Sheltered Instruction Unit Plan

Life Cycles

Melanie Hall
Date: _______  Grade: Second  Subject: Science  Theme: Life Cycle of Living Things

Georgia Standards: S2L1. Students will investigate the life cycles of different living organisms. Students will determine the sequence of the life cycle of common animals in your area: a mammal (dog or cat), a bird (chicken), an amphibian (frog), and an insect (butterfly).

Science Content Objectives: Students are expected to know that some organisms undergo metamorphosis during their life cycles through growth and change. Students will identify and understand the life cycle stage of frogs, butterflies, and chickens from birth to adult. Students will be able to describe the changes in organisms, such as frogs and butterflies, as they undergo metamorphosis. Students will work collaboratively as a whole-class, with partners, and independently, to explore their understanding of life cycles using a variety of tools, activities, and resources.

ELD Language Objectives: Standard 4- English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.

Essential Questions: What is a life cycle? What are the life cycle stages of different organisms?

Key Vocabulary:
- adult- the stage in which an organism is fully developed
- amphibian- an animal that can live on both land and in water
- butterfly- an adult butterfly
- chick- the baby chicken
- cocoon- silky case in which some insects live during the pupa stage
- chrysalis- a butterfly in the pupa stage, which has a hard outer covering
- develop- to grow or reach the next stage in a life cycle
- egg- the beginning stage in the life cycle of many organisms
- embryo- a chicken in the early stages of growth (tiny white spot on yolk- grows into the chick)
- frog- an adult frog without a tail.
- froglet- a small frog that is changing from a tadpole to an adult
- gills- the area near the head of a fish or water animal used for breathing
- hatchling- a young chick that has just hatched from its egg
- hen- adult female
- incubation- warming the eggs
- insect- a small animal that has six legs and a body formed of three parts and that may have wings
- larva- the caterpillar or worm-like stage in the life cycle of some insects
- life cycle- the stages of change that an organism goes through during its life
- metamorphosis- an animal’s change from one shape to a totally different shape
- nest- the place the hen makes for her eggs using twigs, feathers, bits of hay & leaves
- organism- a living thing
- pupa- an insect in the stage of its life cycle when it changes from a larva to an adult
- reproduction- the process by which organisms generate others of the same kind
- rooster- the adult male chicken
- shell- the hard outer covering of an egg
tadpole- the stage in which a young frog looks like a fish and lives only in water
yolk- the yellow part of the egg that contains food for the embryo

Resources and Materials:
Materials for making a Frog sensory tub include a small clear plastic tub, plastic leaves, small vase gems or marbles from the floral section, plastic frog life cycle stages, make a small, green foam lily pad, water (see the following website: http://www.playcreateexplore.org/2012/04/pondlifecycle-of-frog-sensory-binsmall.html)


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Integration of Processes incorporated
| Application | Assessment |
| _x_ Reading | _x_ Individual |
| _x_ Writing | _x_ Group |
| _x_ Speaking | _x_ Written |
| _x_ Listening | _x_ Oral |

LESSON SEQUENCE:
Lesson One: The Life Cycle (45 minutes)
Standard: Students will investigate the life cycles of different living organisms.

Objective: In this lesson, students will understand the sequence of the life cycle stages from birth, growth, reproduction, to death.


Key Vocabulary:
adult- the stage in which an organism is fully developed
butterfly- an adult butterfly
egg- the beginning stage in the life cycle of many organisms
insect- a small animal that has six legs and a body formed of three parts and that may have wings
larva- the caterpillar or worm-like stage in the life cycle of some insects
life cycle- the stages of change that an organism goes through during its life
metamorphosis- an animal’s change from one shape to a totally different shape
organism- a living thing
pupa- an insect in the stage of its life cycle when it changes from a larva to an adult
cocoon- silky case in which some insects live during the pupa stage
chrysalis- a butterfly in the pupa stage, which has a hard outer covering
develop- to grow or reach the next stage in a life cycle
reproduction- the process by which organisms generate others of the same kind

Activities:
1. Tell students that in this unit they will be learning about the life cycle stages that a butterfly, frog, and chicken go through. Complete a KWL chart about life cycles.
2. Read the book Life Cycles by Peter Riley. After reading, ask students the following: What is a life cycle? (a repetitive process of changes that an organism, a living thing, goes through during its life from birth to death) Show picture cards of different life cycles. What were some of the life cycles that we read in this book? (people, plants, butterflies, amphibians, frogs, reptiles, birds, and mammals) What life cycle stages do all living things have in common? (born, grow, adults, reproduce, die) Draw and label a model on board of these stages as you discuss them.
3. Tell students that all living things go through life cycles. All living things are born, grow, reproduce, and die. (refer to listed stages on board) The stages of the life cycle can be different. For example, some living things are born alive live a puppy or a cat. Some living things hatch from an egg. Many living things look like the same at birth as they do as an adult. They are just smaller at birth. Some insects and animals go through a life cycle where they look totally different at birth than they do when they are an adult. This is called metamorphosis.
4. Show life cycle video and slide show (8 minutes) for ESOL / ESEP to gain understanding
http://www.youtube.com/watch?v=pHav-3QZkI
5. Read A Butterfly’s Life by Melissa Blackwell Burke whole group. Discuss each stage of a butterfly’s life with class. (egg, larva, pupa, adult) Use large magnetic butterfly life cycle picture cards. Place a magnetic picture card on board as you discuss each stage. Show poster of metamorphosis of a butterfly.
6. Give each student a copy of the Butterfly Life Cycle mini book. Have them color and assemble the book with staples. As a whole group, teacher will read the book. Partner students (high / low) and have them partner read the book.

