Plants and Animals

LEGO® Education Unit for

LEGO® Education StoryTales and LEGO® Education Animals

Unit Introduction

This unit allows students to explore how plants and animals are like their parents, as well as animal and plant parts and how they function.

The lessons are designed in an order that allows students to progress in their skills and knowledge in the following areas:

- Exploring ways that young animals are like, but not exactly the same as, their parents
- Identifying animal characteristics and comparing parent/child characteristics
- Supporting a claim with three ideas
- Identifying animal parts and their functions
- Using communication, problem-solving skills, collaboration, and creativity
- Documenting and presenting their ideas and models

Unit Learning Promise

At the end of this unit, students will know that young plants and animals look similar to, but not exactly the same as their parents. In doing so, they will notice that young and adult plants and animals have some of the same parts with similar functions. Students will also understand that adult animals help their young learn behaviors that help with survival.

Investigation Questions:

How are young animals like adult animals? How are young plants like adult plants? How do adult animals help young animals?

Unit Lessons

Lesson 1	Lesson 2	Lesson 3
Animal Parents and Their Young Time: 30–45 minutes	Plants Young and Old Time: 30–45 minutes	Baby Animal Stories Time: 30–45 minutes

Assessment

We recommend assessing students on various skills throughout the unit.

- Use the progression of lessons as an opportunity to provide on-going feedback to prepare students for success for the open-ended project at the end of the unit.
- Each lesson includes a recommendation for teacher observations, student self-assessment, evaluation of success.

Unit Standards

NGSS

- LS1-2 Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive
- LS3-1 Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like their parents.
- K-2 ETS1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
○ Constructing Explanations and Designing Solutions ○ Developing and Using Models ○ Obtaining, Evaluating and Communicating Information ○ Connections to Nature of Science: ○ Science Knowledge Is Based on Empirical Evidence	○ LS1.A: Structure and Function ○ LS1.B: Growth and development of organisms ○ LS3.A: Inheritance of traits ○ LS3.B: Variation of Traits ○ ETS1.B: Developing Possible Solutions	○ Structure and Function ○ Patterns Connections to Engineering, Technology, and Applications of Science: ○ Influence of Science, Engineering, and Technology on Society and the Natural World

CCSS ELA

- W.1.3 Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure.
- W.1.7 Participate in shared research and writing projects (e.g., explore a number of "how-to"-books on a given topic and use them to write a sequence of instructions).
- SL.1.1 Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.

- SL.1.2 Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
- SL.1.3 Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
- SL.1.4 Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.
- SL.1.5 Add drawings or other visual displays to descriptions w hen appropriate to clarify ideas, thoughts, and feelings.

CCSS Math

- 1.OA.C.5 Relate counting to addition and subtraction
- 1.OA.C.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10.
- 1.NBT.A.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.
- 1.MD.C.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

LEGO® Education StoryTales and LEGO® Education Animals

Animal Parents and Their Young

Explore ways that young animals are like, but not exactly like their parents.

STEM, Creative Exploration, Early Math and Science

K–1 | 30–45 min. | Beginner

Prepare

- Prior to starting the lesson, have the LEGO® Education StoryTales and LEGO® Education Animals sets ready for use.
- Find age-appropriate stories about animal babies and their parents.
- **Vocabulary**: animal, characteristic, compare, pattern

Engage

Ignite a discussion:

- Ask students if they have ever seen a baby animal. What kind of animal? How did they know it was a baby animal and not an adult animal?
- Read an age-appropriate story to help students understand how baby animals are alike and different from their parents.
- Consider creating a chart, using pictures and words, that show parent and baby animals.

Explore

- Using the Animals set, find pairs of adult and baby animals.
- Compare the two models.
  - What are some characteristics that are the same? (coloring, shape, and so forth)
  - What are some that are different? (size, antlers)
- Have students work in groups of three to select three animal pairs they can use to make a claim that young animals are like but not exactly like their parents.

KEY OBJECTIVES

Students will:

- Identify animal characteristics.
- Compare parent/child characteristics.
- Support a claim with three ideas.

STANDARDS

- NGSS 1-LS3-1 Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like their parents.

- Have students use the LEGO® Education StoryTales set to build three ideas to support their claim. (One building plate and animal pair can be used for each idea. If a student wants to use an animal from the set but not part of a parent/child pairs, the student can build the animal from other LEGO® bricks or create with consumable materials.)

Explain

- When the students have finished building, have them share ideas with each other.
- Ask students to look for similarities and differences in the adult/baby characteristics of the animals.
- Ask questions like:
  - Why do baby animals look almost like their parents? Can you think of any animal baby that does not look like their parents? (birds)
  - What are some ways different baby animals change as they get older?
  - What are some things that baby animals can't do that their parents can?

Elaborate

- Encourage students to write a story about their baby animals growing up.
- Have them include details that indicate which baby animal characteristics change as the babies get older.

Evaluate

Evaluate the students' skills development by observing if they can:

- Identify characteristics of baby and parent animals.
- Explain how the baby and parent animals are alike.
- Support a claim with three relevant ideas gathered from observational data.

LEGO® Education StoryTales

Plants: Young and Old

Explore ways that young plants are like, but not exactly like older plants.

