

# The Life Cycle of a Plant:

Is it really so much different than ours?

A Web Quest/Journal

for Stratfield's 2nd Graders in Science /Technology



## Introduction

Welcome to the wonderful world of botany (the study of plants). Your mission is to observe and draw conclusions about the life cycle of a flowering plant. Then, you'll decide with your partner how a plant's life cycle is different from an animal's.

Your science essential question for this study is:

**How do plants change their forms as part of their life cycles.**

And:

- ◆ How do light and water and air effect plant growth and health.
- ◆ How are animal and plant life cycles alike and different.

*For Information, Communication and Technology you will:*

*I-Use a graphic organizer to gather and sort information.*

*C-Use a variety of ways to present your information and observations.*

*T-Participate in an online learning experience.*

Always turn and talk with your partner about your investigations (research) on the Internet. Then, you can enter your ideas and observations in this journal (you'll get a printed copy).



The Seed

1

Read Eric Carle's *The Tiny Seed*

Think: How do you adapt to our changing environment/ seasons in Fairfield? Turn and talk then write.

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What would happen if you didn't adapt to the changing environment in Fairfield? Turn and talk then write.

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Do you think plants adapt for better survival? How do seeds help? Turn and Talk

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**2** Go to the lab with your partner. Click on this link from England (.UK) and learn about what's inside a plant's seed.

<http://theseedsite.co.uk/seedparts.html>

Look at the bottom image of the inside of the seed. What looks like it's going to come out of the seed first, the root or the stem shoot? Turn and talk then write.

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Besides the new root and stem, what's in the seed? Why? Turn and talk then write.

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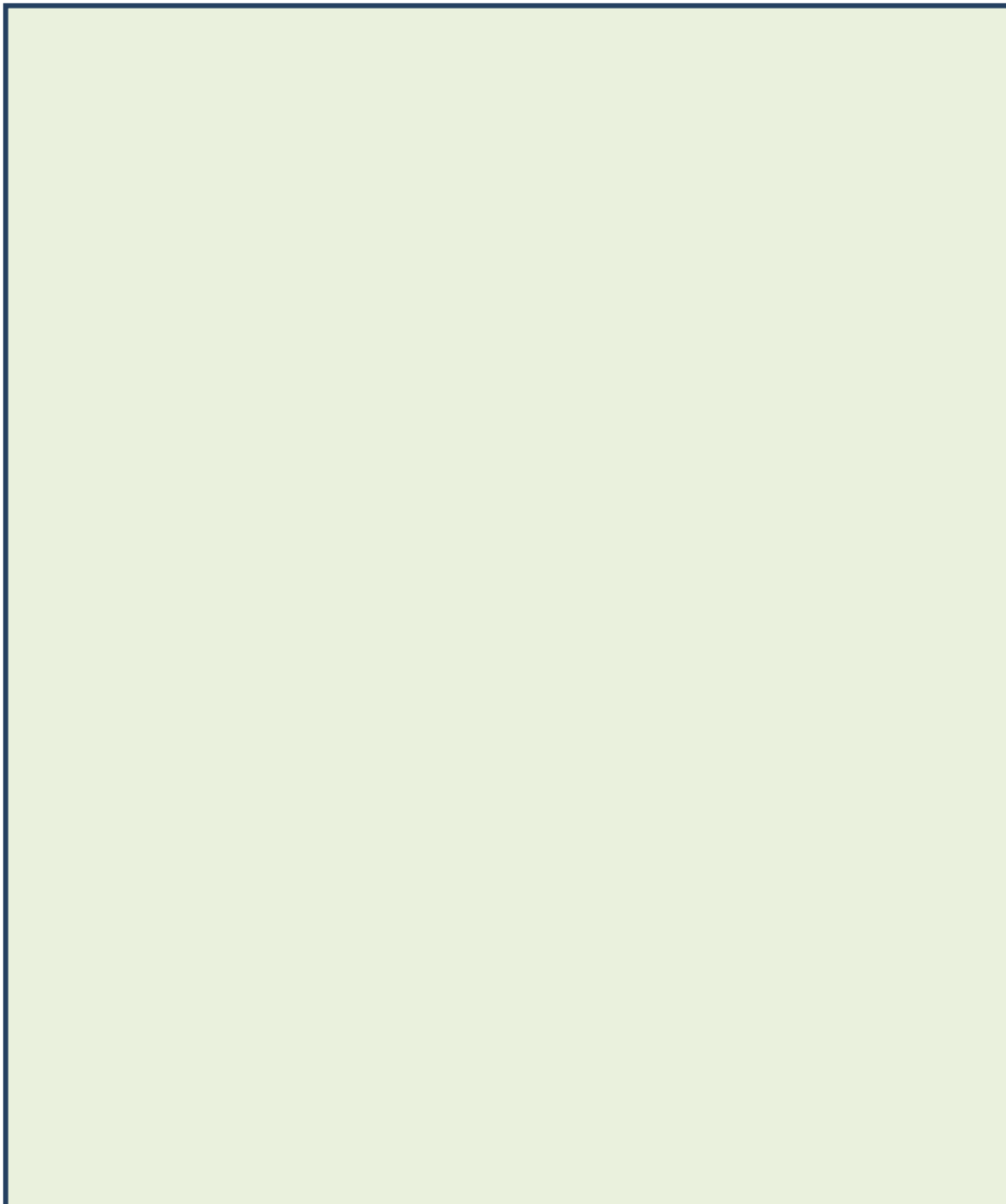
3

