AAPS Blended Unit Planning Document #2

Grade Level/Content Area

1st & 2nd Grade Science

Unit Title

Life Cycles

Unit Abstract

A description of the featured unit of study that characterizes the subject matter to be studied and states very generally what students are expected to learn and the types of learning activities that will be conducted to provide opportunities for learning.

THe students will be able to understand the life cycles of various animals, including that all animals are born, develop into an adult, reproduce, and eventually die.

Standards/Benchmarks

Identifying Expectations and Standards helps to ensure curricular alignment.

Are the appropriate goals (ie: content standards, benchmarks, curriculum objectives) identified?

1-LS3-1 Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.
2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats

Essential Questions

A meaning of “essential” involves important questions that recur throughout one’s life. Such questions are broad in scope and timeless by nature. They are perpetually arguable – What is justice? Is art a matter of taste or principles? How far should we tamper with our own biology and chemistry? Is science compatible with religion? Is an author’s view privileged in determining the meaning of a text? We may arrive at or be helped to grasp understandings for these questions, but we soon learn that answers to them are invariably provisional. In other words, we are liable to change our minds in response to reflection and experience concerning such questions as we go through life, and that such changes of mind are not only expected but beneficial. A good education is grounded

in such life-long questions, even if we sometimes lose sight of them while focusing on content mastery. The big-idea questions signal that education is not just about learning "the answer" but about learning how to learn. (Wiggins, Understanding by Design)

What are the life cycles of animals? How do they know how to make sure their species continues, and where and when to reproduce?

Student will know...

Summarizing the key content by setting up knowledge and skill goals for the unit helps designers focus lesson content.

Students will know the stages of animal life cycles, including birth, growing from a youth into an adult form, reproducing, and eventual death.

Students will be able to....

Summarizing the key skills goals for the unit helps designers focus lesson content.

The students will be able to identify key portions of life cycles of animals. They will be able to explain the stages and how they are connected, as well as how the life cycle continues through generations of the given animals.

Current Teaching Design*

List every activity that you currently complete in your traditional classroom situation to teach this unit.

Introduction & Exploring Life Cycles Introduction to life cycle of a butterfly Anatomy of a caterpillar Life cycle of a butterfly activity Observing Caterpillars Observing Chrysalises Observing Butterflies Butterfly Generations Releasing the Butterflies

Models

Recommended models for implementation. (ie flex, station rotation, lab rotation, flipped, individual, A La Carte, enriched virtual)

Flex and station rotation

Instruction and Activities

Based on what you have learned so far what instruction and activities will students engage with in the face-to-face (F2F) environment? Which will you now move to the online environment? For more support in planning this way, watch this video.

F2F	Online
Introduction & Exploring Life Cycles Introduction to life cycle of a butterfly: ● begin by reading "The Very Hungry Caterpillar" by Eric Carle ● Lead a discussion with the class, including the following questions: ● Where did the egg come from? ● What changes did the caterpillar go through on its way to becoming a butterfly? What surprised you? ● What do you think a female butterfly does before she dies? ● Tell students that they are going to watch a video showing the changes that happen to several different organisms over the course of their life cycles. They will see a tadpole develop into a frog, a nymph develop into a dragonfly, and a caterpillar develop into a butterfly. Whole Group Discussion: Anatomy of a caterpillar: ● Explain the main parts of a caterpillar's body: ● **Abdomen** - the tail area of an caterpillar that contains the heart, Malpighian tubules, reproductive organs, and most of the digestive system ● **Abdominal Prolegs** - stumpy legs located on the abdomen ● **Anal Prolegs** - stumpy legs located at the end of the abdomen ● **Head** - the part of the caterpillar that contains the brain, eyes, mouthparts, etc.	Life Cycle Video for Kids - Science Learning from makemegenius.com https://www.youtube.com/watch?v=-pHav-3QZkI Have students watch the Metamorphosis: Change of Plans video as a class. Tell them to pay close attention so they'll be able to describe the changes that occur.

