

Bee Smart; Bee Happy

Objective

Students will learn about bees and simulate pollination using chalk and cotton balls. Students will read a passage about bees and answer comprehension questions.

Background

The honeybee is important to Oklahoma agriculture. One-third of the food we eat is pollinated by honeybees.

Pollination is taking pollen from one plant to another plant. This allows fruiting plants, like watermelons, tomatoes and strawberries, to make fruit.

When the honeybee finds pretty flowers, she goes back and tells her friends. Since the honeybee can't actually talk, she communicates by doing a little dance that tells the other bees to follow her.

The honeybee takes nectar from flowers and makes honey that is sweet and good for humans to eat. Honey is the honeybee's food.

The honeybee has a stinger that it uses to protect itself and its home. Honeybees don't want to hurt you, but they protect themselves if they feel threatened. When you see honeybees:

- Leave them alone. Don't try to hit them. That makes them mad.
- Tell your parents, teacher or a grownup where they are.
- If you see bees going in and out of a small hole, that is their home. Stay away. Tell a grownup where they are.

Procedures

1. Read and discuss background and vocabulary.
2. Demonstrate pollination with the following activity:
 - Provide a copy the flower worksheet along with a piece of colored chalk (in different colors) for each student.
 - Students will cut out their flowers and color the centers with the chalk.
 - Explain to students that you will be the bee. Show students a cotton ball, and explain that the fine hairs on the bee's legs and body act like the fine fibers on the cotton ball to pick up pollen from one flower and deposit it on another as it moves from flower to flower gathering nectar.
 - Move from flower to flower with the cotton ball, picking up "nectar" from one flower and depositing it onto another.
 - Show students the cotton ball after you have touched all the flowers with it. Ask students how they think the bee looks after visiting many flowers.

Oklahoma Academic Standards

KINDERGARTEN

Life Science: 1-1. Earth Systems: 2-2; 3-1

Speaking and Listening: R.1,2,3,4; W.1,2. Reading and Writing Process: R.1,3. Critical Reading and Writing: R.4

GRADE 1

Life Science: 1-1,2
Speaking and Listening: R.1,2,3,4; W.1,2. Reading and Writing Process: R.1,3. Critical Reading and Writing: R.4
Music—Responding: 1

GRADE 2

Life Science: 2-2; 4-1
Speaking and Listening: R.1,2,3,4; W.1,2. Reading and Writing Process: R.1,2,3. Critical Reading and Writing: R.5,7
Music—Responding: 1

GRADE 3

Life Science: 1-1; 2-1
Speaking and Listening: R.1,2,3,4; W.1,2. Reading and Writing Process: R.1,2,3. Critical Reading and Writing: R.7

GRADE 4

Life Science: 1-1,2
Speaking and Listening: R.1,2,3,4; W.1,2. Reading and Writing Process: R.1,2,3,4. Critical Reading and Writing: R.7
Music—Responding: 1

Vocabulary

nectar—a sweet liquid given off by plants and especially by the flowers and used by bees in making honey

pollen—a mass of tiny particles in the anthers of a flower that fertilize the seeds and usually appear as fine yellow dust

thorax—the middle of the three main divisions of the body of an insect .

Honeybee Cookies

Make honeybee cookies from edible playdough (See below).

1. Shape the edible playdough into small ovals.
2. Use a toothpick dipped in cocoa to draw stripes on the back of the oval shape to represent stripes on the bee.
3. Insert 2 almond slices in each side of the oval to represent wings.
4. Refrigerate.
5. Students may eat the bees.

EDIBLE PLAYDOUGH (enough for 18 students)

2 c peanut butter
1 c honey
3 c instant dry milk
wax paper

1. Mix peanut butter with honey.
2. Add instant dry milk, a little at a time, until mixture is stiff.
3. Cover students' desks with wax paper.
4. Students will wash their hands.
5. Use the edible dough to create the bees cookies.

