

Outline of Lesson
Flowers & Advertising: Hey, Bee! Look at Me!
Unit 2, Lesson 9
Grade 4-5

Lesson Time: 55 – 60 Minutes

Lesson Outline:

- 1. Function of Flowers**
 - Plant part review
 - Parts of a flower
 - Pollination and pollinators

- 2. Analyzing Food Advertisements**
 - Analyzing magazine advertisements in groups

- 3. Broccoli: A Flower That We Eat**
 - Dissect broccoli florets
 - Enjoy broccoli snack

- 4. Thank you Notes**

Student Learning Objectives:

By the end of this lesson students will:

- Have a basic knowledge of the parts of flowers and their functions in food production.
- List 3 ways that flowers act like advertisements to attract pollinators.
- Identify at least 2 tactics used by advertisers to sell food products.
- Know that broccoli is an edible flower that is a good source of Vitamins A and C and fiber.


References:

- Jaffe, Roberta and Appel, Gary. The Growing Classroom: Garden-Based Science. Dale Seymour Publications, 1990.
- Morris, J. L., Briggs, M., & Zidenberg-Cherr, S. Nutrition to grow on: a garden-enhanced nutrition education curriculum for upper-elementary schoolchildren. University of California, Davis, 2002.
- Pranis, Eve and Cohen, Joy. Grow Lab: Activities for Growing Minds. National Gardening Association, 1990.

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- **Flowers & Advertising: Hey Bee! Look at Me!**

Overview (for Teacher)

<p>Pre-Class Preparation</p> <p>⊗ <i>Items marked with this symbol may not be purchased using FSNE funding, nor included as part of cost share.</i></p>	<p>⊗ Optional: bring a few different flowers so students can see the parts of the flower in different examples.</p>
<p>Teacher Involvement During Class</p> 	<ul style="list-style-type: none"> • Assist in behavior management of students. • Help students with analysis of advertisements.
<p>Post-Class Teacher Responsibilities</p>	<ul style="list-style-type: none"> • Serve healthy broccoli snack. • Your students will write letters to individuals and businesses that have contributed to the program. Your CHANGE educator will provide you with one or two names that your students can write to. Use whatever letter writing format your students are familiar with. Please have these completed by the last day of CHANGE class. • Write students' names on CHANGE certificates before the last class.
<p>Vocabulary</p>	<p>Pollen- fine powder-like grains that are the male reproductive product of a plant. Pollinator- anything that carries pollen from one flower to another, allowing the plant to reproduce. Evolve- to change slowly over time. Attract- to draw the attention of objects or people.</p>
<p>Critical Thinking Activity</p>	<p>Creating Fruit and Vegetable Advertisements</p>
<p>Supplementary Activities</p>	<p>Student Assessment</p>
<p>Web Resources</p>	<ul style="list-style-type: none"> • PBS Kids Media Awareness Guide: http://pbskids.org/dontbuyit/parentsguide.html • List of edible flowers: http://www.ext.colostate.edu/Pubs/Garden/07237.html • Cautionary rules for eating flowers: http://www.ipm.iastate.edu/ipm/hortnews/1995/7-21-1995/eatflow.html
<p>Suggested Books for Reading in the Classroom</p>	<ul style="list-style-type: none"> • Dowden, Ann. <u>The Clover and the Bee: A Book of Pollination</u>. T.J. Crowell Junior Books, 1990. • Johnson, Sylvia A. <u>Roses Red, Violets Blue: Why Flowers Have Colors</u>. Lerner Publishing Group, 1991.

Flowers & Advertising: Hey Bee! Look at Me!

