame chicken (so you can spread the wing feathers apart) or [Bird Wing Shapes diagram](#)
 - If you don't have a bird wing or tame chicken, having some demonstration feathers would be a great bonus to the Bird Wing Shapes diagram
 - Discuss as a class or in groups:
 - What are similarities and differences between the bird wing shapes?
 - Why might there be differences?(dig for answers like they fly different distances, they fly for different reasons- eating, moving from place to place, diving, etc)
 - Extra resource: Show students [Designed for Flight](#) video
- Next week: Quiz on Bird parts

Week 5



Topics:

- Migration

Words to Remember:

- Robin (Connecticut)
- Blue Hen Chicken (Delaware)
- Migratory birds
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Connecticut state bird: Robin](#)
- (Teacher resource) [Delaware state bird: Blue Hen Chicken](#)
- (Teacher resource) Handbook of Nature p. 35-37
- (Teacher resource) [Do Migratory Birds Practice Preventive Medicine?](#)
- (Teacher/Student resource) [Migration Map Gallery](#)
- (Teacher resource) [The Flight of Migratory Birds](#)
- (Teacher resource) [Survival of the Fitted](#) (first section of the article)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students

- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- A map or globe (for students to chart a comparative distance)
- [Bird Parts Quiz](#)
- [Bird Parts Quiz-Key](#)
- [Robin coloring sheet](#)
- [Blue Hen Chicken coloring sheet](#)
- [Arctic tern's journey mapped](#)
- [Motion of the Ocean maps](#)

Suggested Daily Schedule:

- Day 1:
 - Read/say Genesis 1:1-23
 - Have students take Bird Parts Quiz (links to quiz and key are in the Materials list above)
 - Hand out Robin coloring sheet
 - Using information from Robin teacher resource, tell the students some interesting facts about Robins.
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Define: Migration
 - Define: Migratory birds
 - Read: Arctic tern's Journey Mapped
 - Discuss:
 - How big are the birds?
 - How far do they fly?
 - Bonus Math lesson- convert the kilometers to miles, then figure out a trip in the United States that would take that long
 - What is interesting about the route they take? (Ex. it is not a straight line from start to finish)
 - What factors impact the route the birds take?
 - Regarding one of the factors (prevailing winds), what would be an interesting thing to see to further understand why the birds take the route they take? (Answer: a map of prevailing winds in the Atlantic Ocean- at this point, provide students with the Motion of the Ocean handout and have them compare the route of the birds with the wind direction and speed)
- Day 2:
 - Read/say Genesis 1:1-23
 - Hand out Lark Bunting coloring sheet
 - Using information from Lark Bunting teacher resource, tell the students some interesting facts about Lark Buntings
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Have students recall discussion from day one
 - Ask if anyone thought of anything new or different since last time you met
 - Seeing migration happen: Migration Map Gallery (ongoing project- there will be reminders to check the maps in coming months)
 - Note to teacher: feel free to play around with the maps! For eagles and robins, you have to switch months in the upper left corner (dropdown menu). For Hummingbirds, you can view the animated map.
 - Note: the maps do not remove the previous sightings as the months progress. Explain this to students so they understand the birds are moving, not multiplying!
 - Have students view the map for [Eagles](#)
 - Have students watch the animated map for [Hummingbirds](#)
 - Have students view the map for [Robins](#)
 - Discuss:
 - What do you notice?
 - Where do the birds go?
 - When do they go?
 - Why are more birds sighted in some months than others?
 - Look at [reports from past years](#)
 - Do you notice any differences?
 - What might account for the differences?
 - Pick a location and note differences from year to year.
 - Find that location (or a nearby location) and [check the weather history for that location](#)
 - Do you notice any correlations?
 - Note to teachers: if computer access is not overly convenient, you can choose a location and provide the students with the data they need to see the correlations between the weather and migration.
 - Further study: As mentioned above, students/teacher will check back on the migration progress of Eagles, Hummingbirds, and Robins. Adding a check on the weather and comparisons of the weather of past years would be a

fantastic addition to this project. Have students keep a Migration Tracking page in their notebooks.

- Making connections:
 - Have students think back to their study of wing types.
 - Discuss:
 - What type of wings do Eagles, Hummingbirds, and Robins have?
 - What impact might wing type have on how/when they migrate?

Week 6



Topics:

- Bird eyes, ears, and beaks

Words to Remember:

- Mockingbird (Florida)
- Brown Thrasher (Georgia)
- Rods
- Cones
- Double cones
- Tapetum lucidum
- Retina
- Pecten
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Florida state bird: Mockingbird](#)
- (Teacher resource) [Georgia state bird: Brown Thrasher](#)
- (Teacher resource) Handbook of Nature p. 38-40
- (Teacher resource) [Bird eyes](#)
- (Teacher/Student resource) [A Bird's Eye View](#)
- (Teacher/Student resource) [Not Just a Pretty Face](#)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [A Bird's Eye View](#)
- [Bird Eye Diagram- Key](#)
- [Bird Eye Diagram- Blank](#)
- [Mockingbird coloring sheet](#)
- [Brown Thrasher coloring sheet](#)
- [The Avian Ear- Part I](#)
- [The Avian Ear- Part II](#)

Suggested Daily Schedule:

- Day 1:
 - Read/say Genesis 1:1-23
 - Hand out Mockingbird coloring sheet
 - Using information from Mockingbird teacher resource, tell the students some interesting facts about Mockingbirds.
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Read A Bird's Eye View
 - Discuss:
 - For what are the different parts of the eye used?
 - Why do different birds have different eye anatomy?
 - Give students Bird Eye- Blank diagram
 - The same chart is in the Bird's Eye View article. As students fill out each part, have them talk about the function of that part and why it is located where it is located.
 - Students may want to define the eye part right on the diagram
 - Define:
 - **Rods:** black & white vision in dim light
 - **Cones:** color vision in bright light

- Double cones: color vision
- Tapetum lucidum: produces the "eyeshine" you see when you shine a flashlight into the eyes of a nocturnal bird or mammal
- Retina: contain no blood vessels; a layer at the back of the eyeball containing cells that are sensitive to light and that trigger nerve impulses that pass via the optic nerve to the brain, where a visual image is formed.
- Pecten: retinal structure that contains blood vessels
- Sclerotic ring: rings of bones that support the eye, especially in animals whose eyes are not circular
- Sclera: the white outer layer of the eyeball. At the front of the eye it is continuous with the cornea.
- Fovea: a small depression in the retina of the eye where visual acuity is highest. The center of the field of vision is focused in this region, where retinal cones are particularly concentrated.
- Choroid: the pigmented vascular layer of the eyeball between the retina and the sclera.
- Iris: a flat, colored, ring-shaped membrane behind the cornea of the eye, with an adjustable circular opening (pupil) in the center.
- Lens: responsible for concentrating or dispersing light rays (from Latin, 'lentil' (because of the similarity in shape))
- Optic nerve: transmit impulses to the brain from the retina at the back of the eye
- Give students The Avian Ear Part I and Part II articles
 - Have students highlight/underline the parts of the anatomy discussed in the article
- Discuss:
 - What is unique about the structure/anatomy of a bird's ear?
 - How do birds hear?
 - Have students explain the process referencing specific anatomy of the bird used in hearing
- Day 2:
 - Read/say Genesis 1:1-23
 - Hand out Brown Thrasher coloring sheet
 - Using information from Brown Thrasher teacher resource, tell the students some interesting facts about Brown Thrashers
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Have students recall discussion from day one
 - Ask if anyone thought of anything new or different since last time you met
 - Read Not Just a Pretty Face
 - Discuss:
 - What functions does the beak have for a toucan?

Week 7



Topics:

- Bird beaks and feet

Words to Remember:

- Nene (Hawaii)
- Mountain Bluebird (Idaho)
- Locomotion: walking, swimming, and flying
- Thermoregulation: maintaining body temperature
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Hawaii state bird: Nene](#)
- (Teacher resource) [Idaho state bird: Mountain Bluebird](#)
- (Teacher resource) Handbook of Nature p. 38-42
- (Teacher/Student resource) [Webbed Wonders](#)
- (Teacher/Student resource) [Not Just a Pretty Face](#)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- Crackers, grapes, baby carrots, or other small food (even bread torn into pieces)
- Paper plates
- [Nene coloring sheet](#)
- [Mountain Bluebird coloring sheet](#)
- [Bird Beaks and Feet](#)

- [Webbed Wonders](#)
- [Not Just a Pretty Face](#)

Suggested Daily Schedule:

- Day 1:
 - Read/say Genesis 1:1-23
 - Hand out Nene coloring sheet
 - Using information from Nene teacher resource, tell the students some interesting facts about Nenes.
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Science experiment:
 - Put small pieces of food on paper plates and set the plates on a table or desk
 - Have students put their hands behind their backs and using only their mouths, eat the food on the plates
 - Discuss:
 - What challenges do you face in not being able to use your hands?
 - What must bird beaks help birds do (aside from just consuming food)? (think moving food, breaking it into bite-size pieces, etc.)
 - Hand out Bird Beaks and Feet (from biologycorner.com)
 - Talk through the Bird Beak and Feet table at the top of the page
 - Look at the pictures of birds, focusing on their beaks and feet.
 - Discuss each bird and fill in the chart, referencing the beak and feet chart as you work (This can be done individually or as a group. If done individually, discuss the filled out chart when all the students are done.)
- Day 2:
 - Read/say Genesis 1:1-23
 - Hand out Brown Thrasher coloring sheet
 - Using information from Brown Thrasher teacher resource, tell the students some interesting facts about Brown Thrashers
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Have students recall discussion from day one
 - Ask if anyone thought of anything new or different since last time you met
 - Read Webbed Wonders
 - Read Not Just a Pretty Face
 - Discuss:
 - What functions does the beak have for a toucan?
 - Discuss: locomotion and thermoregulation
 - Define them
 - Discuss how they relate to beaks and feet

Week 8



Topics:

- Bird songs

Words to Remember:

- Cardinal (Illinois)
- Cardinal (Indiana)
- Rhythm
- Pitch
- Repetition
- Tone
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Illinois state bird: Cardinal](#)
- (Teacher resource) [Indiana state bird: Cardinal](#)
- (Teacher resource) Handbook of Nature p. 42-43
- (Teacher resource) [Bird songs](#) (click on a picture of the bird, then click the 'Sound' tab to access the song)
- (Teacher resource) [How to Listen to a Song](#)