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<tr>
<td>Locate life cycle stages of a butterfly pictures and match with words and phrases about life cycle of a butterfly from illustrated mini</td>
<td>Sequence life cycle of a butterfly sentences from provided materials</td>
<td>Sequence information about life cycles of a butterfly from video or other resources</td>
<td>Connect information about life cycle of a butterfly with other organisms</td>
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7. Give each student a “Life Cycle of a Butterfly” activity sheet. Have students write a sentence next to each picture that describes each stage of the life cycle. (Example: First, the butterfly lays an egg on a leaf. Next, the caterpillar is born and it eats and grows. Then, the caterpillar forms a chrysalis around itself while its body changes. Last, it becomes an adult butterfly and it can reproduce again before it dies.)

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<td>Writing</td>
<td>Label activity sheet about life cycle stages of a butterfly using words from word bank (e.g., egg, larva, pupa, adult) with a partner</td>
<td>Produce simple sentences on activity sheet about the life cycle stages of a butterfly on activity sheet using illustrated word bank with a partner</td>
<td>Describe the life cycle stages of a butterfly in sentences on activity sheet using word bank with a partner</td>
<td>Reproduce stories about the life cycle stages of a butterfly using graphic organizer and in small group</td>
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8. Give out vocabulary cards. Students cut out cards. Discuss each vocabulary card. Tell students to use vocabulary cards as study guide for quizzes and tests. (see appendix)

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<td>Speaking</td>
<td>Point to and tell about the life cycle of a butterfly using illustrations from vocabulary cards with a partner (e.g., “this is adult”, “this is egg”, “this is pupa”)</td>
<td>Describe life cycle stages of a butterfly (e.g., egg, pupa) using illustrated vocabulary cards with a partner</td>
<td>Retell life cycle stages of a butterfly in order (egg, larva, pupa, adult) using illustrated vocabulary cards with a partner</td>
<td>Explain in detail the life cycle stages and tell a detail about each stage of life cycle of a butterfly using illustrated vocabulary cards with a partner</td>
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9. Give out life cycle of a butterfly wheel. Have student color and assemble wheel. Partner students and have them turn wheel and discuss each stage.

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<td>Listening</td>
<td>Follow simple oral commands to create a life cycle of a butterfly wheel with a partner (e.g., “pick up adult, glue, etc.”)</td>
<td>Follow simple oral directions to locate &amp; choose picture cards used to create a life cycle of a butterfly wheel with a partner</td>
<td>Follow oral directions to choose &amp; organize picture cards to create a life cycle of a butterfly wheel with a partner</td>
<td>Follow complex oral specifications to assemble a life cycle of a butterfly wheel in a small group</td>
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10. Additional Modifications and Ideas If Needed:

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<tbody>
<tr>
<td>Reading</td>
<td>Match life cycle stages of a butterfly pictures with words and phrases (e.g., phrases about life cycle of a butterfly from</td>
<td>Find words and phrases about life cycle of a butterfly from illustrated texts</td>
<td>Sequence life cycle of a butterfly sentences from illustrated texts</td>
<td>Connect information about life cycle of a butterfly with other</td>
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Lesson 2: The Butterfly Lifecycle (45 minutes)

Standard: Students will investigate the life cycles of different living organisms.

Objective: In this lesson, students will understand the sequence of the life cycle stages from birth, growth, reproduction, to death of a butterfly.

Materials: *The Very Hungry Caterpillar* by Eric Carle, materials to create a model of the butterfly lifecycle: white paper plates, elbow macaroni, pre-cut leaves on green construction paper (2 per student), crayons, white rice, small butterfly clipart / template, copies of mini posters of Butterfly World poem, glue

Key Vocabulary: (review only)
- **adult**: the stage in which an organism is fully developed
- **butterfly**: an adult butterfly
- **egg**: the beginning stage in the life cycle of many organisms
- **insect**: a small animal that has six legs and a body formed of three parts and that may have wings
- **larva**: the caterpillar or worm-like stage in the life cycle of some insects
- **life cycle**: the stages of change that an organism goes through during its life
- **metamorphosis**: an animal’s change from one shape to a totally different shape
- **organism**: a living thing
- **pupa**: an insect in the stage of its life cycle when it changes from a larva to an adult
- **cocoon**: a silky case in which some insects live during the pupa stage
- **chrysalis**: a butterfly in the pupa stage, which has a hard outer covering

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<td>Point to and tell about the life cycle of a butterfly using illustrations from picture books with a partner (e.g., “this is adult”, “this is egg”, “this is pupa”)</td>
<td>Follow simple oral commands to create a life cycle of a butterfly wheel with a partner (e.g., “pick up adult, glue, etc.”)</td>
<td>Label drawings about life cycle stages of a butterfly using illustrated word banks (e.g., egg, larva, pupa, adult) and graphic organizers</td>
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<td>Describe life cycle stages of a butterfly (e.g., egg, pupa) using photos, illustrations, or picture books with a partner</td>
<td>Follow simple oral directions to locate &amp; choose picture cards used to create a life cycle of a butterfly wheel with a partner</td>
<td>Produce simple sentences about the life cycle stages of a butterfly using illustrated word banks and graphic organizers</td>
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<td>Retell life cycle stages of a butterfly in order (egg, larva, pupa, adult) using photos, illustrations, or picture books with a partner</td>
<td>Follow oral directions to choose &amp; organize picture cards to create a life cycle of a butterfly wheel with a partner</td>
<td>Describe the life cycle stages of a butterfly using illustrated word banks and graphic organizers</td>
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<tr>
<td>Tell life cycle stages and tell a detail about each stage of life cycle of a butterfly using photos, illustrations, or picture books with a partner</td>
<td>Follow detailed oral directions to organize &amp; assemble a life cycle of a butterfly wheel with a partner</td>
<td>Describe in detail the life cycle stages of a butterfly using illustrations and graphic organizers</td>
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<tr>
<td>Explain in detail the life cycle of a butterfly using technical words and using photos, illustrations, or picture books with a partner</td>
<td>Follow complex oral specifications to assemble a life cycle of a butterfly wheel in a small group</td>
<td>Reproduce stories about the life cycle stages of a butterfly using illustrations</td>
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</table>
develop - to grow or reach the next stage in a life cycle
reproduction - the process by which organisms generate others of the same kind