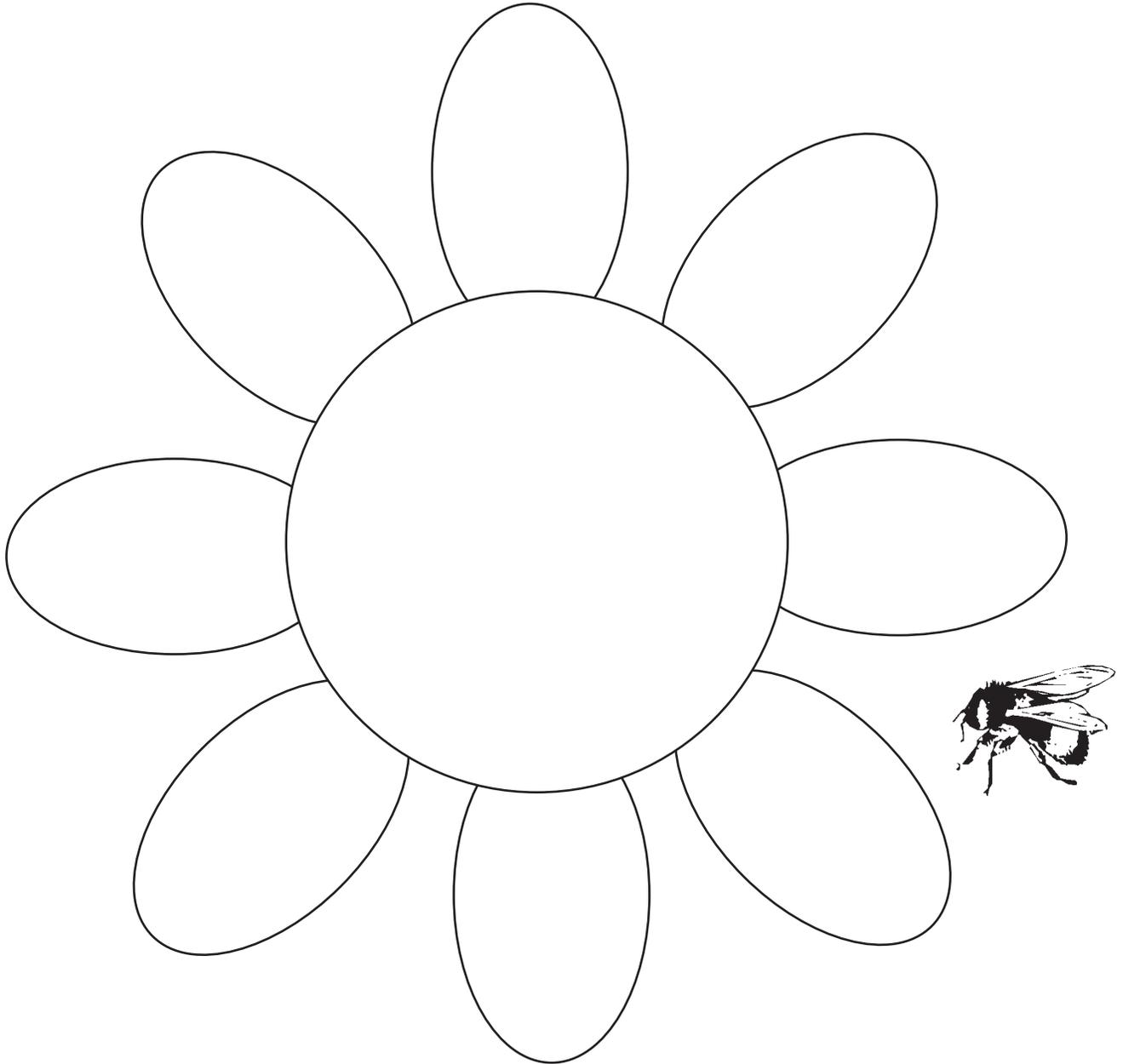
—Let students take turns being the “bee” and pollinating the flowers.

3. Hand out the student worksheets for students to complete.
4. Hand out the “Drawing Conclusions” reading page.
—Students will answer the questions after reading the paragraphs at the top of the worksheet.
5. Bring honey to class for students to taste.
6. Invite a beekeeper to visit your class and bring beekeeping equipment to answer students' questions about beekeeping.
7. Play Rimsky-Korsakoff's “Flight of the Bumblebee,” and discuss how the rhythm, tempo and dynamics of the music reflect the action of a bee.

Name _____

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Color the center of the flower with chalk. Wait for the bee to come along and pollinate it.



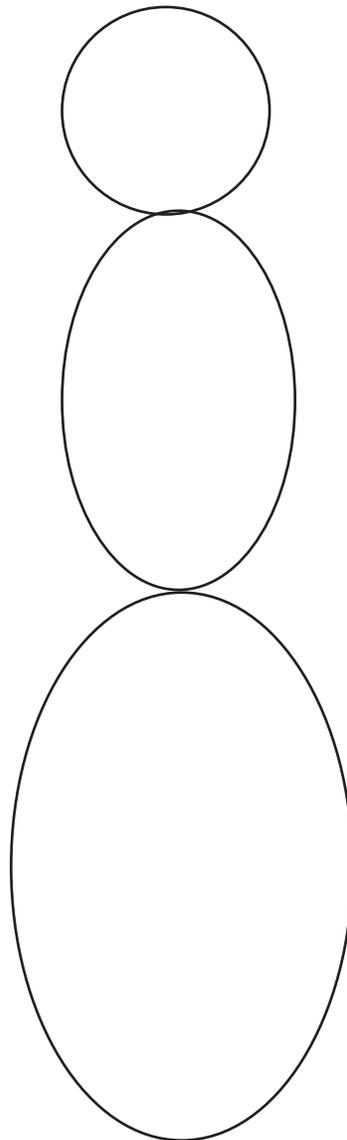
Name _____

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The honeybee has six legs that come from the middle section, called a thorax.

The honeybee has four wings that are attached to the middle section.