Materials:

- Bible

- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Bird Anatomy quiz](#)
- [Bird Anatomy quiz- key](#)
- [Illinois cardinal coloring sheet](#)
- [Indiana cardinal coloring sheet](#)
- -

Suggested Daily Schedule:

- Day 1:
 - Read/say Genesis 1:1-23
 - Hand out Illinois Cardinal coloring sheet
 - Using information from the Cardinal teacher resource, tell the students some interesting facts about Cardinals.
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Define:
 - Rhythm: Tempo and beat
 - Pitch: Voice range- smaller birds tend to have higher voices and larger birds tend to have lower voices
 - Repetition: Multiple syllables or phrases in a row
 - Tone: Quality of voice (clear whistle, harsh or scratchy, liquid and flute-like, or a clear trill)
 - Science experiment:
 - Give students a sheet of paper and have them number 1-5.
 - Tell the students you will be playing bird songs of familiar birds and they will be guessing as to which bird they are hearing.
 - Choose a bird song of a familiar bird and play it for the students. Without saying anything, play the song one more time.
 - Have students write down their guess.
 - When you get through 5 songs, have students reveal their answers. Provide students with the real answers and have them write down the correct answers.
 - Go back through the songs, now that the students know the correct answer, and listen again.
 - Discuss: As you listen again, note the rhythm, pitch, repetition, and tone of each song. Students may request to listen to the songs more than once to "get" the song. This is just fine!
 - Have students refer to their notes and discuss differences between the different elements of the songs (rhythm, etc.) as they relate to differences in the birds (size, etc.)
- Day 2:
 - Read/say Genesis 1:1-23
 - Take Bird Anatomy Quiz
 - Hand out Indiana Cardinal coloring sheet
 - Using information from Cardinal teacher resource, tell the students some interesting facts about Cardinals (it will be the same as the previous session, so perhaps have the students recall the interesting facts about Cardinals)
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Have students recall discussion from day one
 - Ask if anyone thought of anything new or different since last time you met
 - Science Experiment:
 - Go outside with students (you may need to walk around until you hear birds- if so, walk quietly)
 - Listen for bird songs
 - After you hear a song, quietly discuss the rhythm, pitch, repetition, and tone.
 - Ask the students if they have any guesses as to the type of bird singing the song (encourage them to compare the songs they are hearing to the songs you played last session)

Week 9



Topics:

- Anatomy of bird songs
- How birds learn to sing

Words to Remember:

- Eastern Goldfinch (Iowa)
- Western Meadowlark (Kansas)
- Rhythm
- Pitch

- Repetition
- Tone
- Syrinx: the lower larynx or voice organ in birds, situated at or near the junction of the trachea and bronchi and well developed in songbirds.
ORIGIN early 17th cent.: via Latin from Greek surinx 'pipe, channel.'
- Larynx: the hollow muscular organ forming an air passage to the lungs and holding the vocal cords in humans and other mammals; the voice box.
ORIGIN late 16th cent.: modern Latin, from Greek larunx
- Trachea: a large membranous tube reinforced by rings of cartilage, extending from the larynx to the bronchial tubes and conveying air to and from the lungs; the windpipe.
ORIGIN late Middle English : from medieval Latin, from late Latin trachia, from Greek trakheia (artēria) 'rough (artery),' from trakhus 'rough.'
- Bronchus: any of the major air passages of the lungs that diverge from the windpipe.
ORIGIN late 17th cent.: from late Latin, from Greek bronkhos 'windpipe.'
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Iowa state bird: Eastern Goldfinch](#)
- (Teacher resource) [Kansas state bird: Western Meadowlark](#)
- (Teacher resource) Handbook of Nature p. 42-43
- (Teacher resource) [Acoustics and physical models of bird sounds](#) (research article)
- (Teacher resource) [Natural selection](#)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Easter Goldfinch coloring sheet](#)
- [Western Meadowlark coloring sheet](#)
- [Bird song anatomy diagram-key](#)
- [Bird song anatomy diagram- blank](#)
- [How do songbirds learn to sing?](#)
- [News to note](#)

Suggested Daily Schedule:

- Day 1:
 - Read/say Genesis 1:1-23
 - Hand out Eastern Goldfinch coloring sheet
 - Using information from the Eastern Goldfinch teacher resource, tell the students some interesting facts about Eastern Goldfinches.
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - October bird migration check
 - Go to: [Migration Map Gallery](#).
 - Discuss:
 - Are the birds moving?
 - What do you notice?
 - Any surprises?
 - Review:
 - Rhythm: Tempo and beat
 - Pitch: Voice range- smaller birds tend to have higher voices and larger birds tend to have lower voices
 - Repetition: Multiple syllables or phrases in a row
 - Tone: Quality of voice (clear whistle, harsh or scratchy, liquid and flute-like, or a clear trill)
 - Anatomy of bird songs:
 - Give students bird song anatomy diagram (blank)
 - List the parts on the board
 - Beak
 - Bronchi
 - Larynx
 - Lungs
 - Mouth
 - Syrinx

- Trachea
 - Give students the definition of the Words to Remember
 - Either as a group or individually, fill out the song anatomy diagram
 - If individually, students should use their notes of the definitions given to figure out the parts
 -
- Day 2:
 - Read/say Genesis 1:1-23
 - Hand out Western Meadowlark coloring sheet
 - Using information from the Western Meadowlark teacher resource, tell the students some interesting facts about Western Meadowlarks
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Have students recall discussion from day one
 - Ask if anyone thought of anything new or different since last time you met
 - Review:
 - Beak
 - Bronchi
 - Larynx
 - Lungs
 - Mouth
 - Syrinx
 - Trachea
 - How birds learn to sing
 - Read: How do songbirds learn to sing?
 - Read: News to note
 - Discuss:
 - What did the Penn State researcher discover?
 - Read Matthew 6:25-34. Who cares for the birds? How does this apply to what the Penn State researcher discovered?
 - How does the News to Note article explain some of the problems with the way the Penn State researcher explains his discovery?
 - Mother Nature
 - Natural selection
 - As a young peruser of scientific research, it is important to be critical of how scientists explain their discoveries. Always ask yourself, "what worldview (set of beliefs that influence your conception of the world) is influencing this scientist?"
 - Based on what the Penn State researcher said, what assumptions can you make about his worldview/what he believes?

Week 10



Topics:

- Bird calls

Words to Remember:

- Cardinal (Kentucky)
- Eastern Brown Pelican (Louisiana)
- Syrinx: the lower larynx or voice organ in birds, situated at or near the junction of the trachea and bronchi and well developed in songbirds.
ORIGIN early 17th cent.: via Latin from Greek surinx 'pipe, channel.'
- Larynx: the hollow muscular organ forming an air passage to the lungs and holding the vocal cords in humans and other mammals; the voice box.
ORIGIN late 16th cent.: modern Latin, from Greek larunx
- Trachea: a large membranous tube reinforced by rings of cartilage, extending from the larynx to the bronchial tubes and conveying air to and from the lungs; the windpipe.
ORIGIN late Middle English : from medieval Latin, from late Latin trachia, from Greek trakheia (artēria) 'rough (artery),' from trakhus 'rough.'
- Bronchus: any of the major air passages of the lungs that diverge from the windpipe.
ORIGIN late 17th cent.: from late Latin, from Greek bronkhos 'windpipe.'
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)

- (Teacher resource) [Kentucky state bird: Cardinal](#)
- (Teacher resource) [Louisiana state bird: Eastern Brown Pelican](#)
- (Teacher resource) Handbook of Nature p. 42-43
- (Teacher resource) [Accoustics and physical models of bird sounds](#) (research article)
- (Teacher resource) [Make a Simple Duck Call](#)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Cardinal coloring sheet](#)
- [Eastern Brown Pelican coloring sheet](#)
- Plastic straws
- Scissors
- Bird call (turkey, duck, goose, or whatever is available)
- [Hunting Call Devices](#)

Suggested Daily Schedule:

- Day 1:
 - Read/say Genesis 1:1-23
 - Hand out Kentucky Cardinal coloring sheet
 - Using information from the Kentucky Cardinal teacher resource, tell the students some interesting facts about Cardinals.
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Review:
 - Beak
 - Bronchi
 - Larynx
 - Lungs
 - Mouth
 - Syrinx
 - Trachea
 - Read: Hunting Call Devices
 - Discuss:
 - What are the different types of calls out there, at least according to this article? (what are they made of, how are they used, etc.)
 - Think back to the anatomy of bird songs diagram from last week. How are the bird calls similar to different parts of the anatomy? Draw as many similarities as you can, making sure you can explain your reasoning. (Example: _____ is similar to _____ because they perform the same function.)
 - It is okay to wrestle with trying to come up with comparisons. Some might be very obvious and some are less obvious.
- Day 2:
 - Read/say Genesis 1:1-23
 - Hand out Eastern Brown Pelican coloring sheet
 - Using information from the Eastern Brown Pelican teacher resource, tell the students some interesting facts about Eastern Brown Pelicans
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Bird call demonstration
 - If you were able to secure a bird call, demonstrate it for the students. The teacher may determine if students are allowed to try the bird call.
 - Discuss:
 - Recalling the discussion from yesterday, examine the bird call to determine the "type" of bird call (from the list in the article)
 - Further examine the bird call to see if there are any similarities between the anatomy of the bird call and the anatomy of the bird
 - Science experiment: Make your own bird call (Diagram in Make a Simple Duck Call teacher resource)
 - With straw in hand, flatten the top inch of the straw by squishing it with your fingers, rubbing it on the table, etc.
 - Take a scissors and snip the flattened end into a point. The point should be 1/4 to 1/2 inch in length. (Be careful- the pointed end will be sharp!)
 - Take the pointed end and carefully put it in your mouth.
 - Blow as hard as you can (you may have to adjust the placement of your mouth, how far you close your mouth, etc.) until you hear something that resembles a bird call (or kazoo?)
 - Discuss:

- What part(s) of the anatomy of the bird were you replicating in your bird call? (you have a long tube, etc.)
- How could the design of the bird call be improved to improve the quality of the sound?

