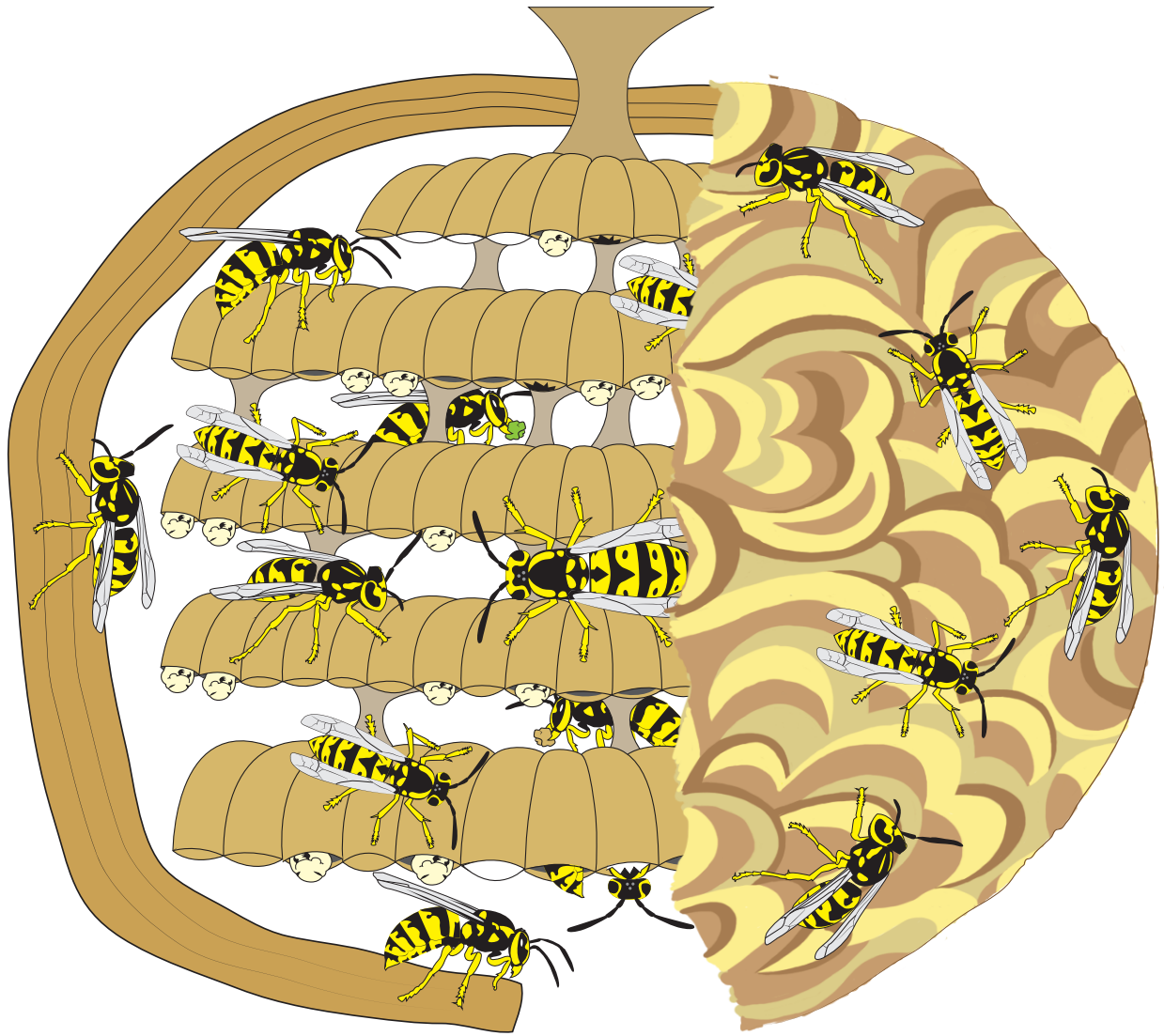


Yellowjackets



Name: _____



Yellowjacket Habitat at Home

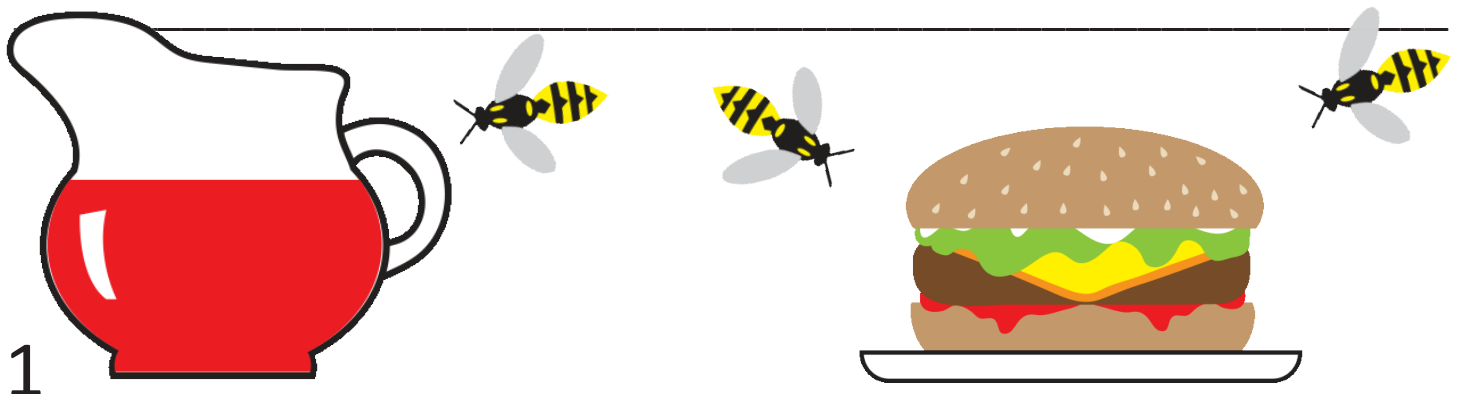
Unfortunately, people accidentally make their backyards excellent habitat for yellowjackets. For example, there is often plenty of food and other resources around our homes that help yellowjacket colonies grow.

1. What is a source of sugar that yellowjackets get from people?

2. What is a source of protein that yellowjackets get from people?

3. Where do yellowjackets get the materials for building their nests?

4. What could you do at home to help make sure that your family is not accidentally providing yellowjackets with food?



Writing About Experiences

Describe an experience you had with stinging insects.

Instructions for Yellowjacket Life Cycle Kit

Your class gets to borrow a yellowjacket life cycle kit that includes an insect collection, a life cycle wheel, a nest and a poster.

Use the life cycle kit to help complete the activities on pages 3-6. You can complete the other activities without the life cycle kit.

Insect Collection

Instructions: Study the insects in the collection. Choose one, and draw a picture of it gathering food in the space below.

What insect did you choose?

