

Subject	Grade	Standard	Objective
Science	First	4. Life Science	1. Communicate observations about the similarities and differences between offspring and between populations.
Content Big Ideas			
<p>(CT) All kinds of living things have offspring, usually with two parents involved.</p> <p>(CT) Offspring are very much alike, but not exactly, like their parents and like one another.</p> <p>(CT) Some animals and plants are alike in the way they look and things they do, and others are very different from one another.</p>		<p>Standard 1 Big Ideas – Intended Learning Outcomes</p> <p>(PoS) People can often learn about things around them by just observing those things carefully, but sometimes they can learn more by doing something to the things and noting what happens (raise questions about the world around them, be willing to seek answers to some of those questions by making careful observations and trying things out).</p> <p>(CoS) When doing science activities, it is often helpful to work with a team and to share findings with others. In this sharing, describing things as accurately as possible is important in science because it enables people to compare their observations with those of others (draw pictures that correctly portray at least some features of the thing being described, describe and compare things in terms of number, shape, texture, size, weight, color, and motion).</p> <p>(NoS) When people give different descriptions of the same thing, it is usually a good idea to make some fresh observations instead of just arguing about who is right.</p>	
Indicators: Measurable Outcomes framed by Standard 1 Big Ideas			
Indicator 1. Communicate observations about plants and animals, including humans, and how they resemble their parents.			
Indicator 2. Analyze the individual similarities and differences within and across larger groups.			
Science language students should be able to use correctly: populations, similarities, differences.			
Guidance for Combining Content and Process			
Guidance for Combining Science, Technology, and Society			
<p>Suggested Strategies</p> <p>Students can create a family tree poster with photographs or drawings (FA). Working in groups, students can identify similarities and differences in characteristics when comparing offspring to parents and siblings to siblings. (FA) (SS) (CoS) (NoS)</p> <p>Using two different kinds (e.g., White pumpkin, Cinderella pumpkin) of pumpkins (or other faster growing vegetable), students can investigate the relationship of seeds to pumpkins by dissecting seeds, planting seeds, and producing pumpkins. Students can compare the original pumpkins (parent) to the new pumpkins (offspring) to determine which offspring belongs to which parent. Record similarities and differences between generations as well as between the two different kinds. (L) (M) (PoS) (CoS) (NoS)</p> <p>Students can collect and analyze the different characteristics (e.g., eye color, hair color, skin color, height, and handedness) within and across classes. The students can graph and interpret the characteristics. (M) (PoS) (CoS) (NoS)</p>		<p>(T) Students can use age-appropriate tool to better observe populations.</p> <p>(A) Students can identify their inherited characteristics.</p> <p>(S) Students understand that offspring may or may not look like their parents.</p>	
Guidance for Combining Science, Technology, and Society			
<p>Life Sciences</p> <p>(CT) Changes over time</p> <p>(N) Nature of Living Things</p>		<p>Processes, Communication, and Nature of Science</p> <p>(PoS) Processes of science</p> <p>(CoS) Communication of science</p> <p>(NoS) Nature of science</p>	
<p>Curriculum Connections</p> <p>(M) Mathematics</p> <p>(L) Language Arts</p>		<p>Applications: Science, Technology, and Society</p> <p>(T) Tools of science</p> <p>(A) Applications of science</p> <p>(S) Implications of science for people</p>	