Inquiry Lesson Plan

Student Andrea Negron		**Date**: November 13, 2022
Unit Title: **Inheritance and Variation**		**Age/Grade Level**: 3
Lesson Title: Comparing Lifecycles		**Order in Learning Segment**: 1
Total # of Students: 20	**# IEP Students**: 1	**# ELL Students**: 1

PREPARATION

Context of the Lesson:

- The third grade students receive science every day for 40 minutes. There are 20 students in total, 9 boys and 11 girls. 1 male student has an IEP for dysgraphia and receives pullout services for occupational therapy. He also has a 1:1 aid that sits near him in the classroom. 1 female student moved to the United States from Mexico during first grade. Spanish is her first language and the language she uses at home with her family. She is at the transitioning level and receives 180 minutes of pull-out services a week.
- The essential question for this unit is “Why do offspring resemble their parents?” The main idea is to explore concepts of animal traits, inheritance, variation, and the effect of the environment on the development of traits. The unit will contain five lessons. A common misconception is that only genes determine traits. Students may not realize that there are many things that work together to determine the traits of a living thing.
- The main Idea of this lesson Is the Idea that all life cycles have birth, growth, reproduction, and death In common. The essential question used to emphasize the main idea Is: “What Is the same about a chicken, a frog, and a butterfly?”
- Students will have prior knowledge about what life cycles are, how to use a Venn diagram, and paragraph writing skills.
- A specific misconception is the confusion between life cycles and food webs. A food web is a chain of events that shows how many different life cycles interact.
- Students at this age are still in the concrete stage of Piaget’s Stages of Cognitive Development. This means they will need concrete examples and will not work well with abstract concepts. During this unit we will be incorporating visual, auditory, and kinesthetic learning styles.
- This lesson is first in the learning segment and the focus will be developing models to represent life cycles and identifying similarities among them (birth, growth, reproduction, and death).
- Since this is the first lesson in the unit, there are no connections that can be made just yet.

Academic Language: Life cycle, organism, birth, growth, reproduction, death, compare, same, different

Language Demands: discuss, label, compare

Assessment Plan:

Objectives SWBAT:	**Type of Assessment**	**Description of Assessment Task/Type**	**Depth of Know-ledge / Bloom’s Taxonomy**	**Adaptations/ Accommodations to Assessment for ELLs/ SWDs**
1. Given the life cycles of a butterfly, frog, and chicken, third grade students will label each stage with 75% accuracy. (CCSS: 3R1)	Formative	Students will fill in the blanks on worksheets that display the life cycle diagrams of a butterfly, frog, and chicken.	Identify	SWD: The student can work with his aid to complete the worksheet ELL: The teacher

(NGSS: 3-LS1-1)				will further explain the meanings of unknown words
2. Given the life cycles of a butterfly, frog, and chicken, third grade students will compare and contrast them using a Venn diagram writing at least 3 of the following: birth, growth, reproduction, and death In the center. (CCSS: 3R1 and 3W1) (NGSS: 3-LS1-1)	Formative	Students will label and fill in a blank Venn diagram comparing two life cycles of their choice, a butterfly, frog, or chicken.	Analyze	SWD: The student can work with his aid to complete the worksheet ELL: The teacher will work with the student and explain unknown words
3. Based on prior knowledge, third grade students will write 3-5 sentences about the "life cycle" of humans comparing them to either the life cycle of a butterfly, frog, or chicken, scoring at least a 70% based on the teacher-created rubric. (CCSS: 3R3) (NGSS: 3-LS1-1)	Summative	On a piece of lined paper students will write 3-5 sentences comparing human life to one life cycle of their choice a butterfly, frog, or chicken.	Analyze	SWD: The student will respond orally to the question. ELL: The student will need to write 2-3 sentences and will be provided with sentence frames.

Materials/Resources/Media Technology Needed:

- SmartBoard
- Google images of a butterfly, frog, and chicken displayed on the SmartBoard
- 2 copies of Printed Google images of what each animal (chicken, frog, butterfly) looks like during each stage of the life cycle
- Whiteboard easel
- Tape
- Dry erase markers (2) and eraser
- Printed Google images of an adult butterfly, chicken, and frog, as well as the egg and live offspring for each
- Fill-in-the-blank life cycles worksheet
- Google images of a frog's life cycle and a food web including a frog displayed on the SmartBoard
- Pencils
- Science Notebooks
- Venn diagram worksheet
- Personal dry erase boards, markers, and erasers
- Lined paper
- Self-assessment checklist

INSTRUCTION AND ASSESSMENT

Time	Engage	Accommodations
	• On the SmartBoard the teacher will have displayed the images of a butterfly, frog, and a chicken.	• The teacher