EALR & GLE Alignment

EALR	GLE	Lesson Applications
Science 1.2 Understand how components, structures, organizations, and interconnections describe systems	1.2.1 Analyze how the parts of a system go together and how these parts depend on each other	<ul style="list-style-type: none"> • Function of Flowers • Broccoli: A Flower That We Eat
Communication 1.1 Focus attention 1.2 Listen and observe to gain and interpret information 3.1 Use language to interact responsibly and effectively with others 3.2 Work cooperatively as a member of a group	*GLE not available at this time	The following apply to all Communication EALRs: <ul style="list-style-type: none"> • Analyzing Food Advertisements
Health and Fitness 3.3 Use social skills to promote health and safety in a variety of situations	3.3.1 Applies appropriate social skills to keep out of trouble and resist pressure from others	<ul style="list-style-type: none"> • Analyzing Food Advertisements
Writing 1.2 Use style appropriate to the audience and purpose	*GLE not available at this time	<ul style="list-style-type: none"> • Thank you Notes

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Preparation Outline

Activity Supplies

⊗ *Items marked with this symbol may not be purchased using FSNE funding, nor included as part of cost share.*

Functions of Flowers

- ⊗ 2 pretty sweet-smelling flowers. If not available, make a colorful construction paper flower.
- Busy Bee: 1 piece of paper with 2 busy bees. Paper is folded in half and stapled with a ⊗ cotton swab in the middle.

Advertisement Activity

- 6 magazine advertisements (select food-related ads that are colorful and directed towards kids or families)

Broccoli Dissection and Healthy Snack

- 1 head of broccoli cut into small florets (1-2 florets per student)
- Magnifying glasses (1 per student)
- Use sprouting broccoli flowers from garden if available
- Small paper plates (1 per student)

Review

- Classroom Tasting Challenge checklist
- Healthy Person Contract
- Vitamin A pictures for Healthy Person Contract

Overheads	<ul style="list-style-type: none"> • Flower Diagram • Analyzing Advertisements worksheet
Student Handouts	<ul style="list-style-type: none"> • Analyzing Advertisements worksheet (1 per student) • Flower Diagram with no labels (1 per student)
Teacher Handouts	<ul style="list-style-type: none"> • Certificates for teacher to fill out before next class • Student Assessment
Changes for ELL Classes	Depending on class, work on the Analyzing Advertisements with the class as a whole.
Rainy Day Activity Supplies	None

Flowers & Advertising: Hey Bee! Look at Me!

Outline

Function of Flowers (20 Min)

- **Plant part review**
- **Discuss Flower Diagram information**
- **Explain pollination and pollinators**

Content

Today we will learn about flowers and advertisements.

- Draw a picture of a plant on the overhead, and show the parts, focusing on the flower.
- Show an example of the flower (hold up the prop).
- Ask the students if they can think of any flowers that we eat. (Broccoli, Cauliflower, artichoke)
- Discuss the parts and functions of a flower: Display overhead of flower diagram, and draw the pollen with a colored marker to show where it is and how it must travel. Sketch in a bee, visiting the flower and collecting pollen on its legs (or use a bee on a cotton swab from the busy bee activity).
- Flowers need pollen from other flowers to create seeds to make new plants.
- Have students fill in the labels for each flower part on their flower diagram.
- **Pistil & Stigma:** receive the pollen from pollinators.
- **Ovary:** holds eggs that produce the seeds used to grow new plants.
- **Stamen & Anther:** creates the pollen.
- **Petal:** largest part of the flower: beautiful, colorful and sweet-smelling to attract pollinators.
- **Pollen:** a fine powder-like grain used to fertilize a flower.
- **Pollination:** when pollen lands on the stigma, travels down to the ovary, and fertilizes the eggs.
- The fertilized egg develops into a seed that falls into the soil and then grows into a new plant.
- A **pollinator** is anything that helps spread pollen between flowers.
- There are all kinds of pollinators, if time make a list on the board with class input. Types of pollinators include: birds, bats, bees, bugs and even wind.
- Show bee model if available and use model to mimic pollination from one flower to another.
- **Function of Pollinators:** They go from flower to flower to get food (nectar). When they visit a flower, they get pollen on their legs or beaks. When they go to another flower to eat, they drop off pollen from other flowers.
- **Ask students:** What would happen if all the flowers in the world did not get pollinated? (They would not be able to make seeds to make new plants, and eventually they would die)

- **Flowers: Clever Advertisers**

- Flowers can't move so they have evolved to become successful at attracting pollinators.
- **Ask:** How do flowers attract pollinators? (write on board)
 - 1) Bright colors
 - 2) Aromatic nectar (Nectar is food that smells good to pollinators)
 - 3) Shape of flower that looks like a certain type of pollinator (audience)
 - 4) Lightweight fluffy flowers for wind pollination