Activities:
1. Complete Butterfly KWL chart whole group.
2. Read *The Very Hungry Caterpillar* by Eric Carle
3. Connect to previous lesson by using the following interactive powerpoint
   [Metamorphosis interactive powerpoint - Brandi Fishburn](#) (10 minutes)
4. Partner Oral Quiz: Students will work with a partner using 2 sets of picture vocabulary cards and play concentration game. Teacher will observe partners. When a student makes a match, the student must read the vocabulary card aloud. For nonreaders or non-English speakers, the proficient reader will read and the other student will echo read. Students must be able to match and either read or echo read each card orally to their partner.
5. Review life cycle of a butterfly using giant magnet visuals on board. Tell students that today they are going to make a model of the life cycle of the butterfly.
6. Hand out a paper plate to each student. Tell students to use a crayon to divide their paper plate into 4 equal sections. (show example model)
7. For the next 4 steps, provide preprinted labels with the words egg, larva, pupa, and adult for ESOL and ESEP students. Ask students: What is the first stage of the butterfly life cycle? (egg) Write “egg” in the first section. Write word on board for students to use as a model. Give each student a leaf cutout and have them draw lines on the leaves to make them look real. Give students several grains of rice and instruct them to glue the grains onto one leaf. Then, glue the leaf with rice onto the eggs section, using crayons, color the background green and add a stem to the leaf.
8. Ask students: What is the second stage of the butterfly life cycle? (larva) Write “larva” in the second section. Write the word on board for students to use as a model. Using crayons, students will draw a caterpillar eating a leaf and a background in the larva section.
9. Ask students: What is the third stage of the butterfly life cycle? (pupa) Write “pupa” in the third section. Write word on board for students to use as a model. Remind students that the caterpillar’s shell is called a Chrysalis. In the pupa section, color the background green. Give students the second leaf and have them draw lines. Then give students 2 elbow macaroni. Have them glue them to leaf. Glue leaf to pupa section.
10. Ask students: What is the fourth stage of the butterfly life cycle? (adult) Write “adult” in the fourth section. Write word on board for students to use as a model. Give students the butterfly template and have them color the butterfly symmetrically and cut it out. Have them color the background of the adult section blue. Glue the butterfly onto the plate.
11. Dramatic Play: The students will use their bodies to demonstrate what metamorphosis looks like. First, tell them they will become an egg. Have them sit on the floor, grasp their knees, and tuck their head under. Demonstrate the position. Next, tell the students they will change into caterpillars by stretching out on the floor and wiggling. After that, they will stand very still and cross their arms tightly across their chest to look like the chrysalis. Finally, demonstrate how a butterfly gently stretches its wings and begins to flutter. Allow the students to fly around the room as butterflies.
12. Give students a mini poster poem about the life cycle of a butterfly. Have them glue the mini poster to the back of the plate. The teacher will model read the poem first. Then the teacher will read the poem again while the student echo read after her. Next, the students will choral read the poem whole group. After that, the students will be partnered (high / low readers) and partner read the poem repeatedly with expression for at least 4 times to improve fluency. Finally, the students will time each other reading the poem.

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<td>Repeat butterfly poem words (e.g., egg, caterpillar, chrysalis, butterfly) with a partner.</td>
<td>Find words and phrases about the life cycle of a butterfly from illustrated poem with a partner.</td>
<td>Practice reading phrases about the life cycle of a butterfly from illustrated poem with a partner.</td>
<td>Sequence life cycle of a butterfly from illustrated poem using graphic organizers in small groups.</td>
<td>Compare life cycle of a butterfly poem with life cycle vocabulary word cards using a graphic organizer in small groups.</td>
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<td><strong>Speaking</strong></td>
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<td>Point to and tell about the life cycle of a butterfly using illustrations from poem with a partner (e.g., “this is adult”, “this is egg”, “this is pupa”)</td>
<td>Describe life cycle stages of a butterfly (e.g., egg, larva, pupa) using illustrations from poem with a partner.</td>
<td>Retell life cycle stages of a butterfly in order (egg, larva, pupa, adult) using illustrations from poem with a partner.</td>
<td>Tell life cycle stages and tell a detail about each stage of life cycle of a butterfly using illustrations from poem with a partner.</td>
<td>Explain in detail the life cycle of a butterfly using technical words and using illustrations from poem with a partner.</td>
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<td>Follow simple oral commands to create a life cycle of a butterfly model with a partner (e.g., “pick up rice, glue leaf, color, etc.”)</td>
<td>Follow simple oral directions to choose correct label &amp; create the life cycle stages of a butterfly on the paper plate with a partner.</td>
<td>Follow oral directions to choose &amp; organize labels to create a life cycle of a butterfly model on paper plate with a partner.</td>
<td>Follow detailed oral directions to organize &amp; assemble a life cycle of a butterfly model with a partner.</td>
<td>Follow complex oral specifications to assemble a life cycle of a butterfly model in a small group.</td>
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<td><strong>Writing</strong></td>
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<td>Label model of life stages of a butterfly using word bank (e.g., egg, larva, pupa, adult) and illustrated life cycle diagram</td>
<td>Produce simple sentences about the life cycle stages of a butterfly using words from butterfly life cycle model.</td>
<td>Describe the life cycle stages of a butterfly using illustrated model of butterfly life cycle.</td>
<td>Describe in detail the life cycle stages of a butterfly using illustrated model of butterfly life cycle.</td>
<td>Compose a story about the life cycle stages of a butterfly using illustrated model of butterfly life cycle.</td>
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Lesson 3: The Frog Lifecycle (45 minutes)

**Standard:** Students will investigate the life cycles of different living organisms.

**Objective:** In this lesson, students will understand the sequence of the life cycle stages from birth, growth, reproduction, to death of a frog.