	• The teacher will ask the students, “What Is the same about all three of these organisms?” • Students will turn and talk with a neighbor to try and figure out the answer to my question. Then they will share ideas as a class. Students will guess and the teacher will give credit to possible right answers (such as they are all living things, they all breathe, they all lay eggs, etc.) but I will also explain that I am looking for a specific answer. • After each student has had the opportunity to guess, and all credible answers have been written on the board, the teacher will explain the aim of the lesson. The teacher will introduce the lesson by saying, “We are going to try and find out what these three animals have in common by looking at their life cycles.” The class will then move on to science centers.	will be sure to elaborate on the meanings of difficult or unknown words.
Time	**Explore (typically cooperative groups)**	**Accommodations**
	• Students will work in groups at three different science centers and rotate the room taking turns at all three centers. Before being assigned to groups and released to the centers, the teacher will explain what they will be doing at each one and also remind them of the essential question for this lesson. • At the first center, students will need to put a series of images in the correct order. There will be photographs of each of the three animals at each stage in the life cycle and students must put the images in order for each animal. At the second center, the same photos from the first center will be arranged into the life cycles and taped on a whiteboard easel. The students will need to come up with a name for each life cycle stage and write them using a dry erase marker. At the third center, students will match each animal with its egg and live offspring.	• ELL: The teacher will explain in detail concepts/words that may be unfamiliar. • SWD and ELL: The students will receive support from their peers during group work • The SWD can complete the worksheet with the help of his aid.
	• The teacher will scaffold the exploration time through questioning. While students are working in centers, the teacher will ask them questions to have them explain their reasoning and the teacher will remind them of the essential question for this lesson and how the information they have learned at this center might help them answer it.	
	• All of the materials will be prepared and set up In each center before the start of class. • After each group has spent time at each center, students will be formatively assessed using a fill In the blank worksheet in which they will label the life cycle for each animal (chicken, butterfly, and frog) using words In a word bank. While they are completing the worksheet, the teacher will rotate the room looking at their work to check for understanding.	
Time	**Explain**	**Accommodations**
	• To begin the explain phase, the teacher will review the worksheet completed during the explore phase and use this time to clear up any misconceptions that students may have.	• The teacher will be sure to

	• To further correct possible misconceptions, the teacher will display the life cycle of a frog side by side with a food web which Includes a frog. The teacher will then ask students what the main differences are between the two pictures. After receiving student responses, the teacher will explain that one Is called a life cycle and It shows all the stages of a frog's life. The teacher will explain that the other Is a food web and demonstrates what a frog eats as well as what other things might eat a frog. The teacher will tell the students that the easiest way to tell them apart Is that a life cycle diagram focuses only on one animal as It changes throughout Its life. • Next, the class will discuss the words listed In the word bank. Students will be provided with the scientific definitions for each word • The essential question for this lesson will be posed to the students again at this time. They will be able to turn and talk with a partner to compare the life cycles and figure out what they have In common. • After their turn and talk they will have a whole group discussion on what these three animals have In common. Students might say something like "they all change" "they all get bigger" (to which the teacher might respond "yes, they all grow") "they all have babies" (to which the teacher might respond "yes, they all reproduce.) The teacher will then ask the question, "Based on the fact that they all have babies, what else do they all have In common?" The teacher will accept student responses and then explain that since they all reproduce we know that each of these animals at one point had to be born, so they have birth In common. The teacher will then ask the question "If they all have birth In common, what else might they have In common?" To which students may respond death. • After discussion what they all have In common, students will be provided with the science definitions of these words and they will be expected to copy them Into their science notebooks. • Once the class discussion Is finished, students will be given a Venn diagram worksheet and told to compare and contrast two of three life cycles discussed. This will be handed In and quickly reviewed by the teacher to check for understanding.	elaborate on the meanings of difficult or unknown words. • The SWD will be able to type up the vocabulary definitions into his electronic notes file and will work on the Venn Diagram with his aid.
Time	**Elaborate**	**Accommodations**
	• Given personal white boards, students will then be asked to draw a model representing what they believe the life cycle of a human would look like. After having some time to create this, students will hold up their boards displaying their models, and will discuss them as a class. They will discuss the kinds of things that should be Included In their models and the things that should not. (Should be Included: baby (birth), child, adolescent, adult, reproduction, death). (Should not be Included: life achievements such as graduations, marriages, careers, etc.).	• The task will be explained in further detail for the ELL. • The SWD will receive a rubber grip to put on the marker that will aid his

	• The teacher will again pose the question of what we as humans might have In common with one of these animals (frog, butterfly, or chicken).	control of the marker.
Time	**Evaluate**	The SWD Complete the assessment orally. The ELL will write only 2-3 sentences and will be given sentence frames.
	• Students will be asked to answer the question “what do humans have In common with one of these animals?” In three to five sentences giving examples of what they believe Is the same. This will be used as a summative assessment and will be scored according to a teacher made rubric. • To end the lesson, the teacher will ask the students “What four things do all living things have In common, no matter how different they may seem?” The teacher will call on four different students to each provide one of the following: birth, growth, reproduction, and death. • Students will then evaluate themselves based on a self-assessment checklist. They will rate their own understanding of the lesson that day as well as write In one sentence what the main Idea of the lesson was.	