

Life Cycles of Plants and Animals

Teacher Facilitation Notes

In General . . .

- Project the slide deck in edit mode—do not show it as a slideshow.
- Hide the speaker notes before projecting. (View/Show Speaker Notes)
- Hide the toolbar. (Click on the up arrow at the right end of the tool bar.)
- Call on students to read the various content shown on slides.
- For each investigation, assemble the needed materials for each group and place in a central location for ease of distribution.
- Duplicate copies of the data sheets for each student.

Materials Needed Per Group:

Explore: Ways Organisms Change as They Grow

Clear, large, glass jar*, 1 per group	Paper towels, 1-2 per student
Dried lima bean seeds**, 5 per student	Hand lens, 1 per student
Aluminum pie pan	Extra Paper towels
Water	Spray bottles, 1 per group
Masking tape, 1 piece per group	Sharpie™, 1 per group

Elaborate: Illustrating Life Cycles

Manila or construction paper (12 x 18 inches), 1 sheet per group	
Markers	Pencil, 1 per student

Crayons

Evaluation

Quiz, 1 per student	Pencil, 1 per student
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*Buy new or ask parents to donate empty pickle jars.

**The bean seeds will grow faster if they are presoaked. At least 2 days before beginning the lesson, place a layer of paper towels in the pie pan. Get the towels thoroughly wet. Place bean seeds in one layer on top of the wet paper towels. Put 4 seeds per student on the paper towels. Place another layer of soaking wet paper towels on top of the bean seeds. Let soak for two days.

Other Materials

Student Recording Sheets

Pencils

Science Notebooks, 1 per student

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Engage: What is a Life Cycle?

- Watch the video. Discuss what the students saw in the video and what they already know about life cycles.
- Read through and discuss the slides about the life cycles of plants and animals.
- Have students complete the data sheet for the engage portion of the lesson. Use the last slide of the Engage to have students check their work. Drag and drop the words to the correct boxes. Call on a volunteer to read the sentence out loud. Discuss as desired.
- Call on a volunteer to name the first step in the life cycle of a cricket. Drag and drop the description in the first box. Continue in this manner until all of the boxes are filled and the stages of development are in the correct order. Discuss as desired.

Explore: Ways Organisms Change as They Grow

- Make sure to soak the bean seeds before beginning this part of the lesson. (See Materials.)
- Read through the introductory slide about the life cycle of a pansy. Discuss.
- Discuss the slide showing the life cycle of a lima bean. Tell students that they will be growing their own lima beans to observe their life cycles.
- Give each student one lima bean seed, a paper towel, and a hand lens. Tell students to use the hand lens to observe the dry seed. Ask them to sketch the seed in their science notebooks.
- Brainstorm what the students think might be inside the seed. Write their ideas on the board or a piece of chart paper. Let the students draw a picture of what they think is inside the seed in their science notebooks.
- Ask students for suggestions about how they could open the seed and look inside without harming the seed or its contents. Discuss.
- Give each student a well-soaked seed. Tell them to use the hand lens to observe the seed. How is the soaked seed different from the dry seed?
- Demonstrate how to split the seeds in half very carefully. Show the slide with the split lima bean seed and discuss the parts. Have students locate the embryo (baby plant) and the cotyledon (the food that allows the baby plant to grow).
- Instruct the students to sketch and label the parts of the inside of the seed in their science journals.

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Explore, continued

- Give each group a large, clear jar, some masking tape, and a Sharpie™.
- Assign each group a name, a number, or a letter. Have them put the tape on their jar and label it with their group name.
- Have students follow the directions on the slide to plant the seeds in the jars.
- Have volunteers describe the life cycle of a radish as you drag and drop the pictures to the correct boxes.
- Read about the two ways the life cycles of an animal begins: hatched from an egg or born alive.
- Go through each slide, watching the videos and discussing the information as desired.
- Have students complete the data page for this part of the lesson.
- Make time each day for students to check that the paper towels are damp and that they observe how the seeds are growing. You may have students sketch the plants every 4-5 days.

Explain: Comparing Life Cycles

- Read through and discuss the Explain slides as desired.