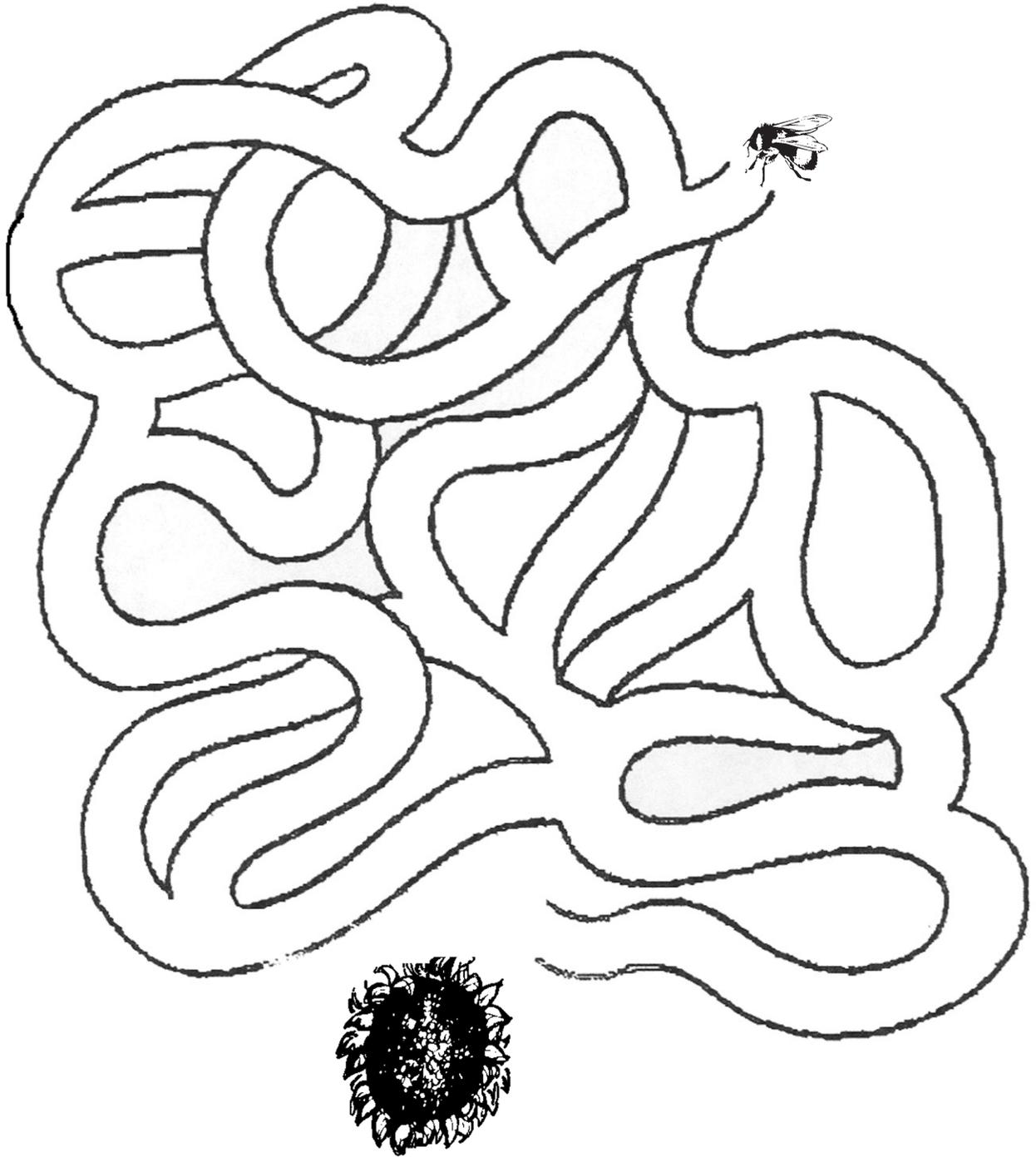
Can you draw the honeybee?



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Can you help the bee find the flower?



Name _____

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Read the following passage about bees. Then answer the questions that follow.

The honeybee is important to Oklahoma agriculture. One-third of the food we eat is pollinated by honeybees. Pollination is moving pollen from one plant to another plant. This allows fruiting plants like watermelon, tomatoes, and strawberries to make fruit.

Honeybees serve another purpose. They make honey. The bee takes nectar from flowers, takes it back to the hive, and turns it into honey. Humans enjoy many foods made with honey.

Bees can also be scary. They sting! When they feel threatened, they use their stingers to protect themselves and their home. Usually, the sting hurts, but is not life-threatening. Some humans are allergic to bee stings and have to be careful to keep the proper medicines with them to counteract these bee stings. When you see a honeybee, leave it alone. Don't try to hit it. Tell your parents where you saw the bee.

1. From this passage, you can conclude that:

- a. All bees should be killed.
- b. Bees help produce food.
- c. All people are allergic to bees.

2. From this passage, you can conclude that:

- a. When a bee stings, the bee dies.
- b. Honey is an edible product made by bees.
- c. Bees are not useful.

3. You can conclude that:

- a. Without insects like bees, plants could not be pollinated.
- b. Plants would still produce fruit, even if they weren't pollinated.
- c. Bees do all the work in producing fruit.

4. Bees can be scary because:

- a. They attack humans.
- b. They swarm.
- c. They sting.

5. Based on what you read, where do you think bees would live?

- a. Near buildings.
- b. Near trees or caves.
- c. Near flowering plants.