

## Unit 3: Plant & Animal Characteristics

<b>Unit #:</b>	APSDO-00034881	<b>Duration:</b>	7.0 Lesson(s)	<b>Date(s):</b>	
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**Grades:**  
 1

**Subjects:**  
 Science

### Unit Focus

In this unit, students will develop an understanding of how plants and animals use their external parts to help them survive, grow, and meet their needs, as well as how behaviors of parents and offspring help the offspring survive. The understanding is developed that young plants and animals are like, but not exactly the same as their parents. Students will study the external parts of their class Betta fish as well as their class plants to learn how these living things use their external parts to survive in their environment. Lastly, students practice the engineering design process in the context of biomimicry. Summative assessments include a performance task and written component that assesses mastery of content and skills. Supporting instructional materials may include related mentor text(s), online and print resources, and teacher generated inquiry tasks.

### Stage 1: Desired Results - Key Understandings

Established Goals	Transfer	
<p><b>Next Generation Science Standards (DCI)</b>  <i>Science: 1</i></p> <ul style="list-style-type: none"> <li>A situation that people want to change or create can be approached as a problem to be solved through engineering. <i>ETS1.1.A1</i></li> <li>Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. <i>LS1.1.B1</i></li> </ul>	<p><b>T1</b> (T2) Design an investigation or model using appropriate scientific tools, resources, and methods.</p> <p><b>T2</b> (T5) Communicate scientific information clearly, thoroughly, and accurately.</p> <p><b>T3</b> (T1) Integrate knowledge from a variety of disciplines and apply it to new situations to make sense of information, formulate insightful questions, and/or solve problems.</p>	
	Meaning	
	Understandings	Essential Questions
	<p><b>U1</b> (U300) All animals need food, obtained from plants or other animals, in order to live</p>	<p><b>Q1</b> (Q313) What does this living thing need to grow?</p>

- All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. *LS1.1.A1*
- Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. *LS1.1.D1*
- Asking questions, making observations, and gathering information are helpful in thinking about problems. *ETS1.1.A2*
- Because there is always more than one possible solution to a problem, it is useful to compare and test designs. *ETS1.1.C1*
- Before beginning to design a solution, it is important to clearly understand the problem. *ETS1.1.A3*
- Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. *ETS1.1.B1*
- Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. *LS3.1.B1*
- Young animals are very much, but not exactly like, their parents. Plants also are very much, but not exactly, like their parents. *LS3.1.A1*

and grow. Plants need water and light to live and grow.

**U2** (U312) Adults interact with their offspring to help them survive.

**U3** (U304) Organisms have both internal and external structures that serve various functions.

**U4** (U313) Animals use parts of their bodies to survive, grow, and reproduce in their environment.

**U5** (U314) Plants have different parts (i.e., roots, stems, leaves, flowers, fruit) that help them to survive, grow, and reproduce.

**U6** (U205) Engineers learn from failure. Failure helps engineers learn more about how things work and how they can improve upon their design.

**U7** (U206) There is often more than one possible solution to a problem, but some are more effective, more elegant (aesthetically pleasing) in design, more appropriate/useful to the audience, or more replicable to produce.

**U8** (U208) There is often more than one possible solution to a problem, but some are more effective than others given the criteria and constraints.

**U9** (U923) Models provide an opportunity to test predictions and ideas through simulations.

**Q2** (Q314) How is the same organism alike or different?

**Q3** (Q315) How do adult animals help their young survive?

**Q4** (Q316) How do parts of this organism help it grow and survive?

**Q5** (Q201) What problem do I want to solve? How do I design a model/drawing to create a solution? How do I test it out and continue to make it better?

**Q6** (Q910) What questions do I wonder about? How can I use science to figure out the answer?

**Q7** (Q921) How do I use tools and materials to carry out my testing or build my model?

**Q8** (Q913) How can I use science to figure out the answer, solve a problem, or design a solution?

### Acquisition of Knowledge and Skill

Knowledge	Skills
<p><b>K1</b></p> <p>Young animals and plants are very much like, but not exactly the same as their parents</p>	<p><b>S1</b></p> <p>Compare similarities and differences between "parent" and "child" (e.g., sapling/tree, puppy/adult dog)</p>
<p><b>K2</b></p> <p>Animals belonging to the same species can</p>	<p><b>S2</b></p>

	<p>have similarities and differences</p> <p><b>K3</b></p> <p>Plants and animals have different external parts that are identifiable</p>	<p>Compare two different types of the same species to see what they have in common and where they differ (e.g., color, size, features)</p> <p><b>S3</b></p> <p>Label and explain the external parts of a plant (i.e., roots, stem, leaves, flowers)</p> <p><b>S4</b></p> <p>Explain how external body parts help animals to see, hear, touch, move, and find food and water</p> <p><b>S5</b></p> <p>Design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs</p> <p><b>S6</b></p> <p>Explain how a parent might behave in a way that helps its offspring survive</p>
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