Elaborate

- Read through and discuss the elaborate slides with students.
- Divide the class into 4-6 groups. Assign each group one of the following organisms: beetle, cricket, radish, lima bean, chicken, or frog.
- Have students use the construction paper and markers/crayons to create an anchor chart illustrating the life cycle of the assigned organisms. Assist groups with identifying the stages in the life cycle of each organism as needed.
- Allow time for each group to share their charts with the class.
- Display charts in classroom or nearby hallway.

Evaluate

- Read through and discuss the four questions on the slides.
- Let students complete the quiz independently.
- Discuss evaluation as desired.

Life Cycles of Plants and Animals

Name: Key

Evaluation

1. The correct order of the stages in a plant's life cycle are:

- A young plant → seed → adult plant
- B seed → adult plant → young plant
- C** seed → young plant → adult plant
- D adult plant → young plant → seed

2. A group of students planted some cucumber seeds to observe the life cycle of a cucumber plant. The data table shows some information about cucumber plants.

Cucumber Plant Growth

Days It Takes to Sprout After Planting	Days it Takes After Planting to Become an Adult Plant
4	50

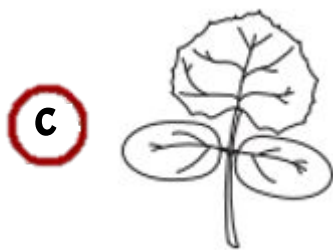
What did the student most likely see seven days after they planted the cucumber seeds?



young plant



plant with cucumbers



seedling



plant with flowers

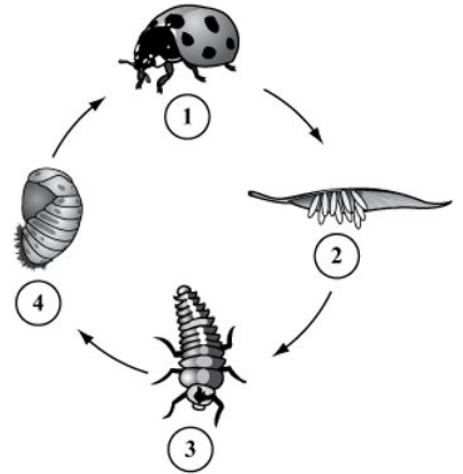
Life Cycles of Plants and Animals

Name: Key

Evaluation

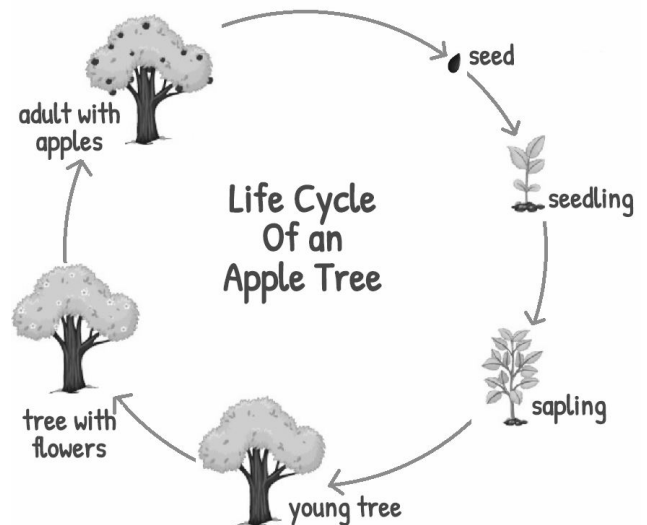
3. The diagram shows four numbered stages in the life cycle of a ladybug. Between what two stages does a ladybug change to an adult?

