

# Fourth Grade MASTER Model AG-SEEDLINGS UNIT

## Leading Scientific Question

How do pollinator's & plant's structures help them grow?

### Scientific Sub-question

How do plants & animals use their internal & external structures to support growth, behavior, and reproduction?

### Scientific Sub-question

How do pollinators use their senses?

### Scientific Sub-question

How do pollinators use their senses to touch, taste, see, and smell?

### Scientific Sub-question

How does the environment affect living organisms? (How do living organisms affect the environment?)

Do external structures support growth, behavior, and reproduction?

Are pollinators & plants symmetrical?

### Lesson- Pollinator Symmetry

Students will read article & learn about symmetry in "The Mystery of Symmetry".

Students will use the Pollinator Symmetry worksheet to paint or color symmetrical structures of pollinators.

Students will review article by answering reflection questions on article.

Students will create their own symmetrical insect.

Read-aloud: "How to Build an Insect" by: Roberta Gibson

Can pollinators receive different types of information through their senses?

How do pollinators process & respond to received information?

### Lesson- The Waggle Dance

Students will read & interrupt article, "The Waggle Dance"

Students will create their own Waggle Dance to communicate to others where a food source is.

Students will watch video to observe the waggle dance.

Students will perform drafted Waggle Dance to test it. (Alternative: to code on paper with arrows signs as directions to food source.)

Read aloud- "Bee Dance" by: Rick Chrustowski

Do all pollinators use their senses the same way?

Do plants have senses?

### Lesson- Darwin's Orchid

Introduce with read a-loud, "Pollen Darwin's 130-year Prediction" by: Peter Willis.

Students will take native plant and do a flower dissection.

Student will watch short video, "Look inside a Flower!"

Students will illustrate & write observation notes/data on dissection flower activity.

Extension Activity: Penn State Extension website of activities

How do humans affect the environment?

How do pollinators affect the environment?

### Lesson- Bee-Healthy Farm

Student will read & answer questions in "Bee Healthy Farms" reading passage, located in google folder.

Teacher will model to student how to read "Plants Arranged by Bloom time List" located in google folder.

Watch short student videos about "Planting a Garden" and/or "The Arboretum at Penn State".

Students will create a garden layout of different nutritional plants for pollinators.

Read aloud- "The Farm That Feeds Us." By: Nancy Castaldo