• **Mandibles** - the jaws, located on the head • **Setae** - hairs along the caterpillar's body that sense touch • **Simple Eyes** - organs on the head that can detect light and dark • **Spiracles** - tiny holes along the caterpillar's body that it uses to breathe • **Thoracic Legs** - six jointed legs on the caterpillar's thorax • **Thorax** - the body section between the head and the abdomen. The legs and wings attach to the thorax. Follow up Activity - Groups of 3-4 • Give each student a copy of the Caterpillar Anatomy diagram and have them work in groups of 3-4 to correctly label the caterpillar parts Whole Group Discussion: Life cycle of a butterfly • **Eggs** - butterflies lay eggs on leaves • **Caterpillar -** caterpillars are born, and begin to eat and grow • **Chrysalis** - when the caterpillars have grown large enough, they form a "J" shape, hang from a branch or leave, and form a chrysalis • **Butterfly** - the adult form of the caterpillar, eventually will lay eggs and begin the cycle again. **Follow Up Activity -** Give each student printouts of the life cycle stages, including eggs, caterpillars, forming the J shape, chrysalis, and adult butterfly. They also need 5 printed arrows and 9x12 pieces of paper, as well as glue, pencils, and colored pencils. They need to glue each stage onto the large paper, label it with a short description of what is happening, and connect each of the sheets in a circle with the arrows to show the life cycle. **<u>Classroom Caterpillars - Live Observations</u>** • Observing Caterpillars - the students will observe their caterpillars on a daily basis, including measuring the approximate length, sketching the caterpillars, and noting any changes in size, appearance, and/or behaviors. They will document their observations in their science journals. • Observing Chrysalises - the students will observe their chrysalises on a daily basis, including measuring the approximate length, sketching the chrysalis, and noting any changes in size, appearance, and/or behaviors. They will document their observations in their science	Students complete the Seesaw activity to add their completed caterpillar anatomy diagram to their Seesaw journals. http://www.sheppardsoftware.com/scienceforkids/life_cycle/butterfly_lifecycle.htm

journals. • Observing Butterflies - as the butterflies emerge from the chrysalises over the course of several days, the students will note their observations, as well as draw the butterflies at each of the parts of the process they are able to see. • Releasing the Butterflies - after the butterflies have all hatched and been observed by the students, the butterflies will be released outdoors.	The students will work in their small groups together to record the butterfly release to be uploaded into their Seesaw journals, along with voice recordings of behaviors observed by the students as the butterflies are released.

Assessments

Based on what you have learned so far what instruction assessments will students engage with in the face-to-face (F2F) environment? Which will you now move to the online environment? Think about how you balance your assessment strategies (formative and summative).

F2F	Online
A combination of student responses from whole group instruction and worksheet responses as daily formative assessments. Additionally, I will use student responses in their Seesaw journals as lesson formative assessments.	Online quiz game - butterfly life cycle - to be used as a summative assessment https://www.studyladder.com/teacher/resources/activity?activity_id=27720

Resources

A selected repertoire of high quality resources that would equip a teacher to teach the unit is listed here.

F2F	Online
"The Very Hungry Caterpillar" by Eric Carle (book) Diagram of Caterpillar Anatomy, including spaces to label the individual parts. (example: http://www.enchantedlearning.com/subjects/butterfly/activities/printouts/caterpillarprintout.shtml)	Life Cycle Video for Kids - Science Learning from makemegenius.com https://www.youtube.com/watch?v=-pHav-3QZkI Metamorphosis: Change of Plans video http://www.sheppardsoftware.com/scienceforkids/life_cycle/butterfly_lifecy

LIfe Cycle of a Butterfly Activity Live Painted Lady Caterpillars Butterfly House or Netting	cle.htm

TO-DO*

What items must you complete in order to finish the creation of this unit. If any of the items to the right must be modified for online delivery list it here. For example, create a short podcast, find a YouTube video, write a discussion question, re-write directions for an activity so it can take place online.

Prepare caterpillar anatomy diagram for students. Prep the parts of the life cycle of the butterfly activity. Create journal activities for Seesaw assignments. The Seesaw Journal activities should include written instructions detailing the steps needed, including taking a picture of the completed activity and using the voice recorder option to record their explanation of the work they did. Each student then submits the activity to their online journal and the teacher reviews and accepts it.