STEM, Creative Exploration, Early Math and Science

K–1 | 30–45 min. | Beginner

Prepare

- Prior to starting the lesson, have the LEGO® Education StoryTales sets ready for use.
- Gather consumable materials (e.g., paper, crayons, markers, tape, etc.)
- Find age-appropriate pictures of plants in different stages of life (e.g., tree sapling/mature tree; sprouts/mature plants)
- If possible, arrange to take students on a nature walk around the school building to locate plants in different stages of life, specifically very young and mature.
- If you wish to create a chart with students of young and mature plant characteristics, consider preparing a template for it.
- **Vocabulary**: plant, characteristic, compare, pattern

Engage

Ignite a discussion:

- Ask students if they've ever seen what a tree looks like before it has a thick trunk and lots of leaves. Have students predict characteristics of a sapling.
- Display a picture of a sapling and a mature tree. Ask students to identify characteristics that are similar and different.
- Share additional examples of young plants and mature plants, highlighting similarities and differences.
- If possible, take students on a nature walk around the school to investigate more. See if they can locate young plants and mature plants.

KEY OBJECTIVES

Students will:

- Identify plant characteristics.
- Compare parent/child characteristics.
- Support a claim with three ideas.

STANDARDS

- NGSS 1-LS3-1 Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like their parents.

- Ask students to document findings in a science journal or notebook.
- Consider creating a chart with students, using pictures and words that show young and mature plant characteristics.

Explore

- Organize student pairs. Each pair will need a LEGO® Education StoryTales set and access to consumable materials.
- Explain that partners will work together to create a story about a young plant growing up. Students can either build the plant in different stages or use consumable materials to create a background to use with the StoryTales set.
- The stories need to:
  - Have a beginning, middle, and end.
  - Show characteristics of a young plant.
  - Show characteristics of an older version of the same plant.

Explain

- When the students have finished building, have them share ideas with each other.
- Ask students to look for similarities and differences in plant characteristics.
- Ask questions like:
  - Why do young plants look almost like their parents?
  - What are some ways different young plants change as they get older?
  - What characteristics do young plants have which help them survive?

Elaborate

- Encourage students to investigate young and old plants in a different environment (e.g., aquatic plants, desert plants, etc.)
- Have students use additional findings to support the claim that young plants are like, but not exactly like their parents. Prompt them to use the StoryTales set to build models of three different observations made to support their claims.
- Provide additional LEGO® bricks or consumable materials as needed for model building.

Evaluate

Evaluate the students' skills development by observing if they can:

- Identify characteristics of young plants and their parents.
- Explain how the young and mature plants are alike.
- Support a claim with three relevant ideas gathered from observational data.

LEGO® Education StoryTales and LEGO® Education Animals

Baby Animal Stories

Create a story about a parent animal helping its baby.

STEM, Creative Exploration, and Science

K–1 | 30–45 min. | Intermed.

Prepare

- Prior to starting the lesson, have the LEGO® Education StoryTales and LEGO® Education Animal sets ready for use.
- Find age-appropriate stories or videos to use for research on behaviors of baby animals and their parents (e.g., baby animals crying or cheeping and parent feeding or comforting)
- If you wish to share story maps during Elaborate, prepare them in advance.
- **Vocabulary**: animal, survive, behave, behavior, signal, comfort, protect

Engage

Ignite a discussion:

- Ask students if they know any babies from their lives or from stories. Explore what they know with questions:
  - How do babies tell or show what they need? (They cry.)
  - When a baby cries, what could it need? (e.g., food if hungry, held if scared or hurt, etc.)
  - What are other ways babies or children behave so adults know they need something?
  - How do parents behave to protect their children?
- Ask students to brainstorm ways they think baby animals signal their mothers for help.
- Then, brainstorm ways animal parents behave to help their young (e.g., mother cat showing a baby cat how to groom; mother elephant showing a baby elephant how to use its trunk, etc.)

KEY OBJECTIVES

Students will:

- Identify ways baby animals signal for help from a parent.
- Look for patterns in the way animal babies and parents behave in order to survive.
- Create a story about a parent animal helping its baby.

STANDARDS

- NGSS LS1-2 Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

- Read some books or watch videos to investigate different ways animal babies and parents behave that help them survive.
- Encourage students to look for patterns in behaviors of parents and babies.

Explore

- Have each team select an animal pair from the LEGO® Education Animals set.
- Discuss different ways the parent/baby animal behaves (e.g., meowing, barking, rubbing up against one another, etc.)
- Ask students to create a story using the parent/baby animals and the LEGO® Education StoryTales set. In the story, the baby animal needs to behave in a way that signals to the parent that it needs something important (e.g., food, comfort, protection).
- Students can use consumable materials to create a background for their story.

Explain

- When students have finished, invite them to share their story with the class.
- Ask questions like:
  - What need did the baby animal have in the story?
  - How did the baby animal behave to let the parent know it needed something?
  - Would the baby animal behave in a different way if it needed something different?
  - How else might the parent animal behave to help their baby?

Elaborate

- Encourage students to add to their stories.
- Have the parent animal display a behavior that would help the baby (e.g., bear builds a den to protect baby; bird builds a nest; parent grooms baby to protect them from insects, etc.)
- Consider providing a story map so students can sketch the types of behaviors that will happen in their stories.
- Ask students to compare and sort the behaviors written on the story map to find similarities.

Evaluate

Evaluate the students' skills development by observing if they can:

- Identify different types of parent/child behaviors that help them survive.
- Recognize patterns that exist in parent/child behaviors.
- Tell a story that includes a baby animal signaling a parent for help.