Analyzing Food Advertisements (25 Min) 

- **Introduce Advertising**

- What is advertising? Have you ever been walking in the mall and smelled cinnamon rolls baking? That smell makes you want to have one! And you can walk over to the cinnamon rolls, but you can't just have one; you have to give them something – your money. Just like the bees end up giving the flower some pollen, in order to get the nectar, you have to give money in order to have the cinnamon roll. The good smell of the cinnamon roll is an advertisement, getting your attention so that you will come over and give some money.
- Give examples of advertisements: billboards, television and radio commercials, free samples, magazine ads, etc.
- Advertisers promote products to earn money that helps their company keep growing.

- **Analyzing magazine advertisements in groups**

- Divide class into groups of 4.
- Handout out the Analyzing Advertisements worksheets and food advertisements.
- Have students discuss and answer questions. You and the teacher can walk around and give feedback and answer questions.
- Ask: How do these ads catch your attention? (Use catchy slogans, make health claims, use bright colors, give away toys/prizes, use celebrities).
- Review the last question on the worksheet as a class by asking: "How are advertisers like flowers? How are consumers like pollinators?"

- **Class Discussion**

Broccoli: A Flower That We Eat (5 Min)

- **Dissect Broccoli Florets**

- Distribute broccoli florets, paper plates and magnifying glasses. Show students how to use a magnifying glass, and how to open a bud with their fingernails. Ask students to find the tiny flowers inside buds. Ask them to raise their hands if they can find and tell the color of the flowers.

<ul style="list-style-type: none"> • Nutrient Information for Broccoli • Eat Healthy Snack 	<p>NUTRITION LINK</p> <ul style="list-style-type: none"> • Broccoli flowers, stems and leaves are very good for us. They are very high in Vitamin C, which helps heal our cuts. They also have plenty of Vitamin A. Vitamin A helps keep our vision strong, especially night vision. Like all other plant parts they also have some fiber that keeps our insides scrubbed clean. • Enjoy snack of broccoli florets.
<p>Thank you Notes (5-10 Min)</p> <p>⊗ <i>This activity may not be conducted by FSNE funded staff, and may not count toward FSNE cost-share time.</i></p>	<p>Explain that people gave us free materials for gardening and cooking in the classroom and that we want to thank them.</p> <ul style="list-style-type: none"> • Brainstorm and write on the board what we have done and what we have learned during these lessons. • Have students write thank you notes including a sentence about what they have learned, and include a drawing of their plants or favorite healthy CHANGE snacks.
<p>Review and Reflection</p> <ul style="list-style-type: none"> • Classroom Tasting Challenge • Healthy Person Contract: Vitamin A 	<ul style="list-style-type: none"> • Classroom Tasting Challenge: After tasting the <u>Broccoli florets</u>, ask students to raise their hands to show you how many tasted, liked or did not like the snack. Record the number of students who raise their hands in the appropriate column on your Classroom Tasting Challenge checklist, out of the total number of students in class that day. • Healthy Person Contract: Vitamin A. Hang Healthy Person Contract and ask class what vegetable they ate today that is high in Vitamin A? (broccoli). How does Vitamin A help our body? Helps us _____ (see in the dark). Draw 2 eyes on the person and select a person to tape a carrot on each of the eyes.

