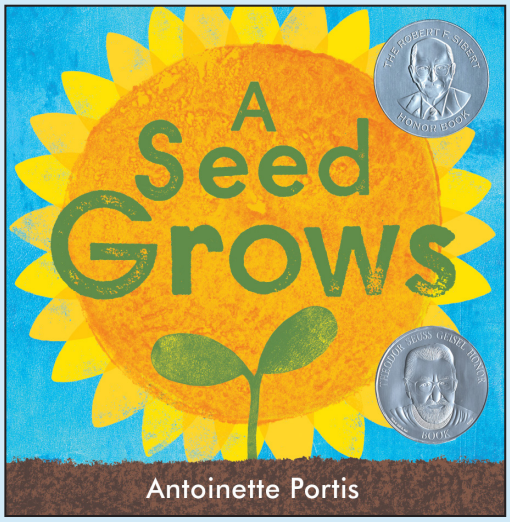


Neal Porter Books
9780823448920 · e-book: 9780823453078

Interest Level: PreK–K
Age: 3–6

A Seed Grows
by Antoinette Portis

- A Theodor Seuss Geisel Honor Book
- A Robert F. Sibert Honor Book
- An ALA Notable Children's Book
- A New York Public Library Best Book of the Year
- A *Horn Book* Fanfare Title
- A *Publishers Weekly* Best Book of the Year

The transformative life cycle of a sunflower plays out in this bold read-aloud by Sibert honoree Antoinette Portis.

Science Standards and Comprehension Strategy

1-LS3-1 Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

2-LS2-1 Plan and conduct an investigation to determine if plants need sunlight and water to grow.

Comprehension Strategies: KWL, Graphic Organizers, Visualizing, Questioning, Predicting

EXTENSION ACTIVITIES

KWL Chart
Create a KWL chart on large paper with the following headings: What we know, What we wonder about, What we have learned.

- Have partners discuss what they know about plants. As they share their ideas with the whole group, add them to the K portion of the chart.
- Take a picture walk before reading the book. Have partners discuss the questions they have about plants. Have students share their ideas as you write their responses on the W portion of the chart.
- Read and discuss the text.
- Have partners discuss what they've learned from the text. As they share their ideas with the whole group, add them to the L portion of the chart.

Visualize
Help students visualize in order to recall the stages in the life cycle of a plant.

- Have students use the illustrations on the following activity sheet to create a model of the life cycle of a plant on the board or chart paper.
- Go back through the book to verify the model that has been created.

Experiment
Plan and conduct an investigation to determine if plants need sunlight and water to grow.

Materials needed:

- 5 clear plastic baggies
- starting soil
- pole bean seeds
- a window with natural light
- masking tape
- a piece of dark construction paper (or use a bit of black garbage bag)

Directions

- Label baggies one through four 'no soil,' 'no water,' 'no sunlight,' and 'no oxygen' and the fifth baggie will be the control with everything provided for seed germination.
- Place two seeds in each baggie to ensure the experiment doesn't flop because of poor seed quality.
- Add a small amount of starter soil to all baggies, except the 'no soil' bag.
- Add water to all baggies, except the 'no water' baggie. Zip up the baggie for the 'no oxygen' bag. And encase the 'no sunlight' bag in a folded piece of black construction paper. Attach one side of all baggies to the window with masking tape, leaving all but the 'no oxygen' baggie open for plant growth, watering, and oxygen availability.
- Ask students to make a hypothesis on which seeds will or will not germinate.
- Encourage children to draw and label the stages of plant growth.

Encourage your learners to draw like a scientist. While you are waiting, look at books or videos online to learn more about the germination process.

Once the beans are growing well, the bags can be removed from the window and root growth can be observed closely. Consider the following questions:

- Why are there hairs in the roots?
- Why are the roots growing across the baggie?
- How do local plants and animals depend on their environment?
- How do plants and animals use their features to respond to stimuli in their environment?
- How do plants and animals adapt when their needs are not being met?
- Why are life cycles important?
- How are the life cycles of local plants and animals similar and different?
- How do offspring compare to their parents?
- Why is water important for all living things?