After watching the BrainPop jr movie on "Parts of a Plant,"

<http://www.brainpopjr.com/science/plants/partsofaplant/preview.weml>

use the space below to draw a flowering plant and label the parts using the words:

petal stem roots leaf. (Talk to your partner first.)





4

Talk to your partner. Draw a line from the word to the correct definition of a flower part.

It holds the plant up.

These grow towards the sun to get light to make the plant's food (sugars).

Roots

These grow down into the dark soil to keep the plant in place.

Stems

They take in water and nutrients from the soil.

Leaves

These are the colorful parts of the plant where new seeds will grow.

Flowers

These sometimes go through the body of an animal that eats them and are dispersed to a new area so the plant family will spread and survive.

Seeds



5

### Life Stages of a Plant

Talk to your team. Put these stages in order 1 through 7. We've helped you out with the first one (it was too easy).

- \_\_\_ leaves and stem grow from the seed
- \_\_\_ roots begin to pull up water and nutrients while the leaves begin to make food (sugars).
- \_\_\_ petals open wide and seeds fall to ground
- \_\_\_ roots grow from seed
- \_1\_ seeds are planted in ground
- \_\_\_ flower opens from bud
- \_\_\_ seeds fall to the ground around the plant or are dispersed to a new area.



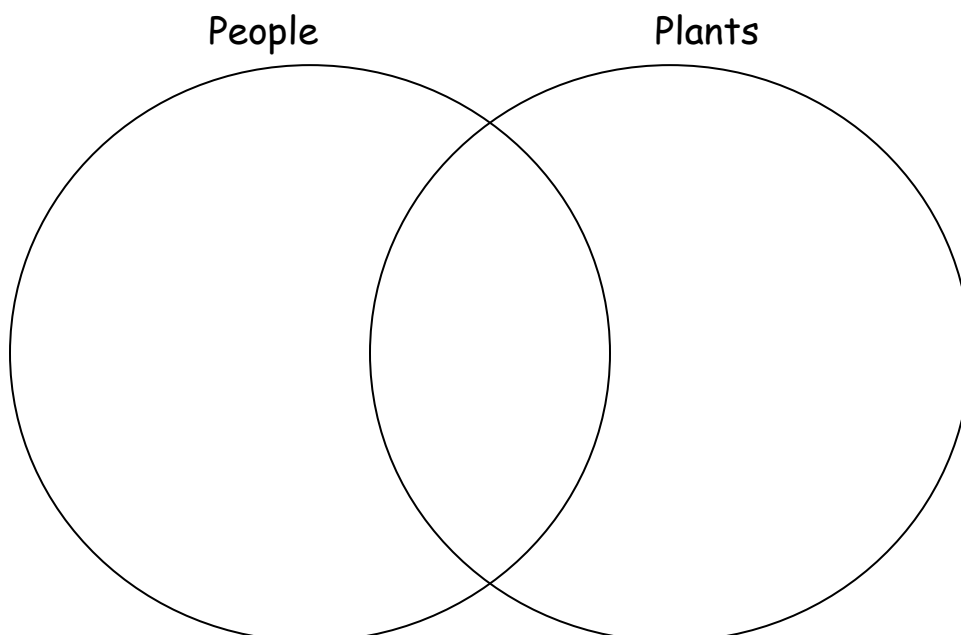
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Below is a Venn diagram. Scientists often use these to compare and contrast things. Let's use it to compare and contrast people and plant needs.

Things that both people and plants need go in the middle area.

Use these words to fill in your Venn diagram.

water air sunlight sleep soil exercise food love



Can you and your partner think of others to add?



Let's use a game (BrainPop's Gameup) to learn how light, air and water effect plants. Click on the link below and play the game with your partner. Make predictions with your partner.

<http://www.brainpop.com/games/whatplantsneed/>



Use your existing knowledge of the human life cycle and plants. Look at the plant picture and the human drawing. What advantages for survival does a human have? Does a plant have any advantages?



Human advantages


Plant advantages




Watch this video of the life of a small fast growing plant. Use the pause button to stop the action and determine, with your team, at least 5 important stages, then draw them in your life cycle at the bottom of the page.

<http://www.youtube.com/watch?v=JumEfAbjBjk>

or you might like this video to decide on your 5 important life stages:

<http://www.youtube.com/watch?v=9CrkJgxhjV8>

Use the drawing below of the life cycle of a frog to give you hints for developing your own drawing of the life cycle of a flowering plant. Talk to your team, draw (and label) the plants as accurately as you can. Botanists do!