Week 11



Topics:

- Bird study: Wild Turkeys

Words to Remember:

- Chickadee (Maine)
- Baltimore Oriole (Maryland)
- Iridescence: showing luminous colors that seem to change when seen from different angles. ORIGIN late 18th cent.: from Latin iris, irid- 'rainbow' + -escent .
- Spur: a hard spike on the back of the leg of a cock or male game bird, used in fighting. ORIGIN Old English spora, spura, of Germanic origin; related to Dutch spoor and German Sporn, also to spurn .
- Beard: an animal's growth or marking that is likened to a beard, e.g., the gills of an oyster, or the beak bristles of certain birds.
- Clutch: a group of eggs fertilized at the same time, typically laid in a single session. ORIGIN early 18th cent.: probably a southern variant of northern English dialect cletch, related to Middle English cleck [to hatch,] from Old Norse klekja.
- Poult: a young domestic chicken, turkey, pheasant, or other fowl being raised for food. ORIGIN late Middle English : from Old French poulet, diminutive of poule, from the feminine of Latin pullus 'chicken, young animal.'
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Maine state bird: Chickadee](#)
- (Teacher resource) [Maryland state bird: Baltimore Oriole](#)
- (Teacher resource) Handbook of Nature p. 138-141
- (Teacher resource) [Wild Turkey Facts](#)
- (Teacher resource)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Chickadee coloring sheet](#)
- [Baltimore Oriole coloring sheet](#)
- [Eastern Wild Turkey facts](#)
- [Rio Grande Wild Turkey facts](#)
- [Merriam's Wild Turkey facts](#)
- [Benjamin Franklin and turkeys- a letter to his daughter](#)

Suggested Daily Schedule:

- Day 1: All About Turkeys
 - Read/say Genesis 1:1-23
 - Hand out Chickadee coloring sheet
 - Using information from the Chickadee teacher resource, tell the students some interesting facts about Chickadees.
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Benjamin Franklin and Turkeys
 - Read [Benjamin Franklin and turkeys- a letter to his daughter](#)
 - Note: there are many legends surrounding Benjamin Franklin's affection toward turkeys. In reading the letter he wrote, rather than just one of the legends, students are able to uncover the facts for themselves
 - Discuss:
 - According to his letter, why did Benjamin Franklin consider the turkey a good candidate for a national symbol?
 - Define:
 - Iridescence
 - Spur
 - Beard
 - Clutch
 - Poult
- Day 2: Kinds of Turkeys
 - Read/say Genesis 1:1-23

- Hand out Baltimore Oriole coloring sheet
 - Using information from the Baltimore Oriole teacher resource, tell the students some interesting facts about Baltimore Orioles
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
- In groups or individually, have students explore the following about different kinds of wild turkeys (Eastern, Rio Grande, Merriam)
 - Where they live
 - Appearance of the turkey
 - Other interesting facts
 - (Be sure to encourage students to use the Words to Remember in their discussion of each kind of turkey)

Week 12



Topics:

- Bird study: Geese

Words to Remember:

- Chickadee (Massachusetts)
- Robin (Michigan)
- Goose: a large waterbird with a long neck, short legs, webbed feet, and a short broad bill; the female of such a bird
- Gander: a male goose
- Gosling: a young goose
- Gaggle: a flock of geese
- Skein: a flock of wild geese or swans in flight, typically in a V-shaped formation.
- Culmen: the upper ridge of a bird's bill. ORIGIN mid 17th cent. (in the sense [top, summit]): from Latin, contraction of columen 'top, summit.'
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Massachusetts state bird: Chickadee](#)
- (Teacher resource) [Michigan state bird: Robin](#)
- (Teacher resource) Handbook of Nature p. 130-135
- (Teacher resource) [Kinds of Geese](#)
- (Teacher resource)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Chickadee coloring sheet](#)
- [Robin coloring sheet](#)

Suggested Daily Schedule:

- Day 1: All About Geese
 - Read/say Genesis 1:1-23
 - Hand out Chickadee coloring sheet
 - Using information from the Chickadee teacher resource, tell the students some interesting facts about Chickadees.
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - November bird migration check
 - Go to: [Migration Map Gallery](#)
 - Discuss:
 - Are the birds moving?
 - What do you notice?
 - Any surprises?
 - Review:
 - Iridescence
 - Spur
 - Beard
 - Clutch

- Poult
- Define:
 - Goose
 - Gander
 - Gosling
 - Gaggle
 - Skein
 - Culmen
- Out of class exploration (prep for next session)
 - Assign students a type of goose (Canada, Brant, Greater Snow, Cackling, etc.)
 - Have them prepare to report on the following:
 - Where they live
 - Appearance of the goose
 - Other interesting facts
 - (Be sure to encourage students to use the Words to Remember in their discussion of each kind of goose)
- Day 2: Kinds of Geese
 - Read/say Genesis 1:1-23
 - Hand out Robin coloring sheet
 - Using information from the Robin teacher resource, tell the students some interesting facts about Robins
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - In groups or individually, have students report the following about different kinds of geese (Canada, Brant, Greater Snow)
 - Where they live
 - Appearance of the goose
 - Other interesting facts
 - (Be sure to encourage students to use the Words to Remember in their discussion of each kind of goose)
 - Discuss:
 - What is unique about geese in comparison to other birds?

Week 13



Topics:

- The birds of Thanksgiving

Words to Remember:

- Common Loon (Minnesota)
- Mockingbird (Mississippi)
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Minnesota state bird: Common Loon](#)
- (Teacher resource) [Mississippi state bird: Mockingbird](#)
- (Teacher resource) Handbook of Nature p. 130-135
- (Teacher resource)
- (Teacher resource)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Common Loon coloring sheet](#)
- [Mockingbird coloring sheet](#)
- [For Thanksgiving Turkeys, Presidential Pardon Gig Takes Practice](#)
- [The Science of Cooking a Turkey](#)

Suggested Daily Schedule:

- Day 1: Science is everywhere!
 - Read/say Genesis 1:1-23
 - Hand out Common Loon coloring sheet
 - Using information from the Common Loon teacher resource, tell the students some interesting facts about Common Loons.

- Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
- Allow students to color their birds either at that time or a later time
- Read [For Thanksgiving Turkeys, Presidential Pardon Gig Takes Practice](#)
- Discuss:
 - A scientist and a farmer have much in common and use the scientific method to solve the problems (though not always formally). Here are the steps of the Scientific Method:
 - Ask a Question
 - Do Background Research
 - Construct a Hypothesis
 - Test Your Hypothesis by Doing an Experiment
 - Analyze Your Data and Draw a Conclusion
 - Communicate Your Results
 - How did Mr. Burkel informally use the Scientific Method to get a turkey ready for the Presidential Pardon?
- Day 2: The science of fowl (and other) cooking
 - Read/say Genesis 1:1-23
 - Hand out Mockingbird coloring sheet
 - Using information from the Mockingbird teacher resource, tell the students some interesting facts about Mockingbirds
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Read [The Science of Cooking a Turkey](#)
 - Watch: <http://vimeo.com/79321835>

Week 14



Topics:

- Bird study: Eagles

Words to Remember:

- Bluebird (Missouri)
- Western Meadowlark (Montana)
- Branching – a behavior common in eaglets just before fledging. In branching, eaglets move from the nest to a branch and flap their wings and jump off the branch. This behavior serves to strengthen flight muscles and acclimate the eaglet to life outside the nest.
- Cervical vertebrae – vertebrae (bones) in the neck region. Raptors have 14 cervical vertebrae that allow them to turn their necks 180 degrees or more. In contrast, humans have only 7 cervical vertebrae and can rotate their heads just 70-90 degrees in either direction.
- Clutch – group of eggs laid in a given breeding season
- Diurnal – describes an animal or bird that is active during the day; Eagles and many raptors are diurnal, indicating that they hunt during the day.
- Fledge – the act of a young bird taking its first flight from the nest
- Hallux – the largest toe, which points backwards in most bird species, assists in perching
- Molt – the natural process of replacing feathers; Raptors molt once a year, usually in spring and summer. They tend to molt symmetrically meaning if they lose the third primary on the right, they also lose the third primary on the left. Raptors do not lose all their flight feathers at one time and are never rendered flightless by a molt. It can take up to four years for an eagle to complete a molt.
- Talon – a sharp, pointed claw on an eagle's toe; each foot has four talons
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Missouri state bird: Bluebird](#)
- (Teacher resource) [Montana state bird: Western Meadowlark](#)
- (Teacher resource) Handbook of Nature p.
- (Teacher resource) [Eagle biology](#)
- (Teacher resource) [Bald eagle fact sheet](#)
- (Teacher resource) [Golden eagle fact sheet](#)
- (Teacher resource) [Bald eagle picture](#)
- (Teacher resource) [Bald eagle picture 2](#)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)

- [Bluebird coloring sheet](#)
- [Western Meadowlark coloring sheet](#)
- [Eagle foot diagram](#)
- [Bald eagle picture](#)
- [Bald eagle picture 2](#)

Suggested Daily Schedule:

- Day 1: All About Eagles
 - Read/say Genesis 1:1-23
 - Hand out Bluebird coloring sheet
 - Using information from the Bluebird teacher resource, tell the students some interesting facts about Bluebirds.
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Show students pictures of eagles (see materials list for links to two examples) and the [Eagle foot diagram](#)
 - Discuss:
 - What do you observe about eagles?
 - Define:
 - Branching
 - Cervical vertebrae
 - Clutch
 - Diurnal
 - Fledge
 - Hallux
 - Molt
 - Talon
 - Out of class exploration (prep for next session)
 - Assign students a type of eagle (golden, bald, harpy, etc.)
 - Have them prepare to report on the following:
 - Where they live
 - Appearance of the eagle
 - Other interesting facts
 - (Be sure to encourage students to use the Words to Remember in their discussion of each kind of eagle)
- Day 2: Kinds of Eagles
 - Read/say Genesis 1:1-23
 - Hand out Western Meadowlark coloring sheet
 - Using information from the Western Meadowlark teacher resource, tell the students some interesting facts about Western Meadowlarks
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - In groups or individually, have students report the following about different kinds of eagles (bald, golden, harpy, etc.)
 - Where they live
 - Appearance of the eagle
 - Other interesting facts
 - (Be sure to encourage students to use the Words to Remember in their discussion of each kind of eagle)
 - Discuss:
 - What is unique about eagles in comparison to other birds?

Week 15



Topics:

- Bird study: Owls

Words to Remember:

- Western Meadowlark (Nebraska)
- Mountain Bluebird (Nevada)
- Parliament: a group of owls ORIGIN Middle English : from Old French parlement 'speaking,' from the verb parler to speak.
- Pellet: a small mass of bones and feathers regurgitated by a bird of prey or other bird. ORIGIN late Middle English : from Old French pelote 'metal ball,' from a diminutive of Latin pila 'ball.'
- Alula: a group of small quill feathers on the first digit of a bird's wing. ORIGIN late 18th cent.: modern Latin, literally 'small wing,' diminutive of ala.