**Materials:** From Tadpole to Frog by Wendy Pfeffer, The Life Cycle of a Frog by John Williams, crayons, scissors, glue, Frog template on green construction paper flipbook, additional pages of flip book (egg, tadpole, froglet, frog), Life Cycle of a Frog mini book pages (2 sheets), stapler, glue, small clear plastic tub, plastic leaves, small vase gems or marbles from the floral section, plastic frog life cycle stages, make a small, green foam lily pad, water, live tadpole in fish tank

**Key Vocabulary:**
- **adult:** the stage in which an organism is fully developed
- **amphibian:** an animal that can live on both land and in water
**Activities:**

1. Tell the students that metamorphosis is when an animal changes from one shape to a totally different shape like the butterfly. Connect to prior learning: Tell the students that other animals also go through metamorphosis. A frog also goes through metamorphosis. Read either *From Tadpole to Frog* by Wendy Pfeffer or *The Life Cycle of a Frog* by John Williams. Both books explain the life cycle of a frog.

2. Watch frog life cycle animation: [http://www.youtube.com/watch?v=7NhA9SHunKs](http://www.youtube.com/watch?v=7NhA9SHunKs)  
   Show students live tadpole and fish bowl (ongoing activity). Explain that our class will be observing how the tadpole turns into a frog. Then, give students a frog life cycle journal. Have students write detailed sentences describing each stage in the journal as they see the tadpole change. Use transition words (first, next, then, last). They will need time each day to look at the tadpole and journal. (use same journal pages for sensory tub-print 2 sets) ELLs can work with a partner to complete journal.

3. Make life cycle of a frog flip book. Give students green construction paper template of frog and have students cut out. Give students additional pages as you ask and answer questions about each stage. Ask: What is the first stage of the frog life cycle? (eggs) What is the next stage of the frog life cycle? (tadpole) How do tadpoles breathe? (gills) What happens as the tadpole changes into a froglet? (they develop back legs and their tail and gills begin to disappear) What is the last stage of the frog life cycle? (the adult frog) How does the adult frog breathe? (lungs) How many legs does the adult frog have? (4)  
   Have students cut out, organize, and glue down stages in order. See picture below.  
   After students complete flip book, have them partner (high/low) and share facts about each stage using their flip book. (See appendix)
4. Make Life Cycle of a Frog mini book. Have them color and assemble with staples the book. As a whole group, teacher will read the book. Partner students (high / low) and have them partner read the book. (see appendix)

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<td>Locate life cycle stages of a frog pictures and match with words and phrases (e.g. egg, tadpole, froglet, etc.) using illustrated mini book with a partner.</td>
<td>Find words and phrases about life cycle of a frog from illustrated mini book with a partner</td>
<td>Sequence life cycle of a frog sentences from illustrated mini book using graphic organizers in small groups</td>
<td>Sequence information about life cycles of a frog from illustrated mini books using graphic organizers in small groups</td>
<td>Connect information about life cycle of a frog with other life cycles from illustrated texts using graphic organizers</td>
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5. Teacher will create ahead of time a frog life cycle sensory tub. Materials for making a Frog sensory tub include a small clear plastic tub, plastic leaves, small vase gems or marbles from the floral section, plastic frog life cycle stages, make a small, green foam lily pad, water (see the following website: [http://www.playcreateexplore.org/2012/04/pondlifecycle-of-frog-sensory-binsmall.html](http://www.playcreateexplore.org/2012/04/pondlifecycle-of-frog-sensory-binsmall.html)). Give students the opportunity to visit the sensory tub with a partner. Students will discuss each life cycle stage with their partner. Then, give students a frog life cycle journal. Have students write detailed sentences describing each stage in the journal. Use transition words (first, next, then, last).

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<td>List life cycle words in frog journal (egg, tadpole, froglet, frog) and draw a picture of each stage with a partner</td>
<td>Produce simple sentences in journal about the life cycle stages of a frog using illustrated mini book with a partner</td>
<td>Describe the life cycle stages of a frog in sentences in journal using illustrated mini book with a partner</td>
<td>Describe in detail the life cycle stages of a frog in sentences using illustrated mini book and with a partner</td>
<td>Reproduce stories about the life cycle stages of a frog using illustrated mini book and in small group</td>
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6. Give students illustrated vocabulary cards that correspond to frog life cycle. Read and discuss each card whole group. Tell students that they will use the vocabulary cards as a study guide for test. (see appendix)

Lesson 5: The Chicken Lifecycle (45 minutes)

Standard: Students will investigate the life cycles of different living organisms.
Objective: In this lesson, students will understand the sequence of the life cycle stages from birth, growth, reproduction, to death of a chicken.