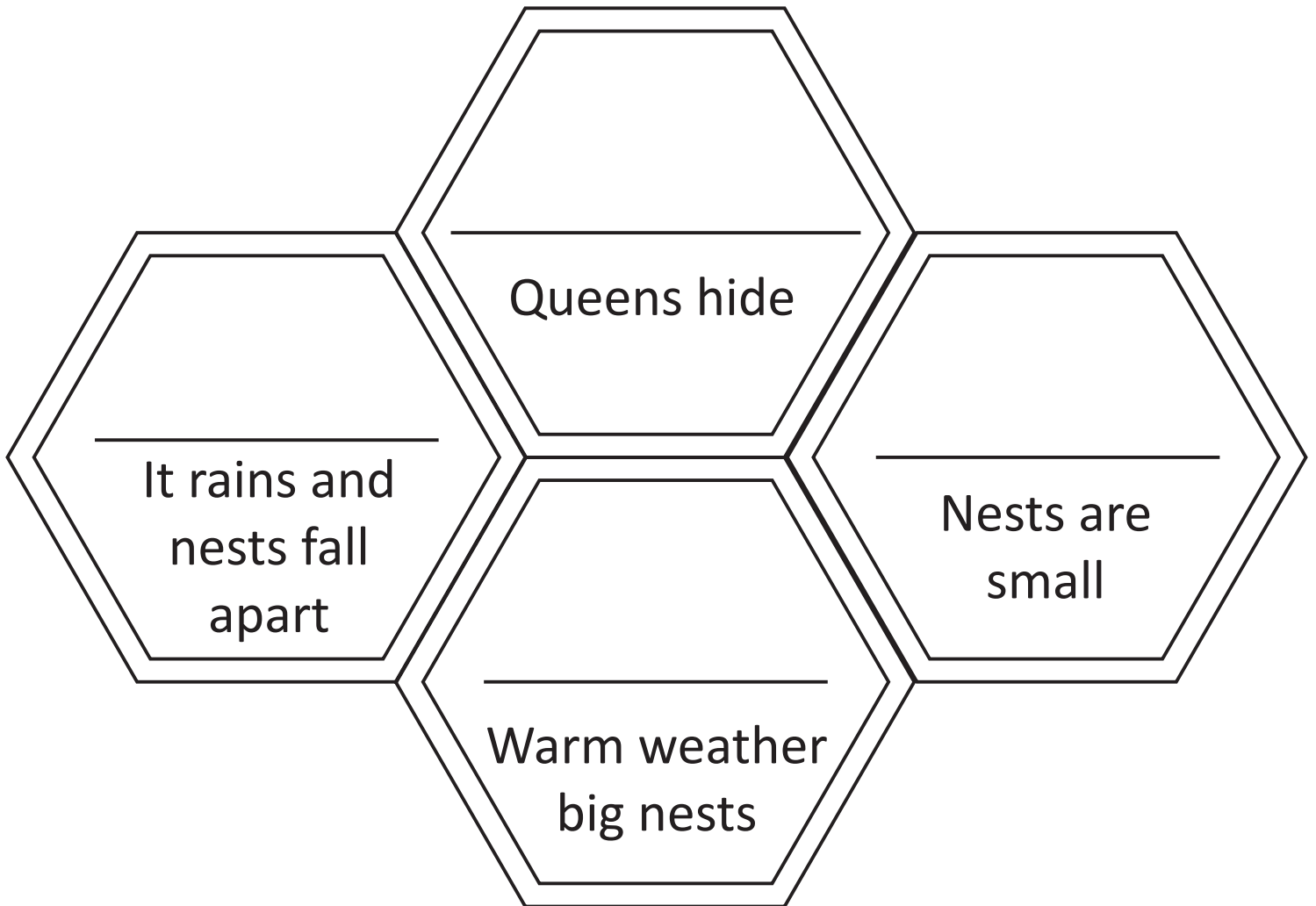
What does your insect feed its young?

Does your insect live alone, or is it social (lives and works with others)?