- Coverts: any of the feathers covering the bases of the main flight or tail feathers of a bird. ORIGIN Middle English (in the general senses [covered] and [a cover]): from Old French, 'covered,' past participle of covrir
- Scapulars: a scapular feather (of or relating to the shoulder or shoulder blade). ORIGIN late 15th cent.: from late Latin scapulare, from scapula 'shoulder.' The adjective (late 17th cent.) and the later senses of the noun are from scapula + -ar.
- Ear tuft: each of a pair of tufts of longer feathers on the top of the head of some owls. They are unconnected with the true ears.
- Nictitating membrane: a whitish or translucent membrane that forms an inner eyelid in birds, reptiles, and some mammals. It can be drawn across the eye to protect it from dust and keep it moist. Also called third eyelid .
ORIGIN early 18th cent.: nictitating based on medieval Latin nictitat- 'blinked,' frequentative of nictare.
- Gape: ORIGIN Middle English : from Old Norse gapa; related to gap .
- Cere: a waxy, fleshy covering at the base of the upper beak in some birds. ORIGIN late 15th cent.: from Latin cera 'wax.'
- Occiput: the back of the head or skull. ORIGIN late Middle English : from Latin occiput, from ob- 'against' + caput 'head.'
- Nuchal band: of or relating to the nape of the neck. ORIGIN mid 19th cent.: from obsolete nucha [nape] (from medieval Latin nucha 'medulla oblongata,' from Arabic nu k aḡ 'spinal marrow') + -al .

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- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Nebraska state bird: Western Meadowlark](#)
- (Teacher resource) [Nevada state bird: Mountain Bluebird](#)
- (Teacher resource) Handbook of Nature p.
- (Teacher resource) [Night Stalker](#)
- (Teacher resource) [Owl Pages](#)
- (Teacher resource) [Video- Owls](#) (this would be excellent to show the students if time allows)
- (Teacher resource)
- (Teacher resource)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Mountain Bluebird coloring sheet](#)
- [Western Meadowlark coloring sheet](#)
- [Owl Physiology diagram](#)
- [Owl Head \(long eared\) diagram](#)
- [Owl Head \(side\) diagram](#)

Suggested Daily Schedule:

- Day 1: All About Owls
 - Read/say Genesis 1:1-23
 - Hand out Western Meadowlark coloring sheet
 - Using information from the Western Meadowlark teacher resource, tell the students some interesting facts about Western Meadowlarks.
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Show students owl diagrams
 - Discuss:
 - What do you observe about owls?
 - Define:
 - Parliament
 - Pellet
 - Alula
 - Coverts
 - Scapulars
 - Ear tuft
 - Nictitating membrane
 - Gape
 - Cere
 - Occiput
 - Nuchal band
 - Out of class exploration (prep for next session)
 - Assign students a type of owl (Great Horned, Snowy, Screech, etc.)

- Have them prepare to report on the following:
 - Where they live
 - Appearance of the owl
 - Other interesting facts
 - (Be sure to encourage students to use the Words to Remember in their discussion of each kind of owl)
- Day 2: Kinds of Owls
 - Read/say Genesis 1:1-23
 - Hand out Mountain Bluebird coloring sheet
 - Using information from the Mountain Bluebird teacher resource, tell the students some interesting facts about Mountain Bluebirds
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - In groups or individually, have students report the following about different kinds of owls (Great Horned, Snowy, Screech, etc.)
 - Where they live
 - Appearance of the owl
 - Other interesting facts
 - (Be sure to encourage students to use the Words to Remember in their discussion of each kind of owl)
 - Discuss:
 - What is unique about owl in comparison to other birds?

Week 16



Topics:

- Bird study: Other interesting birds of prey

Words to Remember:

- Purple Finch (New Hampshire)
- Eastern Goldfinch (New Jersey)
- Raptor: a bird of prey ORIGIN late Middle English : from Latin, literally ‘plunderer,’ from rapt- ‘seized,’ from the verb rapere.
-
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [New Hampshire state bird: Purple finch](#)
- (Teacher resource) [New Jersey state bird: Eastern Goldfinch](#)
- (Teacher resource) Handbook of Nature p.
- _

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Purple Finch coloring sheet](#)
- [Eastern Goldfinch coloring sheet](#)
- [Secretary bird](#)
- [Roadrunner](#)
- [Peregrin falcon](#)
- [Birds of prey beaks/feet](#)
- [Birds of prey pictures](#)
- [Birds of prey pictures 2](#)
- [Birds of prey pictures 3](#)
- [Weeks 13-16 Quiz](#)
- [Weeks 13-16 Quiz Key](#)

Suggested Daily Schedule:

- Day 1: All About Birds of Prey
 - Read/say Genesis 1:1-23
 - Hand out Purple Finch coloring sheet
 - Using information from the Purple Finch teacher resource, tell the students some interesting facts about Purple Finches.
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).

- Allow students to color their birds either at that time or a later time
- Discuss:
 - Have students recall facts/words to remember about owls and eagles
 - What did they have in common? What was different?
 - Have students or teacher make a list of observations on paper or a chalk board
- Show students pictures of birds of prey
 - [Birds of prey beaks/feet](#)
 - [Birds of prey pictures](#)
 - [Birds of prey pictures 2](#)
 - [Birds of prey pictures 3](#)
- Discuss:
 - Based on a larger sample of birds of prey, do you have anything to add to your list of observations?
- Define:
 - Raptor
- Out of class exploration (prep for next session)
 - Assign students a type of bird of prey (Secretary Bird, Roadrunner, Peregrin Falcon, etc.)
 - Have them prepare to report on the following:
 - Where they live
 - Appearance of the owl
 - Other interesting facts
 - (Be sure to encourage students to use the Words to Remember in their discussion of each bird of prey)
- Day 2: Other interesting birds of prey
 - Read/say Genesis 1:1-23
 - Hand out Eastern Goldfinch coloring sheet
 - Using information from the Eastern Goldfinch teacher resource, tell the students some interesting facts about Eastern Goldfinches (this is review, but it has been awhile)
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Give students Weeks 13-16 Quiz
 - In groups or individually, have students report the following about different kinds of birds of prey (Secretary Bird, Roadrunner, Peregrin Falcon, etc.)
 - Where they live
 - Appearance
 - Other interesting facts
 - (Be sure to encourage students to use the Words to Remember in their discussion of each bird of prey)

Week 17



Topics:

- Fish anatomy: anatomical directions and axes

Words to Remember:

- Roadrunner (New Mexico)
- Bluebird (New York)
- Dorsal side: of, on, or relating to the upper side or back of an animal ORIGIN late Middle English : from late Latin dorsalis, from Latin dorsum 'back.'
- Ventral side: of, on, or relating to the underside of an animal ORIGIN late Middle English : from Latin venter, ventr- 'belly' + -al .
- Anterior end: nearer the front, esp. situated in the front of the body, or nearer to the head or forepart ORIGIN mid 16th cent.: from French antérieur or Latin anterior, comparative of ante 'before.'
- Posterior end: further back in position; of or nearer the rear or hind end, esp. of the body or a part of it ORIGIN early 16th cent. (as a plural noun denoting descendants): from Latin, comparative of posterus 'following,' from post 'after.'
- Proximal end: situated nearer to the center of the body or the point of attachment ORIGIN early 19th cent. (as a term in anatomy and zoology): from Latin proximus 'nearest' + -al .
- Distal end: situated away from the center of the body or from the point of attachment. ORIGIN early 19th cent.: from distant
- Medial: situated near the median plane of the body or the midline of an organ. The opposite of lateral . ORIGIN late 16th cent. (in the sense [relating to the mean or average]): from late Latin medialis, from Latin medius 'middle.'
- Lateral: situated on one side or other of the body or of an organ, esp. in the region furthest from the median plane. The opposite of medial. ORIGIN late Middle English : from Latin lateralis, from latus, later- 'side.'
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)

- (Teacher resource) [New Mexico state bird: Roadrunner](#)
- (Teacher resource) [New York state bird: Bluebird](#)
- (Teacher resource) Handbook of Nature p. 144-169
- (Teacher resource) [Etymology of anatomy](#)
- (Teacher resource) [BBC Radio 4 Interview about history and culture of Galen](#)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Roadrunner coloring sheet](#)
- [Bluebird coloring sheet](#)
- [Anatomical directions and axes diagram](#)
- [Interactive web-based anatomical terminology](#)
- [Human anatomical directions and axes diagram](#)
- Masking tape (or something to temporarily mark the floor)- (or sidewalk chalk if the weather is amenable)
- Chair

Suggested Daily Schedule:

- Day 1: Anatomical directions and axes
 - Read/say Genesis 1:1-23
 - Hand out Roadrunner coloring sheet
 - Using information from the Roadrunner teacher resource, tell the students some interesting facts about Roadrunners
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Discuss:
 - Give students a copy of [Anatomical directions and axes diagram](#)
 - Have students take notes on the following words
 - Dorsal side
 - Ventral side
 - Anterior side
 - Posterior side
 - Proximal end
 - Distal end
 - Medial
 - Lateral
 - In pairs or individually, have students explore the [Interactive web-based anatomical terminology](#) site
 - Discuss any observations or questions the students have
- Day 2: Understanding anatomical terminology
 - Read/say Genesis 1:1-23
 - Hand out Bluebird coloring sheet
 - Using information from the Bluebird teacher resource, tell the students some interesting facts about Bluebirds (this is review, but it has been awhile)
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Comparison of anatomical directions and axes in fish and people
 - Have students look again at their [Anatomical directions and axes diagram](#)
 - Give students the [Human anatomical directions and axes diagram](#)
 - Discuss:
 - What are some differences (aside from the additional terms on the human anatomy diagram) between the fish diagram and human diagram?
 - Which is easier to visualize?
 - Why?
 - Demonstration
 - Put a "plus" sign on the floor with masking tape (or sidewalk chalk outside if the weather is amenable). The plus sign should be approximately 4 feet by 4 feet
 - Put a chair at the center of the mark on the floor
 - Have students demonstrate the anatomical direction terms in relation to the mark on the floor:
 - Dorsal side
 - Ventral side
 - Anterior end
 - Posterior end
 - Proximal end