Key Vocabulary:
- adult - the stage in which an organism is fully developed
- chick - the baby chicken
- egg - the beginning stage in the life cycle of many organisms
- embryo - a chicken in the early stages of growth (tiny white spot on yolk that will grow into the chick)
- hatchling - a young chick that has just hatched from its egg
- hen - adult female
- incubation - warming the eggs
- life cycle - the stages of change that an organism goes through during its life
- metamorphosis - an animal’s change from one shape to a totally different shape
- nest - the place the hen makes for her eggs using twigs, feathers, bits of hay & leaves
- organism - a living thing
- develop - to grow or reach the next stage in a life cycle
- reproduction - the process by which organisms generate others of the same kind
- rooster - adult male
- shell - the hard outer protective covering of an egg
- yolk - the yellow part of the egg that contains food for the embryo

Activities:
1. Hand out ‘All About Chickens’ KWL chart & complete whole group. ESOL students can work with a partner to complete graphic organizer.
2. To introduce the lesson watch The Life Cycle of a Chick A PowerPoint Lesson Created by J. Moriconi.
3. Students will create a 3-D chicken life cycle model. Each student will need one set of eggs 1-5. Students will cut these out. Students will then color each stage of the life cycle as you discuss the stage. Then they will cut out the ovals and place them in order from chicken nesting, egg, embryo, hatchling, baby chick. They can begin with any stage in the cycle and write the names underneath each picture. (make pre-made labels for ELL & ESEP students) Students will then glue them to the egg patterns. Then fold each egg in half vertically and glue, staple, or tape the backs together to form a 3-D egg. The egg is meant to hang, so add a string to the top to display the model. You can see how the cycle repeats when it turns.
Lesson 6: The Lifecycle of a Chicken (2 hours)

Standard: Students will investigate the life cycles of different living organisms.

Objective: In this lesson, students will understand the sequence of the life cycle stages from birth, growth, reproduction, to death of a chicken.

Materials: *Chicks and Chickens* by Gail Gibbons, 1 raw egg for 2 students (partners), plastic plates, soap & water (clean hands after experiment), 3-D Chicken Life Cycle model by Robin Sellers printed on card stock, glue, crayons, string, staples, tape, popsicle sticks, Egg incubator and eggs ready to hatch, Guest Speaker, parts of egg poster, chicken & egg vocabulary cards, paper towels, hand wipes, magnifying glasses, chick calendar, egg-shaped journal

Key Vocabulary:
- **adult**- the stage in which an organism is fully developed
- **chick**- the baby chicken
- **egg**- the beginning stage in the life cycle of many organisms
- **embryo**- a chicken in the early stages of growth (tiny white spot on yolk that will grow into the chick)
- **hatchling**- a young chick that has just hatched from its egg
- **hen**- adult female
- **incubation**- warming the eggs
- **life cycle**- the stages of change that an organism goes through during its life
- **metamorphosis**- an animal’s change from one shape to a totally different shape
- **nest**- the place the hen makes for her eggs using twigs, feathers, bits of hay & leaves
- **organism**- a living thing
- **develop**- to grow or reach the next stage in a life cycle
- **reproduction**- the process by which organisms generate others of the same kind
- **rooster**- adult male
- **shell**- the hard outer protective covering of an egg
- **yolk**- the yellow part of the egg that contains food for the embryo
Activities:

1. Read book *Chicks and Chickens* by Gail Gibbons and discuss with students the chickens' life cycle. Show life cycle of a Chicken Poster. Use vocabulary cards as you discuss the Life Cycle Poster & Vocabulary Words. Ask students: What is the first stage of the chicken’s lifecycle? (hen roosting) What is the second stage of the chicken’s lifecycle? (egg) What is the third stage of the chicken’s lifecycle? (embryo) What is the fourth stage of the chicken’s lifecycle? (hatchling) What is the fifth stage of the chicken’s lifecycle? (baby chick)

2. Tell students that today they will dissect an egg. Discuss safe handling of raw eggs. Tell students that chicken eggs could contain bacteria that can cause harm if allowed to multiply. Wash hands thoroughly with soap and water after handling. Clean up any spills with paper towels and wash the area with a disinfectant. Tell the students do not taste or eat any food items in this activity. The food is only used for demonstration purposes. All liquid wastes may be flushed down the sink. Any solid waste can be disposed of in the trash.

3. Students observe with magnifying glasses the hardness, color, texture, & tiny pores on the outside of egg. Introduce vocabulary as each part is discussed: shell, pore. Students label egg parts as you point to them on the poster and they observe them. (Students do not need to memorize technical names of parts of egg. Vocabulary cards are for teacher use only. This activity is for hands-on exploration only. Students will not be tested over parts of egg vocabulary.)

4. Partners will carefully crack egg so the yolk is not broken onto plastic plate. Demonstrate process. Have a few extra eggs for casualties or break the eggs for students. Help students find each part of the egg, using vocabulary cards to discuss the function of each part. Students use popsicle sticks to manipulate egg and locate parts. Show poster. As they dissect, have them label inner parts of egg. (students use poster as model)

5. After students complete egg dissection, have them complete egg vocabulary table and draw an illustration of the parts of the egg. Then have them orally tell a different partner about their experience dissecting an egg. They need to explain the steps they followed from the beginning of the activity to the end. You may also have students write about their experience. ELLs and ESEP may work with a partner or small group.

