



SCIENTIST IN RESIDENCE PROGRAM™

Science Unit *Explore the Wonder of Nature With Our Senses*

Lesson 2 *Apple Sense-o-rama*

Authors	Lea Elliott (scientist), Julie Gelson (teacher) and Melanie Moore (teacher)
Grade level	K – 2
Class time needed	1 hour and 20 minutes
Delivery date	January 12, 2016

LEARNING OBJECTIVES

1	Engage our five senses by observing apples
2	Learn about how apples grow
3	Ask questions about apples

SUPPLIES

- One to two apples for every two kids. Look for uncommon apple varieties such as Mutsu, Pink Lady and Ambrosia.
- An apple branch (if available).
- Cutting board, apple slicer and paring knife.
- Book: *How do apples grow?* By Betsy Maestro

BACKGROUND INFORMATION

The apple originated in southwestern Asia, in Turkmenistan, Uzbekistan, Tajikistan, Afghanistan and is part of the rose family. It is closely related to pears and quince. There are more than 7500 apple varieties grown in the world.

An apple's light pink or white flowers bloom in the spring and each flower is attached to a branch with a stem. This stem will become the fruit's stem. Like your coat protects you an apple's sepals protect its flower. An apple's sepals stay on the apple as it grows. If you look at the bottom of an apple you can see its sepals.

Apple blossoms need to be fertilized to grow into an apple. Pollen (the male part of the flower) has to travel to a different flower to fertilize the ovary (the female part of the flower). We need bees to carry the pollen from one flower to another.

If you cut an apple in cross-section you can see five compartments. Each compartments holds an apple seed or two. If you look at an apple flower you will see it is also in multiples of five (i.e. five petals).



SCIENTIST IN RESIDENCE PROGRAM™

THE LESSON

The Hook	<ul style="list-style-type: none"> • Read <i>How do apples grow?</i> By Betsy Maestro to learn how apples grow from flowers. • Play a senses game to get students thinking about their five main senses: Teacher or scientist names an object (i.e. flower, bird, carpet) and asks students to point to the first sense they think of.
Hands-on Activity 1	<p>Draw an apple</p> <ul style="list-style-type: none"> • Give each table group a whole apple and an apple cut in cross-section (cut parallel to the stem and sepals). • Draw pictures of the whole apple and cross section.
Hands-on Activity 2	<p>Taste apples</p> <ul style="list-style-type: none"> • Give students a slice of each apple variety. • Students taste, touch, smell and listen to the crunch of their apple slices • Students record their observations
Wrap Up	<p>Wonder wrap-up</p> <ul style="list-style-type: none"> • What do you wonder about apples, apple flowers and apple trees?

VOCABULARY

Bud	The small bump on a branch that will become a leaf, stem or flower.
Fertilize	When an apple ovary is fertilized by pollen it grows into an apple.
Fragrance	A pleasant sweet smell.
Observe	To notice details by paying close attention.
Ovary	An apple flower's ovary is the female part of the apple flower. When it's fertilized with pollen, the male part of the apple flower, it grows into an apple.
Pollen	Bees move pollen, the yellow powder and male part of the flower, from apple flower to apple flower. The pollen fertilizes the ovary, which causes an apple to grow.
Senses	Our senses of sight, hearing, smell, touch and taste help us observe our surroundings.
Sepal	The part of a plant that surrounds and usually protects the flower petals. An apple still has its flower sepals. Look for sepals on the bottom of an apple.

REFERENCES

Brown, J. 2009. *Meditations on an apple*. <http://www.ecoliteracy.org/article/meditations-apple>

Dickmann, N. 2010. *An apple's life: Watch it grow*. Heinemann Library.

Maestro, B. 1992. *How do apples grow?* Let's Read and Find Out Science. HarperCollins Children's Books.