Lesson Materials

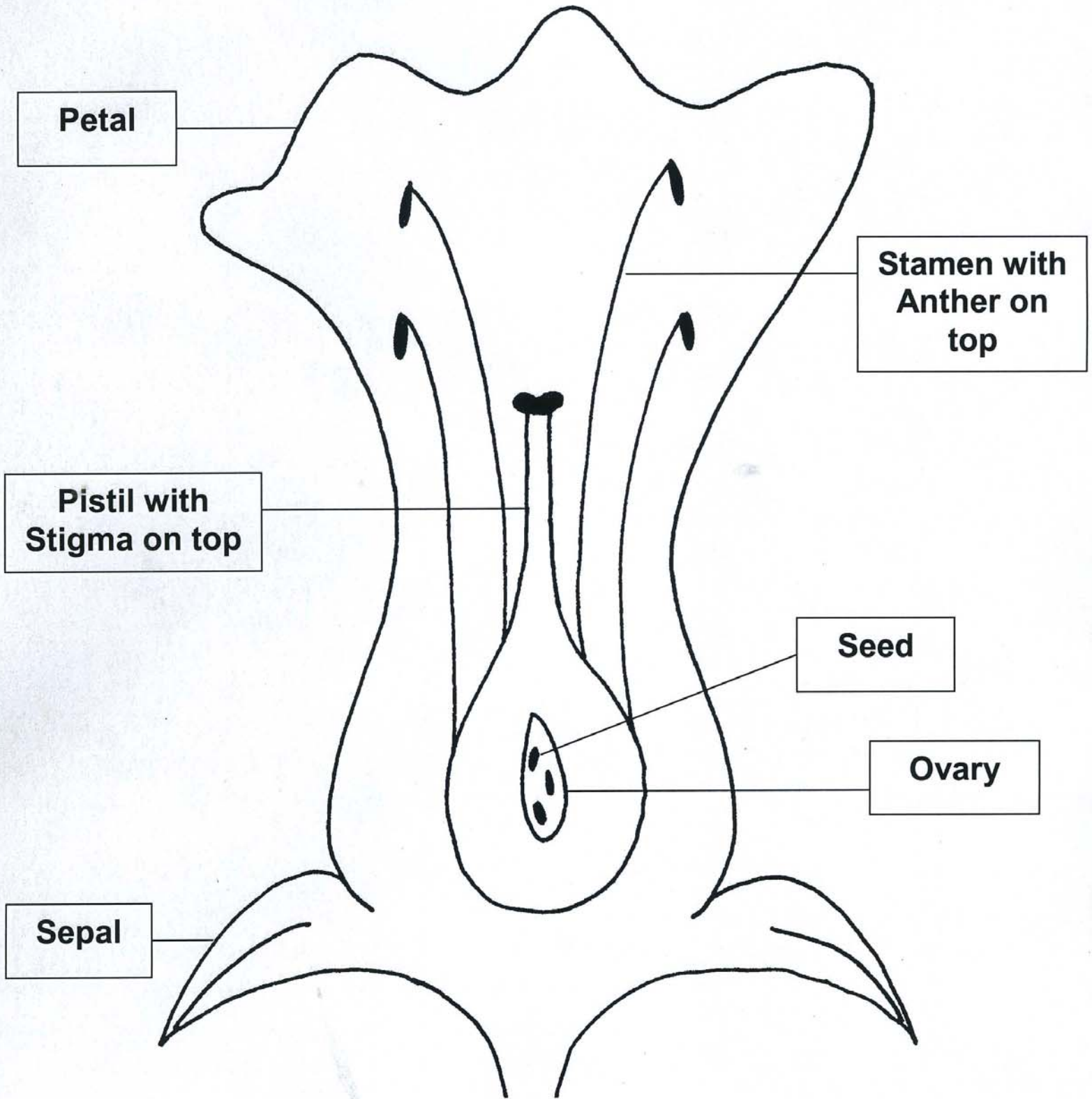
Flowers & Advertising: Hey Bee! Look at Me!

- **Flower Diagram**
- **Flower Diagram Without Labels**
- **Busy Bee**
- **Analyzing Advertisements**
- **CHANGE Certificates**