<table>
<thead>
<tr>
<th>Speaking</th>
<th>Level 1 Entering</th>
<th>Level 2 Emerging</th>
<th>Level 3 Developing</th>
<th>Level 4 Expanding</th>
<th>Level 5 Bridging</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Point to and tell about the life cycle of a chicken using illustrations from vocabulary table</td>
<td>Describe life cycle stages of a chicken using illustrated vocabulary table with a partner</td>
<td>Retell life cycle stages of a chicken in order using illustrated vocabulary table with a partner</td>
<td>Tell life cycle stages and tell a detail about each stage of life cycle of a chicken using illustrated vocabulary table with a partner</td>
<td>Explain in detail the life cycle of a chicken using technical words and using illustrated vocabulary table with a partner</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Listening</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Observe a partner and duplicate actions and simple oral commands to dissect a chicken egg with a partner</td>
<td>Follow simple oral directions to dissect a chicken egg with a partner with a partner</td>
<td>Follow oral directions to dissect a chicken egg with a partner</td>
<td>Follow detailed oral directions to dissect a chicken egg with a partner</td>
<td>Follow complex oral directions from instructor and partner to dissect a chicken egg with a partner</td>
</tr>
</tbody>
</table>

6. The following is an on-going activity—about 21 days. Show students incubator and eggs that are ready to hatch. Guest speaker will tell about incubator and hatching of chicks.
Allow students to watch and complete calendar journal daily activity with the eggs until they hatch into chicks (takes about 21 days). They will need time each day to look at the eggs and journal each day. (see appendix for calendar chick journal)

7. After they hatch, have students write detailed sentences describing each stage in the egg shaped journal as they see the chicks hatch. Use transition words (first, next, then, last) (see appendix for Egg shaped book journal). For ELLs, you may instead want to complete life cycle journal that already explains cycle. It requires students to illustrate only.

<table>
<thead>
<tr>
<th>Writing</th>
<th>Level 1 Entering</th>
<th>Level 2 Emerging</th>
<th>Level 3 Developing</th>
<th>Level 4 Expanding</th>
<th>Level 5 Bridging</th>
</tr>
</thead>
<tbody>
<tr>
<td>List life cycle words in chick journal (egg, hatching, chick, adult) and draw a picture of each stage with a partner</td>
<td>Produce simple sentences in journal about the life cycle stages of a frog using illustrated mini book with a partner</td>
<td>Describe the life cycle stages of a chicken in journal using illustrated mini book with a partner</td>
<td>Describe in detail the life cycle stages of a chicken in sentences using illustrated mini book with a partner</td>
<td>Reproduce stories about the life cycle stages of a chicken using illustrated mini book and in small group or partner</td>
<td></td>
</tr>
</tbody>
</table>

8. After they hatch, students will use Egg shaped book journal to write about the life cycle of a chicken experience. ELLs will work with a partner or small group.

**Explain to students that they will take a Life Cycle test tomorrow. Use vocabulary cards, models, mini-books, and journals as a study guide.

<table>
<thead>
<tr>
<th>Rubric for Models &amp; Journals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circle Specific Animal:</td>
</tr>
<tr>
<td>Order of Life Cycle Stages</td>
</tr>
<tr>
<td>Students demonstrates knowledge of the life cycle but is missing some steps in the order</td>
</tr>
<tr>
<td>Description of Life Cycle Stages</td>
</tr>
<tr>
<td>Application Use knowledge to write or orally tell about life cycle stages</td>
</tr>
</tbody>
</table>
References


Life Cycle
The stages of change that an organism goes through during its life.

All living things go through the stages of the life cycle, even if they go through them in different ways.

Organism
a living thing

Complete Metamorphosis
Metamorphosis
an animal's change from one shape to a totally different shape

Develop
to grow or reach the next stage in a life cycle

Reproduction—the process by which organisms generate others of the same kind.

Egg
the beginning stage in the life cycle of many organisms
A frog, butterfly, & chicken begin life as an egg.

Pupa
a life cycle stage where a butterfly changes from a larva to an adult. In this stage, it forms a hard outer covering called a chrysalis.

Cocoon
silky case in which some insects live during the pupa stage

Moth
Butterfly

Butterfly eggs

Adult
the stage in which an organism is fully developed
An adult will continue the cycle and reproduce.

Larva
the caterpillar stage in the life cycle of a butterfly
The larva (caterpillar) hatches from an egg and eats leaves or flowers almost constantly. The caterpillar molts (loses its old skin) many times as it grows.

Cocoon = Pupa

Butterfly
An adult butterfly
**Tadpole**
the stage in which a young frog looks like a fish and lives only in water

**Froglet**
a small frog that is changing from a tadpole to an adult

**Gills**
the area near the head of a fish or water animal used for breathing

**Frog**
Adult Frog

**Chick**
The baby chicken.

**Hen**
Female
Adult

**Rooster**
Male
Adult
**In incubation**

Warming the eggs.

**Shell**

The hard outer protective covering of an egg.

**Embryo**

A chicken in the early stages of growth (tiny white spot on yolk that will grow into the chick).

**Yolk**

The yellow part of the egg that contains food for the embryo.

**Nest**

The place the hen makes for her eggs using twigs, feathers, bits of hay & leaves.

**Hatchling**

A young chick that has just hatched from its egg.
Butterfly Life Cycle

A butterfly begins its life as an egg.

Next comes the larva stage. Butterfly larva are called caterpillars. Caterpillars eat leaves.

Soon the caterpillar moves on to the pupa stage. A butterfly pupa is called a chrysalis. During this stage its body is changing.
Next the butterfly comes out of the chrysalis stage. Its wings are damp and wrinkled. It hangs upside down so blood can get into its wings.

The adult butterfly has three body sections. It has a head, thorax, and an abdomen.

The butterfly has six legs, four wings, and two antennae.

On its head the butterfly has a proboscis. This is a long, thin straw that is used to sip nectar from flowers. The proboscis is curled up when the butterfly is not using it.
Butterfly Life Cycle

Chrysalis (Pupa)

Caterpillar (Larva)

Eggs (First Stage)

Butterfly (Adult)
Life Cycle of a Butterfly

First, ________________________________

Next, ________________________________

Then, ________________________________

Last, ________________________________
Butterfly world

A teeny
tiny egg
shiny as a bead,
pop – a little head,
no bigger than
a seed.