- Distal end
- Medial
- Lateral
- For some students, this will be a very abstract demonstration. Encourage the students to work together to demonstrate the terms correctly.
- Discuss:
 - Think about the diagrams and humans vs. animals
 - Why is it necessary to have posterior and dorsal as terms? How about anterior and ventral?
 - Think of a situation (a veterinarian, for example) in which having both terms is beneficial

Week 18



Topics:

- Fish anatomy: swimming

Words to Remember:

- Cardinal (North Carolina)
- Western Meadowlark (North Dakota)
- Pectoral Fin: Each of a pair of fins situated on either side just behind a fish's head, helping to control the direction of movement during locomotion. The pectoral fin allows for abrupt changes in side-to-side direction and speed. It also acts as a brake to decrease speed while swimming.
- Pelvic Fin: Each of a pair of fins on the underside of a fish's body, attached to the pelvic girdle and helping to control direction. Also called ventral fin. The pelvic fin stabilizes the fish while swimming and allows for up-and-down movement in the water.
- Anal Fin: An unpaired fin located on the underside of a fish posterior to the anus. The anal fin stabilizes the fish while swimming.
- Caudal Fin: Another term for tail fin. The caudal fin moves, propels or pushes the fish through the water.
- Dorsal Fin: An unpaired fin on the back of a fish or whale, e.g., the tall triangular fin of a shark or killer whale. The dorsal fin helps maintain balance while swimming.
- Fusiform: tapering at both ends; spindle-shaped. ORIGIN mid 18th cent.: from Latin fusus 'spindle' + -iform .
- Compressed: having a narrow shape as if flattened, esp. sideways ORIGIN late Middle English : from Old French compresseur or late Latin compressare, frequentative of Latin comprimere, from com- 'together' + premere 'to press' ; or directly from compress- 'pressed together,' from the verb comprimere.
- Depressed: ORIGIN late Middle English : from Old French depresser, from late Latin depressare, frequentative of deprimere 'press down.'
- Elongate: long in relation to width ORIGIN late Middle English (in the sense [move away, place at a distance]): from late Latin elongat- 'placed at a distance,' from the verb elongare, from Latin e- (variant of ex-) 'away' + longe 'far off,' longus 'long.'
- Truncate: ending abruptly as if cut off across the base or tip. ORIGIN late 15th cent. (as a verb): from Latin truncat- 'maimed,' from the verb truncare.
- Carangiform: a type of fish locomotion in which the fish moves its head slightly but builds considerable amplitude of motion toward the tail
- Anguilliform: a type of locomotion in which a fish moves its entire body, from head to tail, with considerable amplitude
- Pelagic zone: of or relating to the open sea ORIGIN mid 17th cent.: via Latin from Greek pelagikos, from pelagios 'of the sea' (from pelagos 'level surface of the sea').
- Benthic-dwelling: Bottom of a sea, lake, or other body of water. ORIGIN late 19th cent.: from Greek, 'depth of the sea.'
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [North Carolina state bird: Cardinal](#)
- (Teacher resource) [North Dakota state bird: Western Meadowlark](#)
- (Teacher resource) Handbook of Nature p. 144-169
- (Teacher resource) [Etymology of anatomy](#)
- (Teacher resource) [BBC Radio 4 Interview about history and culture of Galen](#)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Cardinal coloring sheet](#)
- [Western Meadowlark coloring sheet](#)
- [Fish anatomy diagram](#) (this will be used multiple weeks)
- [Background Information on Fish](#)

Suggested Daily Schedule:

- Day 1: Fish anatomy- swimming
 - Read/say Genesis 1:1-23
 - Hand out Cardinal coloring sheet
 - Using information from the Cardinal teacher resource, tell the students some interesting facts about Cardinals
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Review:
 - Dorsal side
 - Ventral side
 - Anterior side
 - Posterior side
 - Proximal end
 - Distal end
 - Medial
 - Lateral
 - Give each student a [Fish anatomy diagram](#)
 - Have students roughly label the anatomical directions and axes
 - Discuss:
 - Pectoral Fin
 - Pelvic Fin
 - Anal Fin
 - Caudal Fin
 - Dorsal Fin
 - Have students take notes on definitions on their diagrams.
 - Have students discuss the definitions further using the anatomical directions terminology (some, like dorsal fin, will be very easy)
- Day 2 Prep:
 - Give each student: [Background Information on Fish](#)
 - Assign each student (or groups of students) a section on which to report to the class (they are not just reading off of the handout):
 - Fins
 - Body Shape
 - Swimming Style
 - Habitat
 - Remind students that their reports, regardless of topic, need to relate to fish anatomy as it relates to swimming (the Habitat topic will be the most "outside the box" in terms of relating it to swimming anatomy- students will have to think, not just Google)
 - Encourage students to use anatomical directions terminology in their reports
- Day 2: Fish anatomy- swimming
 - Read/say Genesis 1:1-23
 - Hand out Western Meadowlark coloring sheet
 - Using information from the Western Meadowlark teacher resource, tell the students some interesting facts about Western Meadowlarks (this is review, but it has been awhile)
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Review:
 - Pectoral Fin
 - Pelvic Fin
 - Anal Fin
 - Caudal Fin
 - Dorsal Fin
 - Discuss:
 - Have students give their reports on Fins, Body Shape, Swimming Style, and Habitat
 - If students did not make connections between the topics in their reports, do so as a class once all of the reports are concluded
 - If student did make connections between topics, bring those back to light (example, compressed body shape and living around underwater structures). Teachers and students may find the Fish Anatomy Connections chart helpful for organizing their observations.
 - Words to remember:
 - Fusiform:
 - Compressed:

- Depressed
- Truncate:
- Carangiform:
- Anguilliform:
- Benthic-dwelling

Week 19



Topics:

- Fish anatomy: eating and breathing

Words to Remember:

- Cardinal (Ohio)
- Scissor-tailed Flycatcher (Oklahoma)
- Nares: Similar to nostrils, except nares are used for smelling only (nostrils are used for both smelling and breathing). ORIGIN late 17th cent.: plural of Latin naris 'nostril, nose.'
- Operculum: The bony flap that protects the gills from harm. It opens and closes to allow water to pass over the gills. ORIGIN early 18th cent.: from Latin, literally 'lid, covering,' from operire 'to cover.'
- Vent: The vent removes waste and extra water. It is also the outlet for eggs or milt (sperm) during spawning. ORIGIN late Middle English : alteration of dialect fent, from Old French fente 'slit,' based on Latin findere 'cleave.'
- Scales: Small, thin horny or bony plates protecting the skin of fish and reptiles, typically overlapping one another. Scales protect the fish from injury. ORIGIN Middle English (in the sense [drinking cup,] surviving in South African English): from Old Norse skál 'bowl,' of Germanic origin; related to Dutch schaal, German Schale 'bowl,' also to English dialect shale [dish.]
- Barbels: A fleshy filament growing from the mouth or snout of a fish. Barbels are the "whiskers" found on the head area of fish such as catfish or bullheads. On the catfish and bullheads, barbels are thought to be a sensory organ to help track down prey or food. Sturgeon also have barbels. ORIGIN late Middle English : via Old French from late Latin barbellus, diminutive of barbus 'barbel,' from barba 'beard.'
- Terminal: situated at, forming, or denoting the end of a part or series of parts furthest from the center of the body. ORIGIN early 19th cent.: from Latin terminalis, from terminus 'end, boundary.'
- Superior: further above or out; higher in position. ORIGIN late Middle English : from Old French superiour, from Latin superior, comparative of superus 'that is above,' from super 'above.'
- Inferior: low or lower in position ORIGIN late Middle English: from Latin, comparative of inferus 'low.'
- Gills: The paired respiratory organ of fishes and some amphibians, by which oxygen is extracted from water flowing over surfaces within or attached to the walls of the pharynx.
- Swim Bladder: A gas-filled sac present in the body of many bony fishes, used to maintain and control buoyancy. The swim bladder is a long, skinny organ that can inflate/deflate with air allowing fish to float at different levels in the water column.
- Pyloric cecum: This organ with fingerlike projections is located near the junction of the stomach and the intestines. It is known to secrete enzymes that aid in digestion, may function to absorb digested food, or do both.
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Ohio state bird: Cardinal](#)
- (Teacher resource) [Oklahoma state bird: Scissor-tailed Flycatcher](#)
- (Teacher resource) Handbook of Nature p. 144-169
- (Teacher resource) [Etymology of anatomy](#)
- (Teacher resource) [Internal fish anatomy](#)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Cardinal coloring sheet](#)
- [Scissor-tailed Flycatcher coloring sheet](#)
- [Fish anatomy diagram](#) (this will be used multiple weeks)
- [Internal Anatomy of fish](#)
- [Background Information on Fish](#)
- Fish anatomy connections chart

Suggested Daily Schedule:

- Day 1: Fish anatomy- external- eating and breathing
 - Read/say Genesis 1:1-23

- Hand out Cardinal coloring sheet
 - Using information from the Cardinal teacher resource, tell the students some interesting facts about Cardinals (this is review)
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
- Review:
 - Pectoral Fin
 - Pelvic Fin
 - Anal Fin
 - Caudal Fin
 - Dorsal Fin
 - Fusiform:
 - Compressed:
 - Depressed
 - Truncate:
 - Carangiform:
 - Anguilliform:
 - Benthic-dwelling
- Give each student a [Fish anatomy diagram](#)
- Discuss (note: always encourage students to ponder the relationship between the etymology-origin of a word and its usage- example, why might the origin of scales be bowl?):
 - Nares
 - Operculum
 - Vent
 - Scales
 - Barbels
 - Terminal
 - Superior
 - Inferior
 - Gills
- Have students take notes on definitions on their diagrams.
- Have students discuss the definitions further using the anatomical directions terminology
- Day 2 Prep:
 - Give each student: [Background Information on Fish](#)
 - Assign each student (or groups of students) a section on which to report to the class (they are not just reading off of the handout):
 - Mouth Position
 - Color and Pattern
 - Habitat
 - Remind students that their reports, regardless of topic, need to relate to fish anatomy as it relates to eating and breathing
 - Encourage students to use the Words to Remember in their reports
- Day 2: Fish anatomy- internal- eating and breathing
 - Read/say Genesis 1:1-23
 - Hand out Scissor-tailed Flycatcher coloring sheet
 - Using information from the Scissor-tailed Flycatcher teacher resource, tell the students some interesting facts about Scissor-tailed Flycatchers
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Review:
 - Nares
 - Operculum
 - Vent
 - Scales
 - Barbels
 - Terminal
 - Superior
 - Inferior
 - Discuss:
 - Have students give their reports on Mouth Position, Color and Pattern, and Habitat
 - If students did not make connections between the topics in their reports, do so as a class once all of the reports are concluded
 - If student did make connections between topics, bring those back to light (example, inferior mouth position and being benthic-dwelling). Teachers and students may find the Fish Anatomy Connections chart helpful for organizing their

observations.