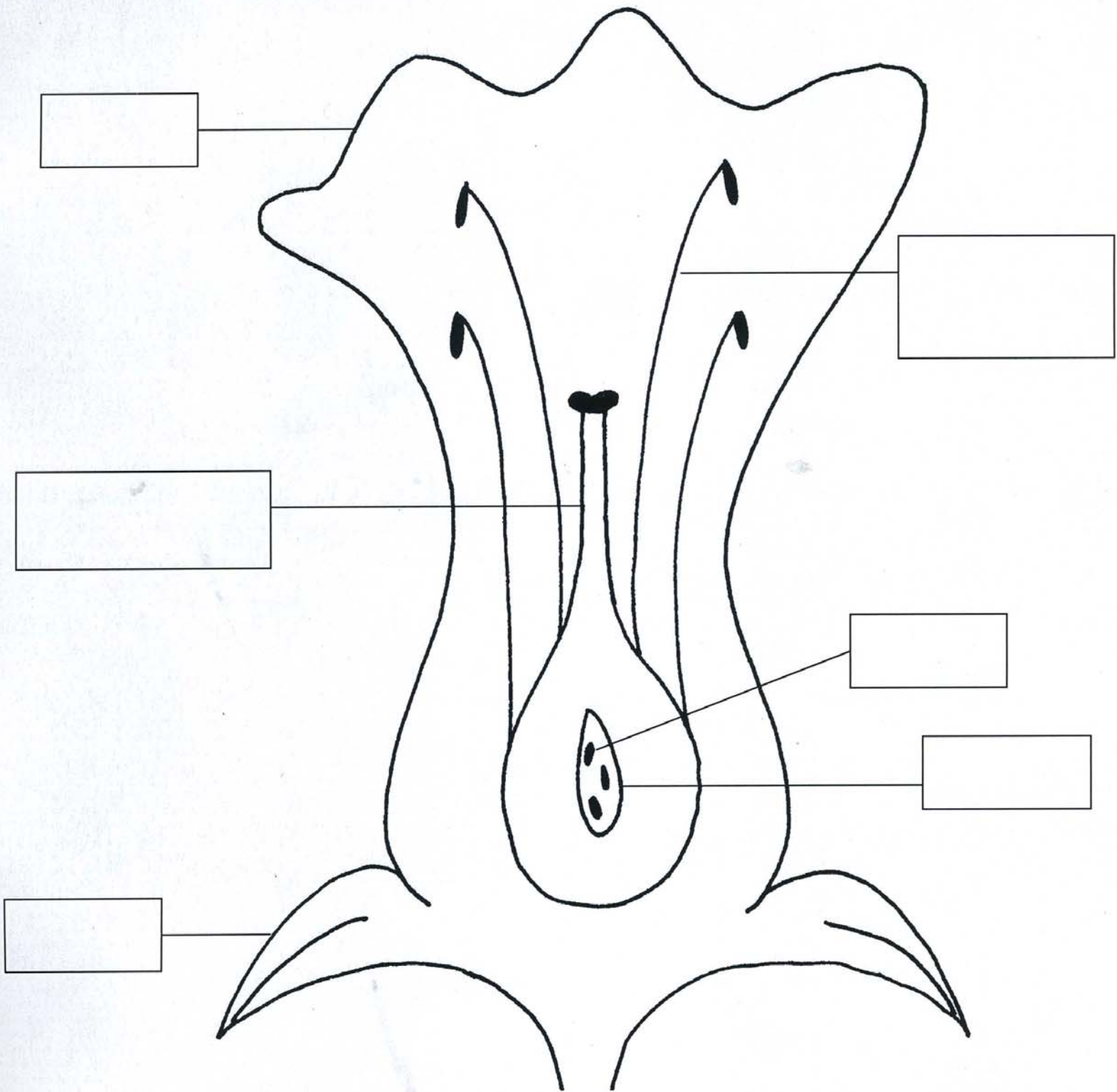
Supplementary Activities

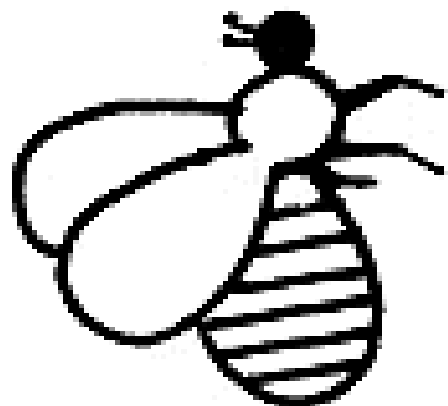
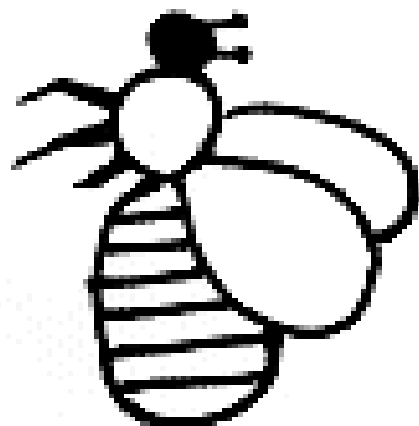
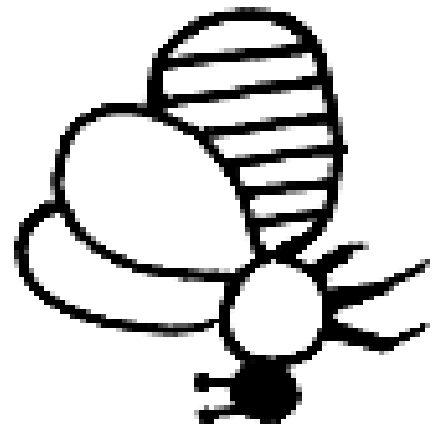
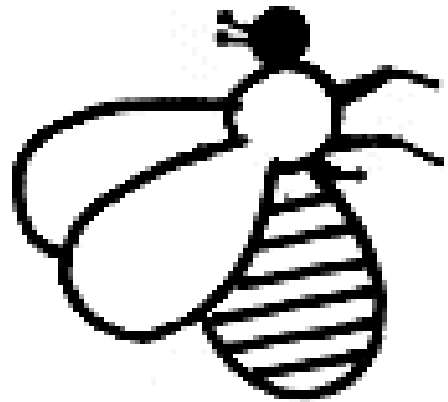
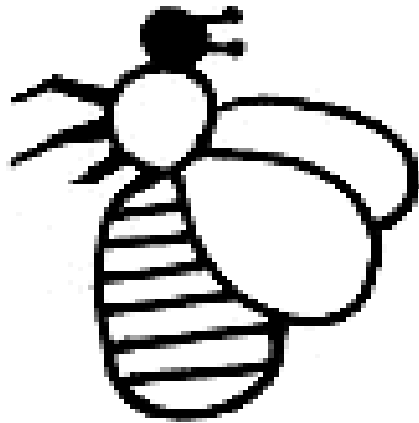
- **Student Assessment**
- **Assessment Answer Key**

Flower Diagram



Flower Diagram





Analyzing Advertisements

How do food companies attract people to food? This exercise will help you think critically about advertisements and how they influence the choices we make.

Write in complete sentences

Use a food advertisement to answer the following questions with your group:

1. What food product is being advertised? _____

2. What type of audience/person do you think this advertisement is for?
(Kids, families, teenagers, moms, dads, grandparents or someone else)

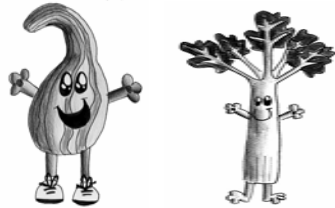
3. What about this ad catches your attention?

4. a. What do you think the advertiser is telling you about what will happen to you if you buy this product?

b. Do you believe it?

5. Would you buy the product being advertised? Why or why not?

6. How is this advertisement like a flower? (Discuss with Class)