- A Between stage 1 and stage 2
- B Between stage 2 and stage 3
- C Between stage 3 and stage 4
- D Between stage 4 and stage 1**



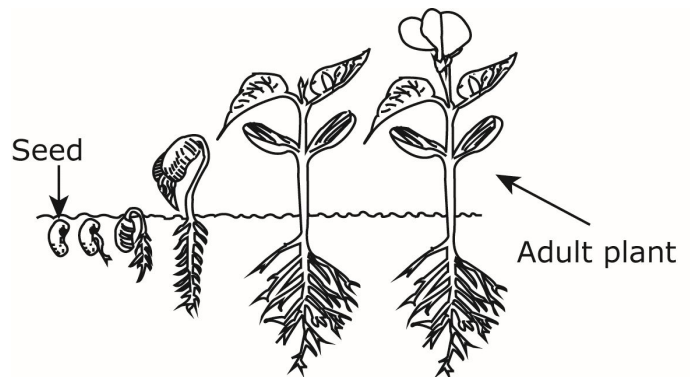
4. The diagram shows the growth and development of an apple tree. This diagram illustrates a-

- F life span
- G life cycle**
- H food chain
- J food web



5. The diagram shows the life cycle of a lima bean plant. What is the purpose of the seeds in a bean plant's life cycle?

- A To provide food for people
- B To make food for the plant
- C To keep the plant alive longer
- D To help the plant reproduce**



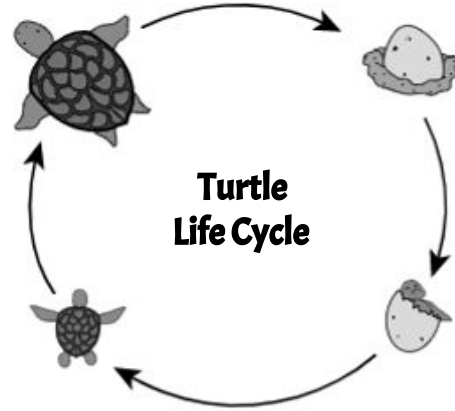
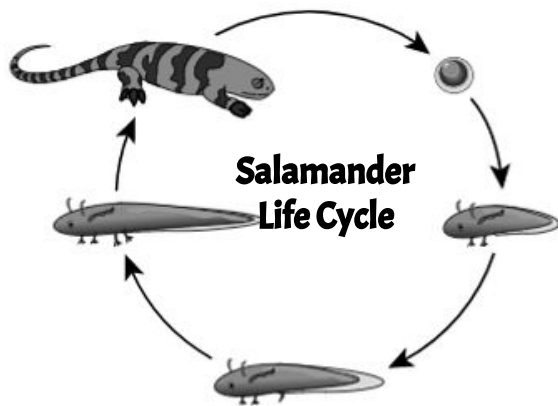
Lima Bean Life Cycle

Life Cycles of Plants and Animals

Name: Key

Evaluation

6. The diagrams below show the life cycle of a salamander and the life cycle of a turtle.



Which of the following statements describe the life cycles shown? (Mark all answers that apply.)

F Both life cycles start with an egg.

G Both organisms are a larva when they hatch from the egg.

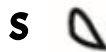
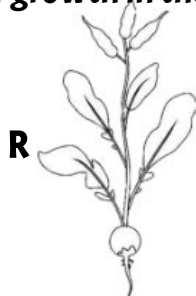
H The salamander lays eggs at two stages in its life cycle.

J The salamander's life cycle has more stages than the turtle's life cycle.

K In both life cycles, the newly hatched organisms look like the adults.

L The life cycles of both organisms shows their growth and development.

7. The pictures show the stages in the life cycle of a radish plant. What would be the correct order for the stages of growth in the radish plant?



A Q, R, S, T

B R, T, Q, S

C S, Q, T, R

D T, S, R, Q

Life Cycles of Plants and Animals

Name: Key

Evaluation

8. The life cycle of a butterfly is a complete metamorphosis. It has four stages. One of the stages is pictured below.



What is the next stage in the life cycle of a butterfly.

