

## MAPPING KINDERGARTEN SCIENCE INSTRUCTION

**Concept:** Plant and Animal Life Needs, Processes, and Change

**PWC Strand:** Life Science

**PWC Objective: K.2.1**

The student will investigate and understand basic needs and life processes of plants and animals. Key concepts include:

- living things need food, water, and air to survive **(SOL K.6a)**
- living things change over time as they grow **(SOL K.6a, SOL K.9a)**
- plants and animals go through a life cycle **(SOL K.6b)**
- natural patterns of living things **(SOL K.8b)**
- patterns can be observed in plant and animal growth **(SOL K.8c)**
- offspring of plants and animals are similar but not identical to their parents **(SOL K.6c)**

<b>What Students Should Know</b> (Critical Attributes)	<b>What Students Should Be Able To Do</b> (Essential Skills)
<p><b><u>Essential Questions:</u></b></p> <ul style="list-style-type: none"> <li>• What do living things need in order to live and grow?</li> <li>• How do living things change as they grow?</li> <li>• What happens to plants and animals during their life cycles?</li> <li>• What are some patterns that can be observed as plants and animals grow?</li> <li>• How do the offspring of living things compare to their parents?</li> </ul> <p><b><u>Critical Attributes:</u></b></p> <p>K.6a Plants and animals need <u>food, water, and air</u> (oxygen) to live. Many animals and plants that live in water get oxygen that is dissolved in the water.</p> <p>K.6a Plants and animals change as they grow. Animals may change their body coverings, color, or overall size. Changes in plants may be in size, presence of leaves and branches, and presence of fruits and flowers.</p> <p>K.9a The natural changes that occur in living things happen over time and may be fast or slow.</p>	<ul style="list-style-type: none"> <li>• Describe the life needs of animals and plants. The life needs are food, water, and air. Predict what will happen if life needs are not met.</li> <li>• Describe some of the simple changes animals and plants undergo as they grow.</li> <li>• Describe how living things change naturally; for example, growth in seeds and common plants and in common animals such as the butterfly.</li> </ul>

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<b>What Students Should Know (Critical Attributes)</b>	<b>What Students Should Be Able To Do (Essential Skills)</b>
<p>K.6b Plants and animals go through a life cycle in which they live and die. During this life cycle, they are born, they grow and change, they make new living things (offspring), and they die. This cycle happens over and over.</p> <p>K.8b We can also observe other natural patterns living things show, such as patterns on leaves of growing trees, the pattern on seeds in an apple, and the woody parts of pinecones.</p> <p>K.8c As plants and animals grow, they get larger according to a pattern.</p> <p>K.6c Many offspring of plants and animals resemble their parents as they go through their life cycles but are not identical to them. Other plants and animals do not look like their parents as they go through their life cycles.</p>	<ul style="list-style-type: none"><li>• Describe the stages in some simple animal and plant life cycles.</li><li>• Compare and contrast young plants and animals with their parents, using pictures and/or live organisms.</li></ul>

## MAPPING KINDERGARTEN SCIENCE INSTRUCTION

**Concept:** Human Growth and Change

**PWC Strand:** Life Science

**PWC Objective: K.2.2**

The student will investigate and understand that humans grow, change and develop simple patterns in daily life. Key concepts include:

- as humans grow they change **(SOL K.9a)**
- changes in humans can be noted and measured **(SOL K.9b)**
- humans establish simple patterns during their lives **(SOL K.8d)**

<b>What Students Should Know</b> (Critical Attributes)	<b>What Students Should Be Able To Do</b> (Essential Skills)
<p><b><u>Essential Questions:</u></b></p> <ul style="list-style-type: none"> <li>• What are the basic stages of growth in humans?</li> <li>• What kinds of changes take place in people as they grow over time?</li> <li>• How can stages of growth and patterns in humans' daily lives help us make predictions?</li> </ul> <p><b><u>Critical Attributes:</u></b></p> <p>K.9a Human beings, like other living things, grow and change as a part of their life cycles.</p> <p>K.9b We can note and measure the changes that take place in people as they grow up.</p> <p>K.9b Change can be fast or slow depending upon what we are observing. Most of the changes we observe in humans, such as height, weight, and hair color, happen over time.</p> <p>K.8d Home and school routines can be thought of as patterns. Different people spend their time differently, but there are many similarities. Many activities revolve around survival, such as going to sleep and eating meals. Other activities are determined by personal choice (playing ball, watching television), or by social requirements (going to work and/ or school) at set times each day.</p>	<ul style="list-style-type: none"> <li>• Identify the stages of growth in humans, including baby, child, and adult.</li> <li>• Identify some of the changes that people experience over time, such as changes in height, weight, and color of hair.</li> <li>• Predict how their own height and weight will change over the school year.</li> <li>• Identify and describe patterns in their daily schedule and at school.</li> </ul>