- Discuss:

- Give students [Internal Anatomy of fish](#) diagram
- Define:
 - Swim bladder
 - Pyloric cecum
- Looking at the internal anatomy of fish diagram, have students observe and list which anatomical parts are for breathing and which are for eating
 - If students do not know the function of any of the parts, encourage them to grab a dictionary to define the part.

Discuss the finding as a class.

- Note: there will be a fish anatomy quiz next week

Week 20



Topics:

- Fishy questions

Words to Remember:

- Western Meadowlark (Oregon)
- Roughed Grouse (Pennsylvania)
- Salinity: containing salt ORIGIN late 15th cent.: from Latin sal 'salt'
- Turbidity: cloudy, opaque, or thick with suspended matter ORIGIN late Middle English (in the figurative sense): from Latin turbidus, from turba 'a crowd, a disturbance.'
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Oregon state bird: Western Meadowlark](#)
- (Teacher resource) [Pennsylvania state bird: Roughed Grouse](#)
- (Teacher resource) Handbook of Nature p. 144-169

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Western Meadowlark coloring sheet](#)
- [Roughed Grouse coloring sheet](#)
- [How could fish survive the Genesis flood?](#)
- [External Fish Anatomy Quiz](#)
- [External Fish Anatomy Quiz Answers](#)
- [Internal Fish Anatomy Quiz](#)
- [Internal Fish Anatomy Quiz Answers](#)

Suggested Daily Schedule:

- Day 1: How did fish survive the flood?
 - Read/say Genesis 1:1-23
 - Hand out Western Meadowlark coloring sheet
 - Using information from the Western Meadowlark teacher resource, tell the students some interesting facts about Western Meadowlarks (this is review)
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Read: [How could fish survive the Genesis flood?](#) (depending on time allotment, this may take 2 days)
 - Discuss: (this can occur Day 1 or Day 2)
 - What factors influenced whether fish lived or died during the Flood?
 - How does fish anatomy factor into the survival of fish during the Flood?
- Day 2:
 - Read/say Genesis 1:1-23
 - Hand out Roughed Grouse coloring sheet
 - Using information from the Roughed Grouse teacher resource, tell the students some interesting facts about Roughed Grouse
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time

- Take Fish Anatomy Quizzes
-

Week 21



Topics:

- Pacific Salmon
- Salmon migration

Words to Remember:

- Rhode Island Red (Rhode Island)
- Great Carolina Wren (South Carolina)
- Alevin: a newly spawned salmon or trout still carrying the yolk.
ORIGIN mid 19th cent.: from Old French, based on Latin allevare 'raise up.'
- Fry: young fish, esp. when newly hatched.
- Smolt: a young salmon, when it becomes silvery and migrates to the sea for the first time.
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Rhode Island state bird: Rhode Island Red](#)
- (Teacher resource) [South Carolina state bird: Great Carolina Wren](#)
- (Teacher resource) Handbook of Nature p. 144-169

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Rhode Island Red coloring sheet](#)
- [Great Carolina Wren coloring sheet](#)
- [Swimming Upstream PDF](#)
- [Pacific Salmon PDF](#)

Suggested Daily Schedule:

- Day 1: Salmon
 - Read/say Genesis 1:1-23
 - Hand out Rhode Island Red coloring sheet
 - Using information from the Rhode Island Red teacher resource, tell the students some interesting facts about Rhode Island Reds
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Read: [Pacific Salmon](#)
 - Discuss:
 - What did you learn about Pacific Salmon? (observations from the article)
- Day 2: Swimming upstream
 - Read/say Genesis 1:1-23
 - Hand out Great Carolina Wren coloring sheet
 - Using information from the Great Carolina Wren teacher resource, tell the students some interesting facts about Great Carolina Wrens
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
 - Review: Life cycle of Pacific salmon
 - Read: [Swimming upstream](#)
 - Discuss:
 - How do salmon swim upstream? Describe their three navigational systems.
 - View:

Salmon Migration



- Discuss: What did you observe in the video?

Week 22



Topics:

- "Famous" fish

Words to Remember:

- Ring-necked Pheasant (South Dakota)
- Mockingbird (Tennessee)
- Alevin: a newly spawned salmon or trout still carrying the yolk.
ORIGIN mid 19th cent.: from Old French, based on Latin allevare 'raise up.'
- Fry: young fish, esp. when newly hatched.
- Smolt: a young salmon, when it becomes silvery and migrates to the sea for the first time.
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [South Dakota state bird: Ring-necked Pheasant](#)
- (Teacher resource) [Tennessee state bird: Mockingbird](#)
- (Teacher resource) Handbook of Nature p. 144-169

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Ring-necked Pheasant coloring sheet](#)
- [Mockingbird coloring sheet](#)
- World Map
- *Finding Nemo* movie clip (links below)

Suggested Daily Schedule:

Day 1: Famous Fish

- Read/say Genesis 1:1-23
- Hand out Ring-necked Pheasant coloring sheet
 - Using information from the Ring-necked Pheasant teacher resource, tell the students some interesting facts about Ring-necked Pheasants
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
- Read: [Parrotfish](#)
- Read: [Moorish Idol](#)
- Read: [Orange Clownfish](#)
- Discuss:
 - What did you learn about these fish? Where do they live, etc.? (If there are several students, you may want to have the students read the articles and report on what they read)
 - Make a list of similarities and differences based on what students learned

Day 2: Famous Fish Fiction

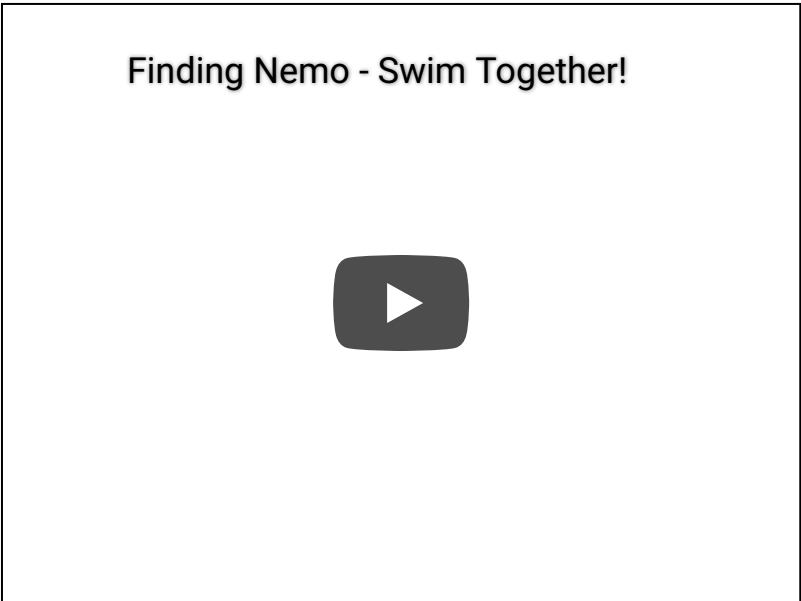
- Read/say Genesis 1:1-23

- Hand out Mockingbird coloring sheet
 - Using information from the Mockingbird teacher resource, tell the students some interesting facts about Mockingbirds
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
- Discuss:
 - Part of being a scientist is always looking for truth in your observations. The movie *Finding Nemo* portrays Parrotfish, Moorish Idols, and Orange Clownfish. Is it possible for all of these fish to have known each other, let alone be friends? (Keeping in mind that this is all anthropomorphized, you are looking for whether these fish would have been enemies/food for one another)
 - Review facts from yesterday
 - Using the map, locate where these three fish might be located
- Watch *Finding Nemo* movie clip

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- Discuss:
 - Does Hollywood do a good job of teaching science? In other words, are they promoting truth in how they portray God's creation?_(students might note that some fish are just in a tank, students might also note that a fish could get lost and end up other places, at which point you may encourage students to explore ocean currents to see if that is realistic- the whole point of this is to encourage curiosity)

Week 23



Topics:

- Catfish
- Words to Remember:

- Mockingbird (Texas)
- Mockingbird (Utah)
- Alevin: a newly spawned salmon or trout still carrying the yolk.
ORIGIN mid 19th cent.: from Old French, based on Latin allevare ‘raise up.’
- Fry: young fish, esp. when newly hatched.
- Smolt: a young salmon, when it becomes silvery and migrates to the sea for the first time.
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Texas state bird: Mockingbird](#)
- (Teacher resource) [Utah state bird: Common American Gull](#)

- (Teacher resource) Handbook of Nature p. 144-169

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Mockingbird coloring sheet](#)
- [Common American Gull coloring sheet](#)
- [Paddlefish are tuned to eat only plankton PDF](#)
- [The nose knows PDF](#)
- [Catfish PDF](#)

Suggested Daily Schedule:

Day 1: Catfish

- Read/say Genesis 1:1-23
- Hand out Mockingbird coloring sheet
 - Using information from the Mockingbird teacher resource, tell the students some interesting facts about Mockingbirds
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
- Read: [Catfish](#)
- Discuss:
 - What did you learn about these fish? Where do they live, etc.?
 - Thinking back to the anatomy you learned, how would you describe catfish using those terms?
 - What is especially unique about catfish in comparison to other fish?

Day 2: Fishy Physics

- Read/say Genesis 1:1-23
- Hand out Common American Gull coloring sheet
 - Using information from the Common American Gull teacher resource, tell the students some interesting facts about Common American Gulls
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
- Read: [The nose knows](#)
- Read: [Paddlefish are tuned to eat only plankton PDF](#)
- Discuss:
 - How was science (the scientific method) used to discover the Paddlefish's unique abilities?
 - List each step of the scientific method and what was done for that step
 - What were those abilities?