F



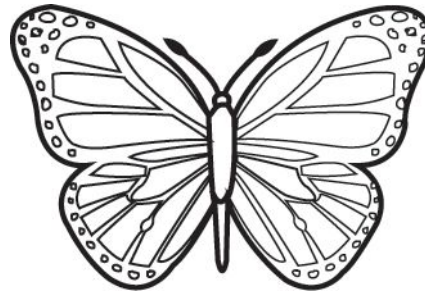
G



H



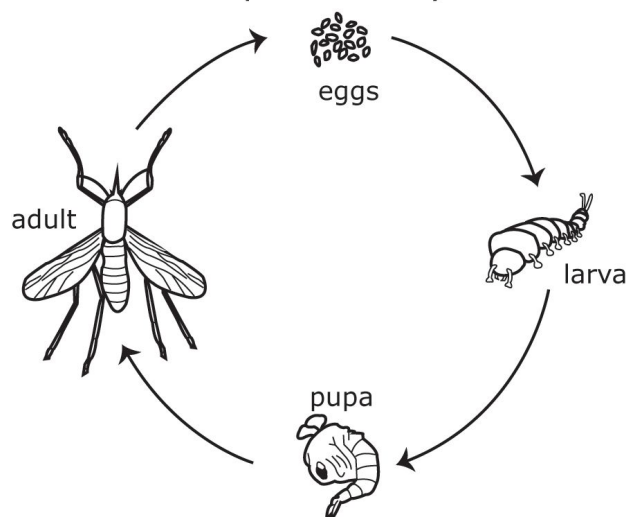
J



9. The diagram shows the life cycle of a mosquito. During which stage of its life is the mosquito able to lay eggs?

- A** Larva
- B** Pupa
- C** Adult
- D** Egg

Mosquito Life Cycle



Life Cycles of Plants and Animals

Name: _____

Engage: What is a Life Cycle?

Directions: Use terms from the word bank to complete the sentence below.

A _____ is a sequence of _____ that happen from _____ to _____ in the life of an _____.

Word Bank

birth

death

life cycle

organism

stages

Directions: Number the steps below from 1 to 5 to show the correct order in the life cycle of an cricket.

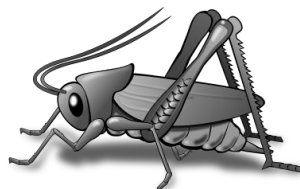
_____ After about 14 days, the cricket will break out of its egg.

_____ When the cricket is fully grown, it is an adult. It can have babies and the cycle will begin again!

_____ A female cricket lays here eggs. In her lifetime, she can lay from 100 to 200 eggs.

_____ The nymph will grow larger and have to shed its skin about 12 times.

_____ The baby crickets are nymphs. They look like an adult but are smaller and don't have wings.

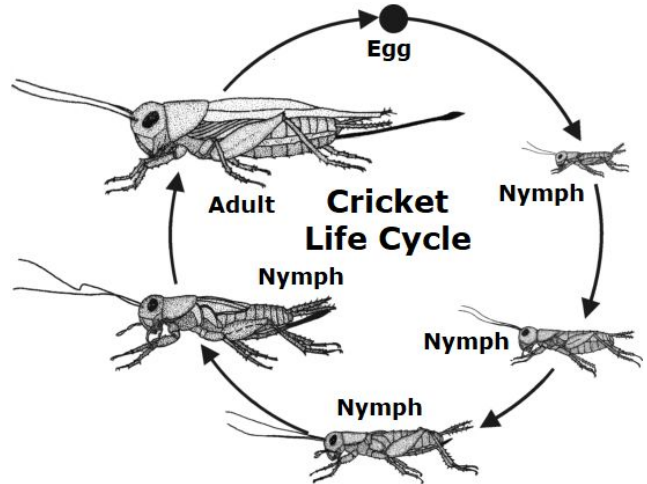
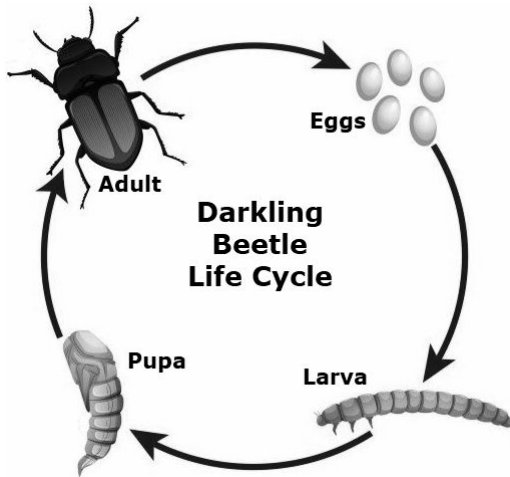
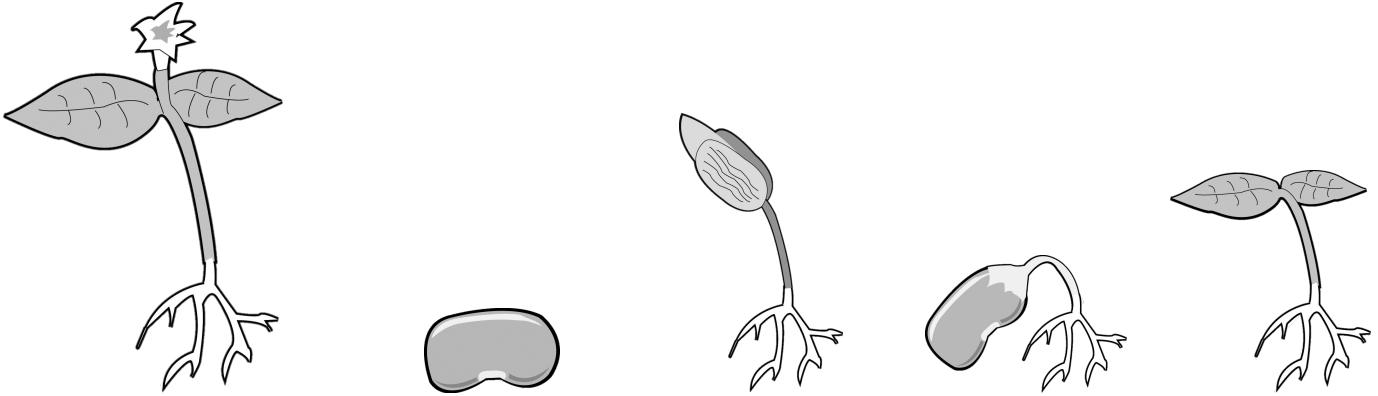