Yellowjacket Life Cycle Wheel

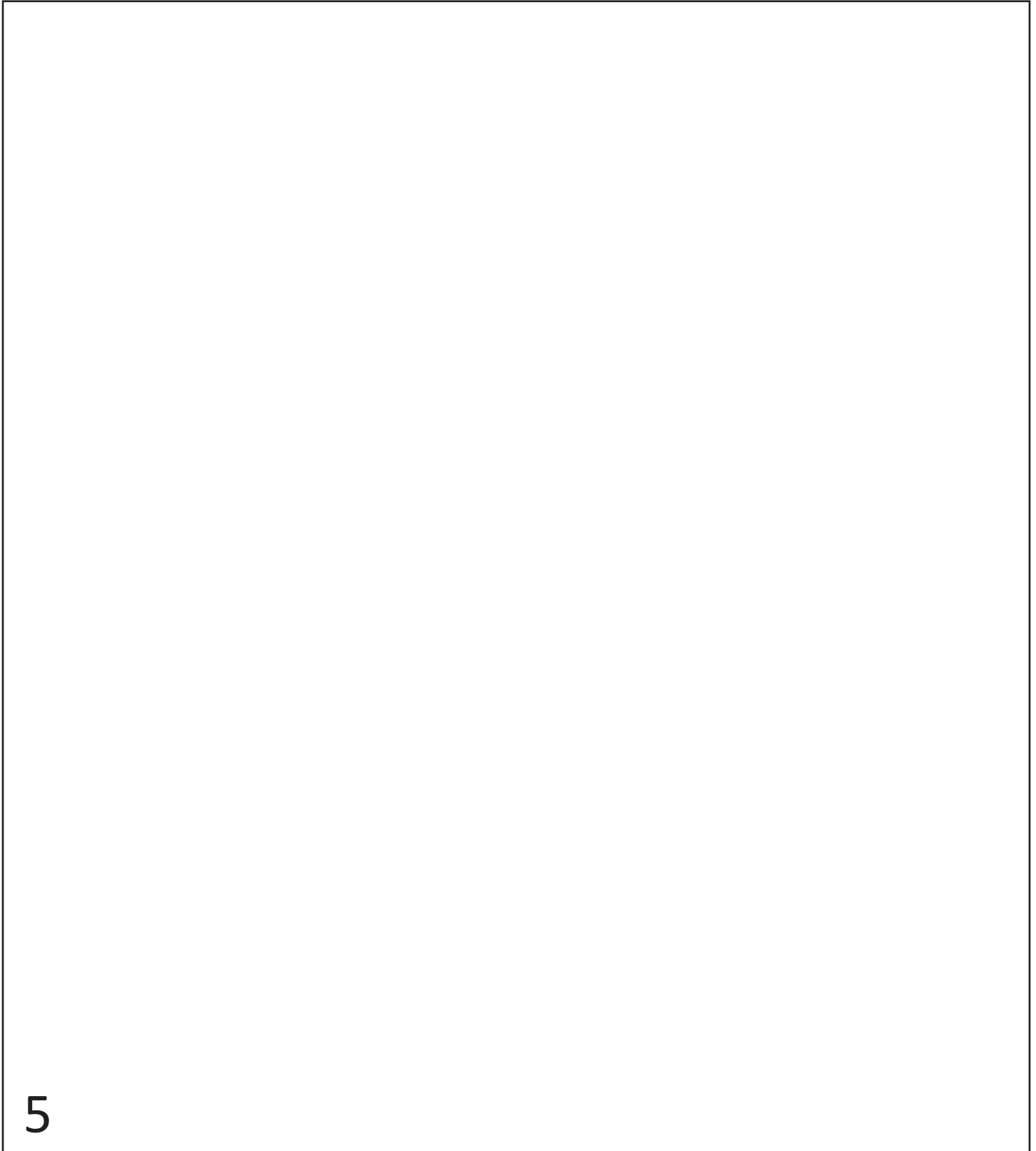
Instructions: Use the life cycle wheel to see what yellowjackets do during the different parts of the year.

Each hexagon has a clue. Fill in the correct season on the lines above the clues. Use each season only once.



A Real Yellowjacket Nest

Instructions: Take a close look at the real yellowjacket nest. Imagine how it must have appeared when thousands of yellowjackets lived in it. In the space below, draw an active yellowjacket nest.



5

A Busy Summer Nest (Poster)

Instructions: Study the poster of a busy yellowjacket nest. Each number in the picture shows yellowjackets doing different jobs. Draw a line from the number below to the description of the correct job. The first one has been done for you.

1

These yellowjackets are guarding the nest entrance

2

This yellowjacket is hunting for insects to feed to the larvae in the nest

3

These yellowjackets are taking care of the larvae in the cells

4

This yellowjacket is gathering water to cool the nest

5

These yellowjackets are repairing the cover of the nest

6

This yellowjacket is dropping dirt away from the nest

7

This yellowjacket is digging so there is more room for the nest to grow

8

This yellowjacket is gathering wood to add to the cover of the nest

Wood from this stump is chewed up and used to build the nest

Workers remove soil to make room for the growing nest

Nectar is a source of energy for adult yellowjackets

There are always guards at the nest entrance

This worker has caught an earwig

The nest hangs from a root

The queen never leaves the nest

These workers are bringing in a caterpillar

Cells

Paper cover

The larger cells at the bottom of the nest are for new queens

The Story of a Yellowjacket Colony...

During **winter**, you won't usually see very many yellowjackets flying around. That's because the **queens** are hiding in places to stay safe and dry, and they haven't built their nest—yet.