Week 24



Topics:

- Midwest fishing

Words to Remember:

- Hermit Thrush (Vermont)
- Cardinal (Virginia)
- Alevin: a newly spawned salmon or trout still carrying the yolk.
ORIGIN mid 19th cent.: from Old French, based on Latin allevare 'raise up.'
- Fry: young fish, esp. when newly hatched.
- Smolt: a young salmon, when it becomes silvery and migrates to the sea for the first time.
- Walleye: a North American pikeperch with large, opaque silvery eyes. It is a commercially valuable food fish and a popular sporting fish. ORIGIN early 16th cent.: back-formation from earlier wall-eyed, from Old Norse vagleygr; related to Icelandic vagl 'film over the eye.'
- Trout: a chiefly freshwater fish of the salmon family, found in both Eurasia and North America and highly valued as food and game. ORIGIN late Old English truht, from late Latin tructa, based on Greek trōgein 'gnaw.'
- Bass: the common European freshwater perch. ORIGIN late Middle English: alteration of dialect barse, of Germanic origin; related to Dutch baars and German Barsch .
- Perch: an edible freshwater fish with a high spiny dorsal fin, dark vertical bars on the body, and orange lower fins. ORIGIN late Middle English: from Old French perche, via Latin from Greek perkē .
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Vermont state bird: Hermit Thrush](#)
- (Teacher resource) [Virginia state bird: Cardinal](#)
- (Teacher resource) Handbook of Nature p. 144-169

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Hermit Thrush coloring sheet](#)
- [Cardinal coloring sheet](#)
- [Exploding Fish](#) PDF
- [Bass Facts](#) (many articles)
- [Bass Facts](#) (just the facts)
- [Trout Facts](#)
- [Walleye Facts](#)
- [Fish of Minnesota](#)

Suggested Daily Schedule:

Day 1: Catching Fish

- Read/say Genesis 1:1-23
- Hand out Hermit Thrush coloring sheet
 - Using information from the Hermit Thrush teacher resource, tell the students some interesting facts about Hermit Thrushes
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
- Read:
 - Have students read articles about different kinds of fish caught for recreational purposes ([Walleye](#), [Trout](#), Bass, Perch, or others).
 - Have students report on the fish about which they read.
- Discuss:
 - What did you learn about these fish? Where do they live, etc.?
 - Thinking back to the anatomy you learned, how would you describe the fish using those terms?
 - What is especially unique about each of these fish? (If they didn't research each fish, they may have to wait until all fish have been presented to decide what is unique about the fish on which they reported.

Day 2: Exploding Fish

- Read/say Genesis 1:1-23
- Hand out Cardinal coloring sheet
 - Using information from the Cardinal teacher resource, tell the students some interesting facts about Cardinals
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
- Read: [Exploding Fish](#)
- Discuss:
 - What did you learn about what happens to fish when they die? (encourage students to use their fish anatomy knowledge in the discussion)
 - What did you learn about fish fossils?

Week 25



Topics:

- Commercial fishing

Words to Remember:

- Willow Goldfinch (Washington)
- Cardinal (West Virginia)
- Vocation: ORIGIN late Middle English : from Old French, or from Latin vocatio(n-), from vocare 'to call.'
- Menhaden: a large deep-bodied fish of the herring family that occurs along the east coast of North America. The oil-rich flesh is used to make fish meal and fertilizer. • Genus Brevoortia, family Clupeidae: several species, in particular B. tyrannus. ORIGIN late 18th cent.: from Algonquian.
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Washington state bird: Willow Goldfinch](#)
- (Teacher resource) [West Virginia state bird: Cardinal](#)
- (Teacher resource) Handbook of Nature p. 144-169

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Willow Goldfinch coloring sheet](#)
- [Cardinal coloring sheet](#)
- [The Wonder of the Fish Called Menhaden](#)
- [Commercial Fisherman](#)

Suggested Daily Schedule:

Day 1: Vocation and Dominion

- Read/say Genesis 1:1-23
- Hand out Willow Goldfinch coloring sheet
 - Using information from the Willow Goldfinch teacher resource, tell the students some interesting facts about Willow Goldfinchs
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
- Read: [The Wonder of the Fish Called Menhaden](#)
- Discuss:
 - For what unique purposes was the menhaden created?
 - Using your knowledge of fish anatomy, describe the menhaden.
 - What is vocation? (Think Table of Duties from The Small Catechism)
 - What is dominion and what has it to do with commercial fishing?
 - Is commercial fishing bad? (No!)

Day 2: A day in the life

- Read/say Genesis 1:1-23
- Hand out Cardinal coloring sheet
 - Using information from the Cardinal teacher resource, tell the students some interesting facts about Cardinals
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
- Read: [Professional Angler](#)
- Discuss:
 - How is a professional angler different from a commercial fisherman?

Week 26



Topics:

- Taxidermy: Art and Science

Words to Remember:

- Robin (Wisconsin)
- Western Meadowlark (Wyoming)
- Art: the expression or application of human creative skill and imagination, typically in a visual form such as painting or sculpture, producing works to be appreciated primarily for their beauty or emotional power ORIGIN Middle English: via Old French from Latin ars, art- .
- Science: the intellectual and practical activity encompassing the systematic study of the structure and behavior of the physical and natural world through observation and experiment ORIGIN Middle English (denoting knowledge): from Old French, from Latin scientia, from scire 'know.'
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) [Wisconsin state bird: Robin](#)
- (Teacher resource) [Wyoming state bird: Western Meadowlark](#)
- (Teacher resource) Handbook of Nature p. 144-169

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Robin coloring sheet](#)
- [Western Meadowlark coloring sheet](#)
- [How'd they do that?](#)
- Dictionary
- Mounting a Rainbow Trout (YouTube)

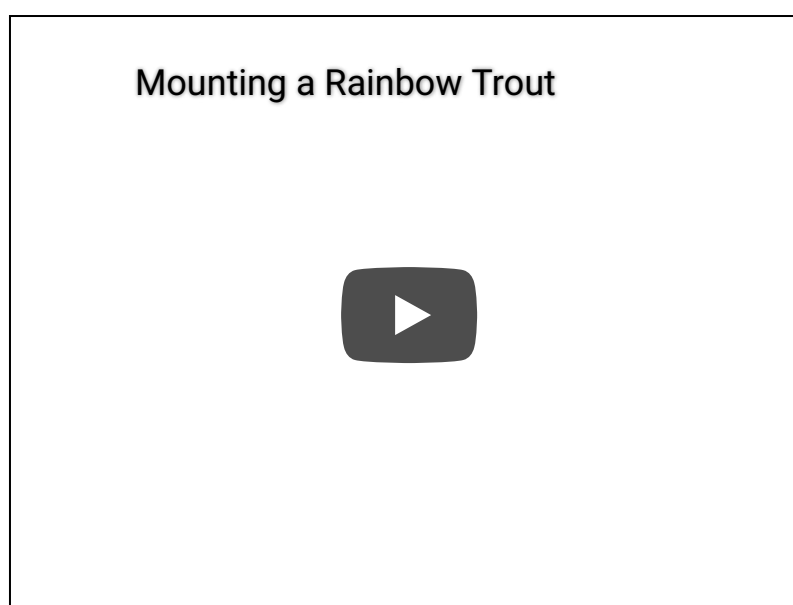
Suggested Daily Schedule:

Day 1: What is Taxidermy?

- Read/say Genesis 1:1-23
- Hand out Robin coloring sheet
 - Using information from the Robin teacher resource, tell the students some interesting facts about Robins
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
- Read: [How'd they do that?](#)
 - Discuss:
 - What is art?
 - What is science?
 - How is taxidermy art?
 - How is taxidermy science?
 - Is taxidermy more art or science? (This could potentially be argued both ways)

Day 2: Mounting a Rainbow Trout

- Read/say Genesis 1:1-23
- Hand out Western Meadowlark coloring sheet
 - Using information from the Western Meadowlark teacher resource, tell the students some interesting facts about Western Meadowlarks
 - Suggest that students take notes on the back of their coloring sheet (such as color of bird, etc.).
 - Allow students to color their birds either at that time or a later time
- Watch: Mounting Rainbow Trout



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- Discuss:
 - What evidence did the video give for taxidermy being an art?
 - What evidence did the video give for taxidermy being a science? (need to know anatomy, etc.)

Week 27



Topics:

- Vocation: Competition fishing

Words to Remember:

- Robin (Wisconsin)
- Western Meadowlark (Wyoming)
- Art: the expression or application of human creative skill and imagination, typically in a visual form such as painting or sculpture, producing works to be appreciated primarily for their beauty or emotional power ORIGIN Middle English: via Old French from Latin ars, art- .

- Science: the intellectual and practical activity encompassing the systematic study of the structure and behavior of the physical and natural world through observation and experiment ORIGIN Middle English (denoting knowledge): from Old French, from Latin scientia, from scire 'know.'
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) Handbook of Nature p. 144-169

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [Defining a professional bass angler](#) PDF
- Dictionary

Suggested Daily Schedule:

- Day 1: What is a professional competitive fisherman?
 - Read/say Genesis 1:1-23
 - Review state birds
 - Read: [Defining a professional bass angler](#)
 - Discuss:
 - According to this article, what does it take to be a professional competition fisherman?
 - How could the items mentioned apply to other vocations?
 - Thinking about vocation, is this article missing anything? (Encourage students to think about the table of duties from the Small Catechism or other places where God talks about vocation)
 - For next session: What does it take to become a competitive fisherman?
 - Using [this site](#) or others, assign students (or let them choose) different things they need to know to become a competitive fisherman
 - The Bass
 - The Rod
 - The Reel
 - The Water
 - Casting
 - Bait
 - Etc.
- Day 2: Becoming a Competitive Fisherman
 - Read/say Genesis 1:1-23
 - Report:
 - What do you need to know to become a competitive fisherman?
 - What science is involved in the element of competitive fishing you researched?
 - Discuss:
 - Is there more to fishing than just casting a line?