Life Cycles of Plants and Animals

Name: _____

Explore: Ways Organisms Change as They Grow

1. Number the pictures below from 1 to 5 to show the stages in the life cycle of a lima bean plant.



2. Study the diagrams of a beetle life cycle and a cricket life cycle above. Tell one way the life cycles are alike. Tell one way the life cycles are different.

Life Cycles of Plants and Animals

Name: _____

Evaluation

- The correct order of the stages in a plant's life cycle are:
 - young plant → seed → adult plant
 - seed → adult plant → young plant
 - seed → young plant → adult plant
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- A group of students planted some cucumber seeds to observe the life cycle of a cucumber plant. The data table shows some information about cucumber plants.

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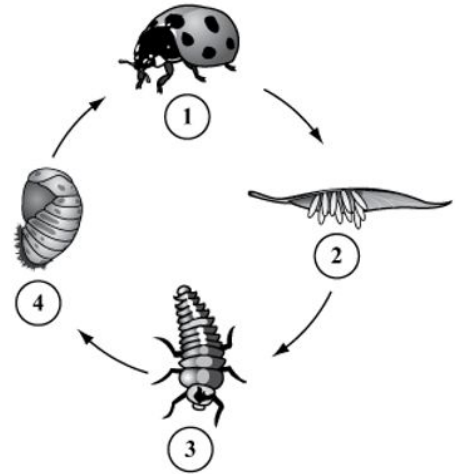
Life Cycles of Plants and Animals