Then a caterpillar crawls along, loops and slithers and rolls,
munching leaves for breakfast, leaving all it eats in holes.

The caterpillar eats so much its skin bursts open wide
look again, surprise surprise – there’s a chrysalis inside!

The chrysalis doesn’t move and doesn’t eat,
it’s on a major fast,
till one bright and sunny day
it becomes a BUTTERFLY at last.

The butterfly dries its painted wings, opening up to the sun,
a flutter, a flash, an attempt at flight,
and like a wish, it’s gone.

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Butterfly Life Cycle Model

1. Divide your paper plate into four equal sections using a black marker. Write each life cycle stage in the sections. Make sure you put them in order.

2. Cut two leaves out of green construction paper. Use crayons to draw lines on the leaves to make them look real.

3. Glue several rice grains onto one leaf. Glue two elbow macaroni onto the other leaf.

4. Glue the leaf with rice onto the eggs section. Using crayons color the background green and add a stem to the leaf.

5. Using crayons, draw a caterpillar, grass, and background in the larva section.

6. In the pupa section, color the background green. Glue the leaf with macaroni onto the plate and draw a stem.

7. Color your butterfly template. Make sure to color it symmetrically. Then, cut it out.

8. Color the background of the adult section blue. Glue the butterfly on. To make it look really nice, color any white around the butterfly with the same background color.
Enlarge and print in color on card stock. Cut out. Glue a magnet on back of each card. Use as magnet demonstration cards.
Life Cycle of a Butterfly Wheel

Step 1: Print the Life Cycle Wheel on card stock.
Step 2: Color the front and back wheels.
Step 3: Attach the front to the back with a brad paper fastener.
Step 4: Spin the wheel in the direction of the arrow to follow the life cycle.
A mother frog can lay thousands of eggs at a time. She lays them in just the right place. She needs a calm pond or lake without many waves. Hopefully there aren’t any hungry fish that will eat her eggs.

When eggs hatch, tiny tadpoles swim out. A tadpole cannot breathe oxygen in the air. She has gills on the side of her head so she can breathe oxygen in the water. She looks like a fish, but she’s not really a fish. She’s an amphibian.

The tadpole grows and grows. Before long, she begins to change. She grows two long back legs. Then tiny front legs appear.
The tadpole is now a young froglet. Her tail is becoming smaller each day. She used to breathe water with her gills, but now she is growing lungs. The lungs will allow the froglet to breathe air.

Soon the froglet has grown up into an adult frog. She can’t breathe underwater because she no longer has gills, but she’s still a great swimmer.

When she was a tadpole, she used to eat plants that lived in the water. Now she wants live food. Her sticky tongue will help her snatch flies and mosquitoes from the air.

Frogs change quite a bit during their lives. The tadpole that hatches from an egg looks much different from an adult frog. The process of changing from a tiny tadpole into a frog is called metamorphosis.
**Chicken Life Cycle 3-D Craft**

Use the following pages to make a life cycle craft with your students. Print the eggs on any color of cardstock paper. Each student will need one set of eggs 1-5. Cut these out if your students are unable to cut them on their own.

Your students will then color in each stage of the life cycle. Then they will cut out the ovals and place them in order from chicken hatching, egg, egg with chicken growing inside, hatching chicken, and baby chicken. They can begin with any stage in the cycle and add their own labels using their own description if needed.

They will glue them to the egg patterns. Then fold each egg in half vertically and glue, staple, or tape the backs together to form a 3-D egg. Have clothespins handy to hold the cards together or you can also tape the pieces together.

This egg is meant to hang, so add a string to the top to display your So Sweet Craft. When it turns, you see how the cycle repeats.
<table>
<thead>
<tr>
<th>What I Know (Schema)</th>
<th>All About Chickens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Misconceptions</td>
<td></td>
</tr>
<tr>
<td>New Learning</td>
<td></td>
</tr>
</tbody>
</table>
Sheltered Instruction Unit Plan: LIFE CYCLES

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Page 4

Illustrated By:

An Illustrate-Your-Own Mini-Book

The Life Cycle of a Chicken

Did you ever wonder when a chicken first, the chicken or

Even though the egg appears to be doing nothing for 21

days, the embryo is slowly developing inside. Each day, the

day, the heart begins to beat. On day 6, the egg

The embryo is formed and the embryo begins to move. By day

Page 4

Page 3

Page 2
Sheltered Instruction Unit Plan: LIFE CYCLES

The chicken is hatched from the egg. The chick will begin to grow and develop.

In 21 days, another chick will hatch. The chick will be yellow and have feathers. The chicken will begin to lay eggs.

Soon the story begins...

The chicken will grow and lose its feathers. The feathers will begin to grow. The chicken will eat and drink.

The eggs will begin to hatch.

Once the eggs hatch, the chicken will begin to grow.

Gradually, the chicken leaves their down and their feathers begin to grow.

Because of the nutrients from the yolk, the chicken's eyes and beak will begin to develop.

The chicken will be ready to eat and drink for up to 3 days.

Gradually, the chicken will learn to walk and eat.

The chicken will begin to walk and eat.
<table>
<thead>
<tr>
<th>Word</th>
<th>Definition</th>
<th>Picture Clue</th>
</tr>
</thead>
<tbody>
<tr>
<td>The adult female chicken</td>
<td>The adult female chicken.</td>
<td></td>
</tr>
<tr>
<td>The baby chicken</td>
<td>The baby chicken (it is hatching form the egg).</td>
<td></td>
</tr>
</tbody>
</table>

**Vocabulary**

<table>
<thead>
<tr>
<th>Word</th>
<th>Definition</th>
<th>Picture Clue</th>
</tr>
</thead>
<tbody>
<tr>
<td>The adult male chicken</td>
<td>The adult male chicken. The oval shell cell is laid by the hen. When fertilized, it will grow into a chick.</td>
<td></td>
</tr>
<tr>
<td>The hen sitting on the eggs</td>
<td>The hen sitting on the eggs for most of the day and night to keep them warm.</td>
<td></td>
</tr>
</tbody>
</table>
Sheltered Instruction Unit Plan: LIFE CYCLES

[Image of a life cycle diagram with the following stages labeled: Hen, Chick, Hatchling, The adult female, The baby chicken, as it is hatching from the egg.]
Rooster

Egg

Brooding

The adult male chicken.