CERTIFICATE



Awarded to

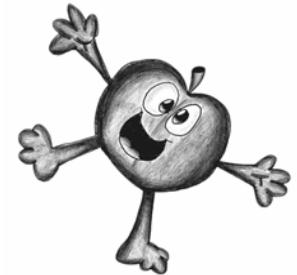


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Hey Bee! Look at Me!

Name: _____ Date: _____

Student Directions: Sketch a flower including and labeling petals, stem, seed, stamen and pistil.

1. What is the part of the plant that holds the eggs, collects the pollen, and makes the seeds?

2. What part of the plant produces pollen that may travel to other plants?

3. Describe three ways pollen is taken from one plant to another.

a. _____

b. _____

c. _____

4. Name two flowers that are foods we eat.

a. _____

b. _____

Hey Bee! Look at Me!

Student Directions: Sketch a flower including and labeling petals, stem, seed, stamen and pistil.

1. What is the part of the plant that holds the eggs, collects the pollen, and makes the seeds?

Ovary

2. What part of the plant produces pollen that may travel to other plants?

Stamen and/or Anther

3. Describe three ways pollen is taken from one plant to another.

Any three pollinators: bees, other insects, birds, bats, wind, humans

4. Name two flowers that are foods we eat.

Any two: broccoli, cauliflower, artichoke, etc.