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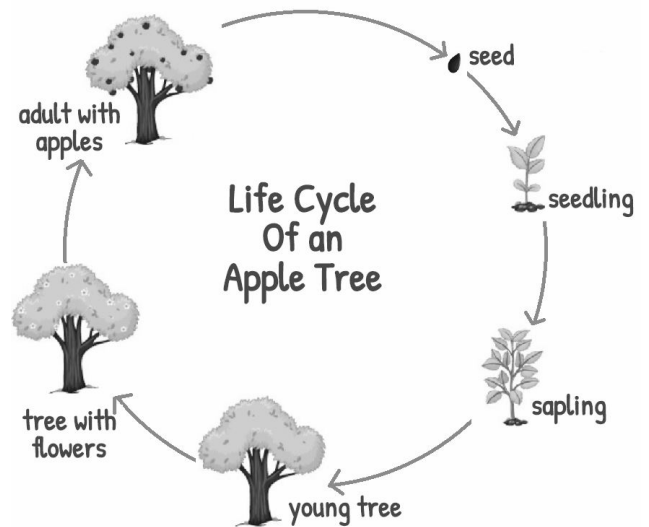
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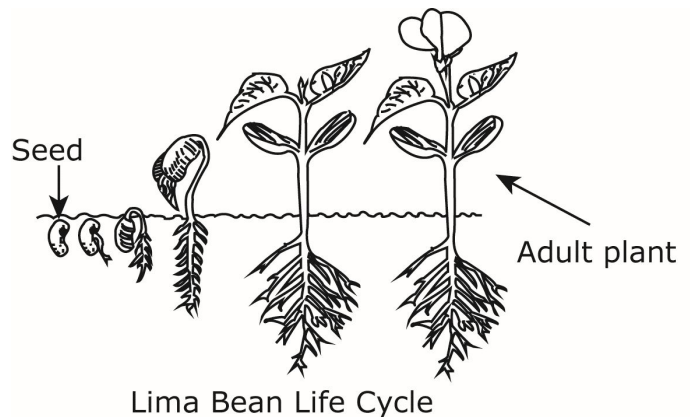
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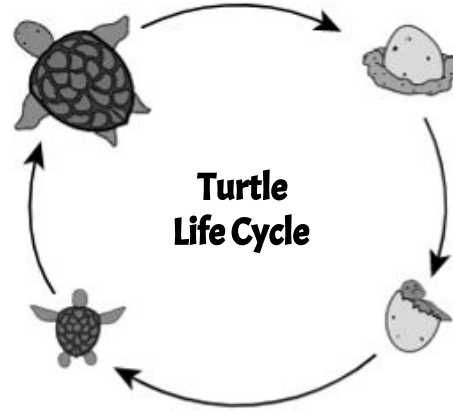
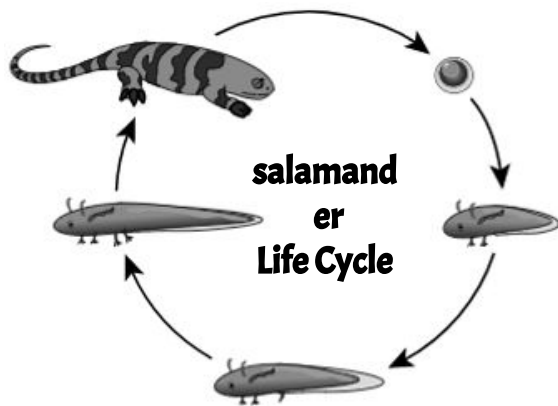


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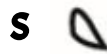
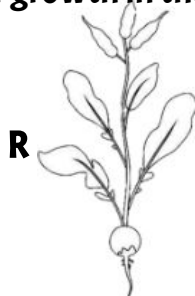
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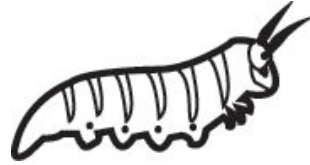
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- B R, T, Q, S
- C S, Q, T, R
- D T, S, R, Q

Life Cycles of Plants and Animals

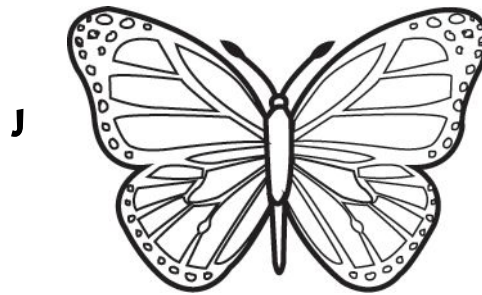
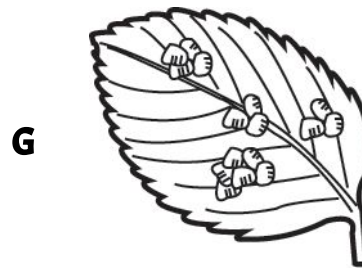
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