The ovoid shaped cell laid by the hen. When fertilized, it will grow into a chick.

The hen sitting on the eggs for most of the day and night to keep them warm.
Sheltered Instruction Unit Plan: LIFE CYCLES

Then

Next

(WITH Transition scaffolding)

Life Cycle of Chicken Egg- Shaped Book
Number the pictures in order.

Last,
How a Chick Hatches

1. Eggs are incubated for 21 days.
2. Chicks dry off and are covered with downy feathers.
3. The chick uses its feet to push the shell apart and flops out.
4. Pip - the chick makes the first break in the shell with its egg tooth.
5. The chick uses its egg tooth to break the shell all the way around.
Down

The fluffy feathers that a chick has when it hatches.

Pip

The first break the chick makes in the shell at hatching time.

Incubation

Warming the eggs.
**Sheltered Instruction Unit Plan: LIFE CYCLES**

**Egg**
- Tooth
- The sharp part of the chick's beak used to crack out of the egg. It falls off soon after hatching.

**Clutch**
- A group of eggs in a nest.

**Feathers**
- The chicks start getting their feathers after a few weeks.
Sheltered Instruction Unit Plan: LIFE CYCLES

Nest

The place the hen makes for her eggs using twigs, feathers, bits of hay and leaves.

Pecking Order

Chickens peck at each other to let the others know who is boss.

Brood

A group of newly hatched chicks.
<table>
<thead>
<tr>
<th>Day</th>
<th>Day</th>
<th>Day</th>
<th>Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>9</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>10</td>
<td>3</td>
<td></td>
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<td>17</td>
<td>11</td>
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<td>18</td>
<td>12</td>
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<tr>
<td>19</td>
<td>13</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>14</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

**My Egg Calendar**

Color 1 egg each day til HATCH DAY!
Sheltered Instruction Unit Plan: LIFE CYCLES

LABEL ME

Egg Lab

Outside of an Egg

Shell

Pores
Shell

Pores

Egg Vocabulary

The hard outer surface of the egg is made up largely of calcium. It protects the growing chick.

Tiny holes for oxygen to enter the egg, and carbon dioxide to get out.
**Albumin**
The white part of the egg, it protects and contains water for the growing chick.

**Membranes**
The membranes are the egg’s main defense against germs.

**Embryo**
The tiny white spot on the yolk that will grow into the chick.
Chalaza

These strands hold the yolk in the center of the egg.

Yolk

The yellow yolk contains all the food the chick needs as it grows inside the egg.

Air pocket

Tiny pocket of air. The chick needs the air and the room at hatch time.
Multiple Choice Directions: Circle the answer to the question.

1. What is another name for a butterfly larva?
   a. Pupa  b. Caterpillar  c. Insect

2. Look at the picture of the butterfly’s life cycle. What do we call Stage 1?
   a. Larva  b. Egg  c. Chrysalis

3. How does a hen care for eggs in the nest?
   a. by cracking them open  b. by cleaning them  c. by keeping them warm

4. Which animal has a larva stage in its life cycle in which the larvae live in water and breathe through gills?
   a. butterfly  b. chicken  c. frog

5. In what stage of the frog life cycle does it live mostly on land?
   a. Tadpole  b. Adult frog  c. Egg

6. Which animal goes through metamorphosis after it is born?
   a. Cat  b. Butterfly  c. Dog

7. Identify the order of the stages in the butterfly life cycle.
   a. larva, butterfly, chrysalis, egg
   b. chrysalis, egg, butterfly, larva
   c. egg, larva, chrysalis, butterfly

8. Where do adult frogs lay eggs?
   a. In a hole  b. In the water  c. In the tree
9. Which of these stages is a tadpole?
   a.  
   b.  
   c.  

   ![Images of gills, organism, shell]

Directions: Use the words from the box to fill in the blanks. Use each word only one time.

<table>
<thead>
<tr>
<th>gills</th>
<th>organism</th>
<th>shell</th>
<th>life cycle</th>
<th>develop</th>
</tr>
</thead>
</table>

10. A tadpole breathes by using __________________________.

11. The hard outer protective covering of the egg is called the __________________________.

12. To grow or reach the next stage in a life cycle is called __________________________.

13. A living thing is called an __________________________.

14. The stages of change that an organism goes through during its life is called a __________________________.

Directions: Draw a line from the picture to the correct life cycle stage.

15.  

   ![Diagram of life cycle stages: Adult, Egg, Hatchling, Chick]
16. Directions: Label the stage of the butterfly life cycle with its picture by writing the name of the stage beside its picture. Use the words from the word box.

<table>
<thead>
<tr>
<th>Larva</th>
<th>Egg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butterfly</td>
<td>Chrysalis</td>
</tr>
</tbody>
</table>

Directions: Circle true if the statement is correct. Circle false if the statement is incorrect.

17. Metamorphosis is when an animal resembles its parents when it is born.
   True     False

18. Every living thing will go through a life cycle.
   True     False

19. The life cycle order of events is: birth, reproduction, growth, death
   True     False

20. To reproduce, most living things need to have a part from an adult male and a part from an adult female.
   True     False