Week 28



Topics:

- Migration: the Spring return

Words to Remember:

- Migratory birds
- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) Handbook of Nature p. 35-37
- (Teacher/Student resource) [Migration Map Gallery](#)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)

- A map or globe (for students to chart a comparative distance)

Suggested Daily Schedule:

- Day 1: The Eagles on tour
 - Read/say Genesis 1:1-23
 - Have students review Eagle migration from the Fall (week 5)
 - Have students view the map for [Eagles](#)
 - Discuss:
 - Where did the eagles start?
 - Where did the eagles go?
 - Have students look at the [Winter-Spring 2014 map](#)
 - Have students look month by month and make observations
 - [Check out the eagle cams!](#) (links are on the right side of the page)
- Day 2: They're back!
 - Read/say Genesis 1:1-23
 - Review:
 - Have students watch the animated map for [Hummingbirds](#)
 - Have students view the map for [Robins](#)
 - Check out the maps for Spring 2014 and make observations
 - [Hummingbirds](#)
 - [Robins](#)
 - Discuss:
 - Why is there a difference between the migration of the hummingbirds and robins?
 - What observations have you made this spring? Have you seen robins? Do you remember your first sighting of the robins?

Week 29



Topics:

- Fascinating science

Words to Remember:

- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) Handbook of Nature p. 35-37
- (Teacher/Student resource)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- A map or globe (for students to chart a comparative distance)

Suggested Daily Schedule:

- Day 1: Bird-saving spider webs
 - Read/say Genesis 1:1-23
 - Read [Bird-saving spider webs](#)
 - Discuss:
 - Where have you observed members of God's creation (aside from people) helping one another?
 - Is it really helping one another or
 - Why is the bird-saving glass called ORNILUX? (Think Latin!)
 - What are other ways people mimic God's creation in technology?
- Day 2: Death Defying Dive Bombers
 - Read/say Genesis 1:1-23
 - Read [Death Defying Dive Bombers](#)
 - Discuss:
 - Recall what you have learned about bird anatomy. What is particularly fascinating about gannets as it relates to anatomy?
 - God spoke birds into being, but that doesn't mean He didn't think through the details. What are some particularly interesting aspects of gannets?

Week 30



Topics:

- Fascinating science

Words to Remember:

- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) Handbook of Nature p. 35-37
- (Teacher/Student resource)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- A map or globe (for students to chart a comparative distance)

Suggested Daily Schedule:

- Day 1: Bird-saving spider webs
 - Read/say Genesis 1:1-23
 - Read Bird-saving spider webs
 - Discuss:
 - Where have you observed members of God's creation (aside from people) helping one another?
 - Is it really helping one another or
 - Why is the bird-saving glass called ORNILUX? (Think Latin!)
 - What are other ways people mimic God's creation in technology?
- Day 2: Death Defying Dive Bombers
 - Read/say Genesis 1:1-23
 - Read Death Defying Dive Bombers
 - Discuss:
 - Recall what you have learned about bird anatomy. What is particularly fascinating about gannets as it relates to anatomy?
 - God spoke birds into being, but that doesn't mean He didn't think through the details. What are some particularly interesting aspects of gannets?

Week 31



Topics:

- Fascinating science

Words to Remember:

- updraft: an upward current or draft of air
- oscillating: vary in magnitude or position in a regular manner around a central point. ORIGIN early 18th cent.: from Latin oscillat- 'swung,' from the verb oscillare .
- vortex: a mass of whirling fluid or air, esp. a whirlpool or whirlwind ORIGIN mid 17th cent.: from Latin vortex, vortic-, literally 'eddy,' variant of vertex.
- undulate: move with a smooth wavelike motion ORIGIN mid 17th cent.: from late Latin undulatus, from Latin unda 'a wave.'
- synchrony: simultaneous action, development, or occurrence ORIGIN mid 19th cent.: from Greek sunkhronos
- metachrony: a wave-like synchrony
- Genesis 1:1-23

Textbook reference and written work:

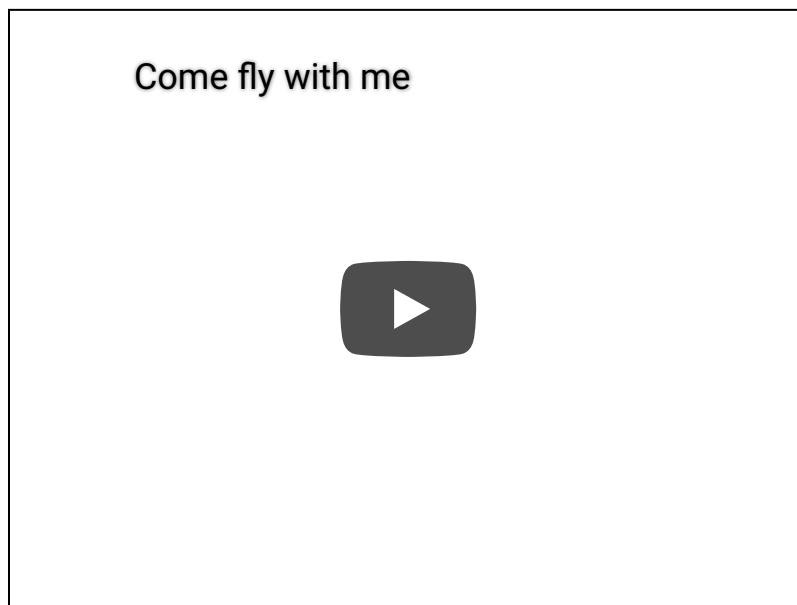
- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) Handbook of Nature p. 35-37
- (Teacher/Student resource)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.
- A map or globe (for students to chart a comparative distance)

Suggested Daily Schedule:

- Day 1: V-formation
 - Read/say Genesis 1:1-23
 - Discuss:
 - Words to remember
 - Read [Why do so many birds fly in a V-formation?](#)
 - Discuss:
 - What are some theories about why birds fly in a V-formation?
 - What are some of the things to which birds instinctively pay attention as they are flying?
- Day 2: Come Fly With Me
 - Read/say Genesis 1:1-23
 - Watch: Come Fly With Me



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- Discuss:
 - What additional insights did you gain after viewing the video?
 - Use the Words to Remember to explain how birds fly in a V-formation and/or what is happening as they fly.

Week 32



Topics:

- Fascinating science

Words to Remember:

- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) Handbook of Nature p. 35-37
- (Teacher/Student resource)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.
- [Birds' Built-in Defenses Fend Off Radiation](#)

Suggested Daily Schedule:

- Day 1: Chernobyl
 - Read/say Genesis 1:1-23
 - Research:
 - What was Chernobyl?
 - Report:
 - After researching Chernobyl, report back and discuss what happened in 1986.
 - What happened?
 - What were the consequences immediately?
 - What are long term consequences of the incident?

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- Day 2: Birds and radiation
 - Read/say Genesis 1:1-23
 - Read: Birds' Built-in Defenses Fend Off Radiation
 - Discuss:
 - We live in a fallen world. Every bad thing we experience is a result of the Fall. In spite of this, God still provides for His creation.
 - How do you see God's provision in the case of birds (and animals) living near Chernobyl?

Week 33



Topics:

- Fascinating science: Penguins

Words to Remember:

- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) Handbook of Nature p. 35-37
- (Teacher/Student resource)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- Penguins
- Scientists Discover Secret to Fast Swimming Penguins

Suggested Daily Schedule:

- Day 1: Penguins
 - Read/say Genesis 1:1-23
 - Read:
 - Penguins
 - Discuss:
 - Why are penguins considered birds? (have feathers, lay eggs, warm blooded)
 - What is fascinating about penguins? (this list could go on and on)
- Day 2: Penguins- Amazing Swimmers
 - Read/say Genesis 1:1-23
 - Read: Scientists Discover Secret to Fast Swimming Penguins
 - Discuss:
 - How do penguins swim so quickly?
 - How might studying how penguins swim help humans?

Week 34



Topics:

- Fascinating science: Peregrine Falcons

Words to Remember:

- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) Handbook of Nature p. 35-37
- (Teacher/Student resource)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- Peregrine Falcon: Nature's Top Gun

Suggested Daily Schedule:

- Day 1: Penguins
 - Read/say Genesis 1:1-23
 - Read:
 - [Peregrine Falcon: Nature's Top Gun](#)
 - Discuss:
 - Encourage students to use their bird anatomy knowledge as they discuss the article.
 - What is fascinating about peregrine falcons? (this list could go on and on)
- Day 2: Peregrine Falcon Live Cameras
 - Read/say Genesis 1:1-23
 - Note: Live cams can be hit and miss. Be sure to check them all and check back!
 - View: [Salt Lake City, Utah live falcon camera \(there are two different cameras\)](#).
 - View: [Columbus, Ohio live falcon camera \(there are two different cameras\)](#).
 - View: [Boise, Idaho live falcon camera](#)
 - View: [Omaha, Nebraska live falcon camera](#)
 - Discuss:
 - What did you observe on the cameras?

Week 35



Topics:

- Fascinating science: Hummingbirds

Words to Remember:

- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) Handbook of Nature p. 35-37
- (Teacher/Student resource)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [The Hummingbird](#)
- [Sweet Design for Hummingbirds](#)
- [Hummingbird-facts](#)
- [Hummingbirds—Designed to Catch Bugs](#)

Suggested Daily Schedule:

- Day 1:
 - Read/say Genesis 1:1-23
 - Read:
 - [Hummingbird-facts](#)
 - [Hummingbirds—Designed to Catch Bugs](#)
 - Discuss:
 - What makes hummingbirds unique?
- Day 2:
 - Read/say Genesis 1:1-23
 - Read:
 - [The Hummingbird](#)
 - [Sweet Design for Hummingbirds](#)
 - Discuss:
 - Hummingbirds, as you have learned, have many unique features. The following videos show hummingbirds in slow motion (the first two) and at normal speed (the third video). Enjoy a unique look at God's unique creation!
 - View:

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Week 36



Topics:

- Birds and fish

Words to Remember:

- Genesis 1:1-23

Textbook reference and written work:

- Read/say Genesis 1:20-23 (verses 20-23 are the theme verses for 5th Grade)
- (Teacher resource) Handbook of Nature p. 35-37
- (Teacher/Student resource)

Materials:

- Bible
- Black board, white board, or something upon which to make lists with students
- Coloring/drawing tools (Crayons, colored pencils, markers, etc.)
- [The Hummingbird](#)
- [Sweet Design for Hummingbirds](#)
- [Hummingbird-facts](#)
- [Hummingbirds—Designed to Catch Bugs](#)

Suggested Daily Schedule:

Day 1:

- Read/say Genesis 1:1-23
- Discuss:
 - Think back to all you have learned about the Fifth Day of creation this year.
 - What stands out as particularly interesting?
 - Why does studying the Fifth Day of creation help you appreciate God's creation?

Day 2:

- Read/say Genesis 1:1-23
- Write:
 - Write a Confirmation that God's creation of birds and fish was good.