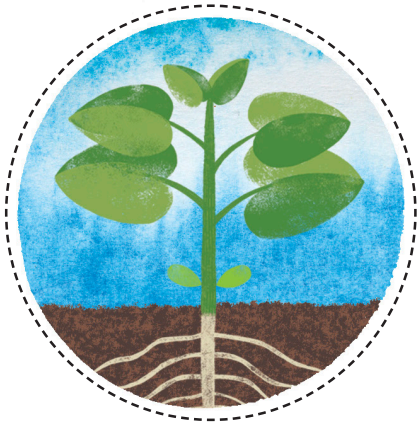
ABOUT THE AUTHOR

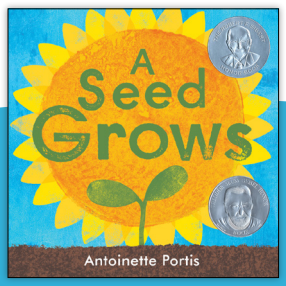
Antoinette Portis is the author of many inventive books for children including *A New Green Day,* an NCTE Notable Poetry Book, and both *Publishers Weekly* and *Horn Book* Fanfare Best Books of the Year; *A Seed Grows,* named both a Sibert Honor Book and a Geisel Honor Book, among other accolades; and the Sibert Honor book *Hey, Water!,* which received starred reviews from *Kirkus Reviews, Booklist,* and *School Library Journal,* who said "This simple introduction to water is an ideal read-aloud for the youngest scientists." A recipient of the prestigious Sendak Fellowship, she lives in Southern California. Visit her at AntoinettePortis.com.

Mary Beth Connolly, M.S.Ed, educational consultant and retired elementary/special education teacher.

Name: _____ **Date:**_____

Cut out the pictures and arrange them
in order on the next page
to show the life cycle of a sunflower plant:





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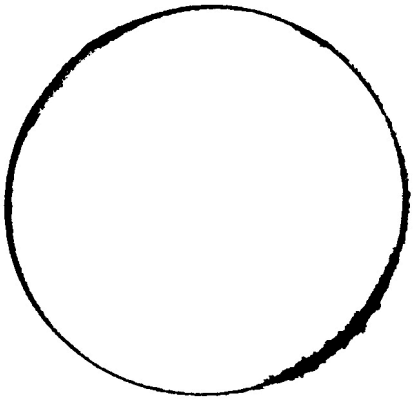
Reproducible

Life Cycle of a Sunflower Plant

1



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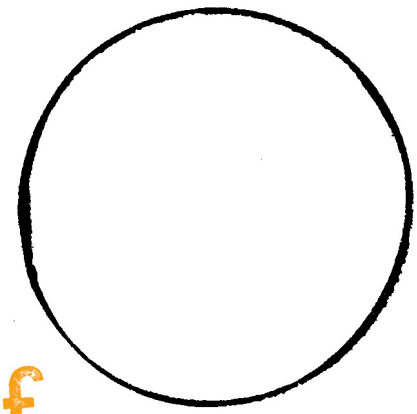

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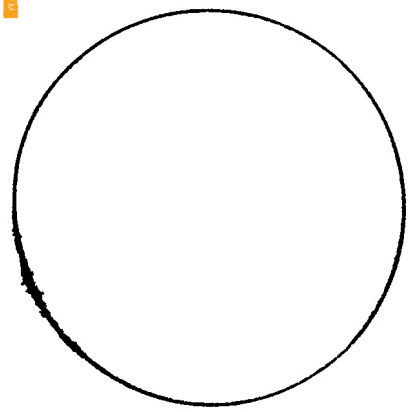

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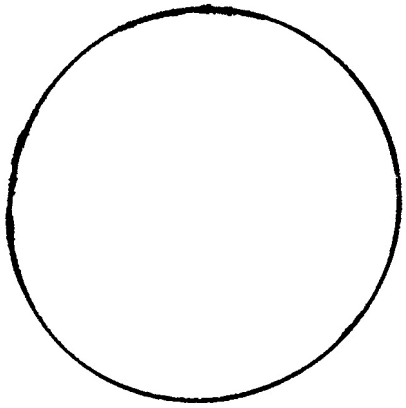

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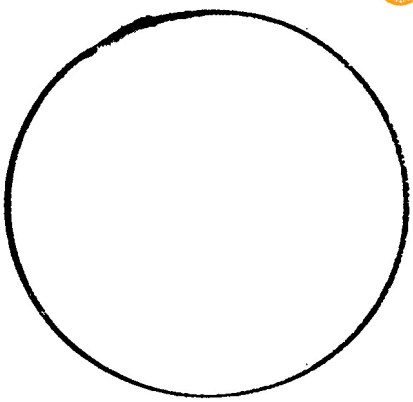

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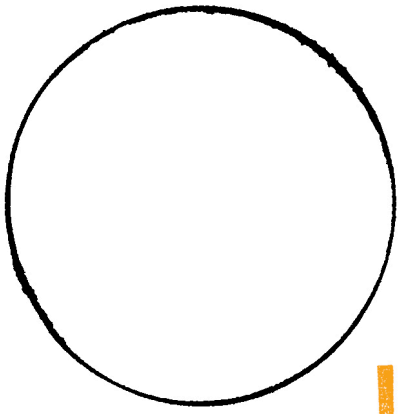

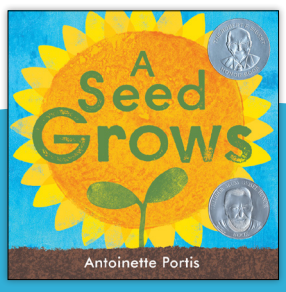

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