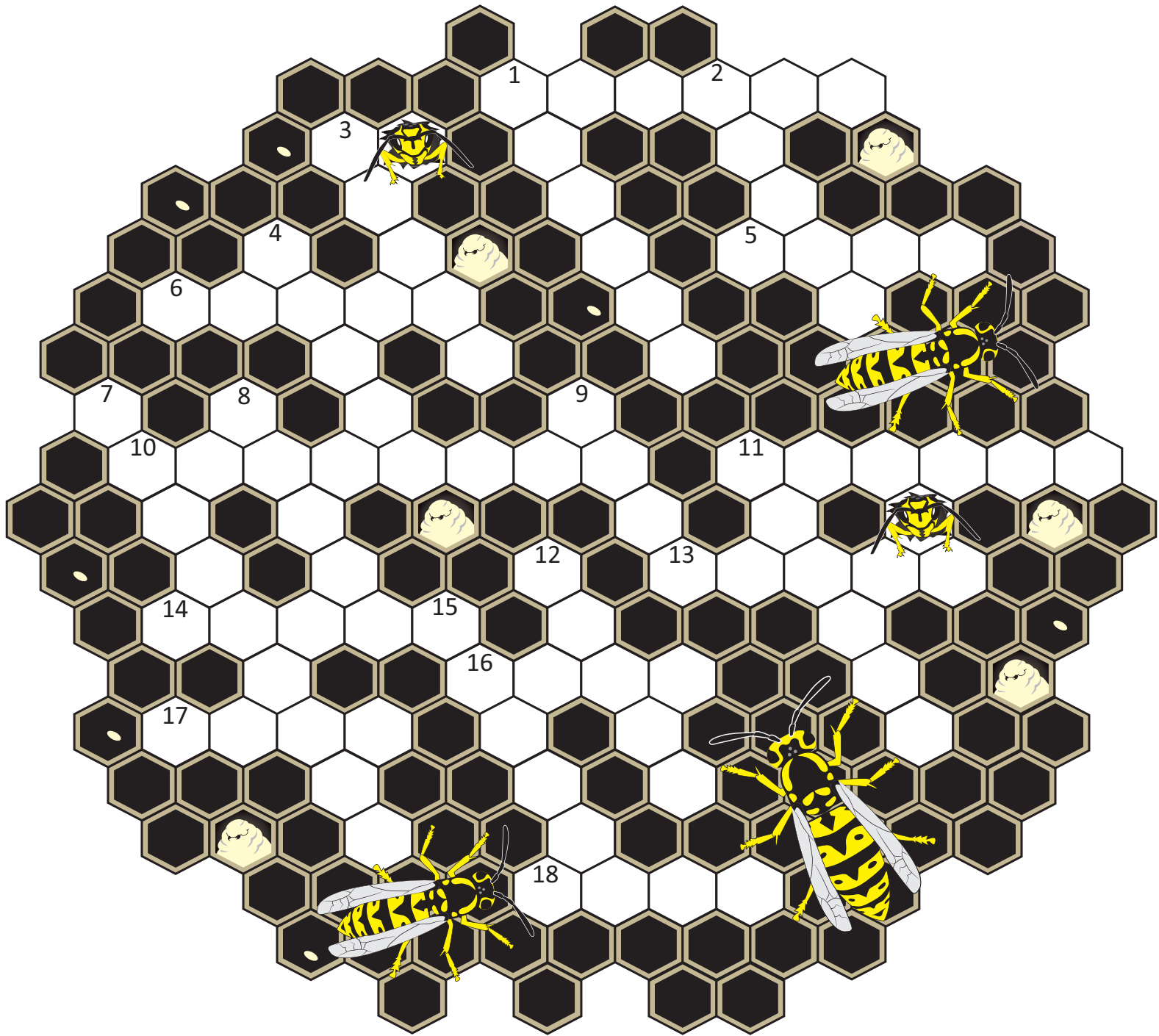
In the **spring**, when the weather starts to warm up, each **queen** leaves her hiding spot and searches for a place to build a nest. Queens often choose dark, hidden places (like old gopher burrows), and each queen starts her nest alone. Yellowjackets use their powerful **mandibles** (jaws) to chew up bits of wood to build their nest. They make a **paper** cover on the outside of the nest, and six-sided spaces called **cells** on the inside. The **queen** lays an **egg** in each cell. The **egg** hatches into a worm-like **larva** that hangs upside down in its cell and waits for food. The **larvae** need protein and are given insects or bits of meat to eat. Each **larva** makes a silk cap that covers its cell, and changes into a **pupa** (the resting stage). The pupa grows into an **adult** with 6 legs, 4 **wings**, and a pair of **antennae** (used to smell).

Yellowjackets are **social** insects that have a **caste** system. This means they live and work together, and each yellowjacket will have its own job. Later in the **spring**, the first adult female yellowjackets will hatch. These yellowjackets are called **workers**, and they do a variety of jobs for the colony (building and repairing the nest, gathering food, water and nesting materials, defending the nest, etc.). Once workers start to hatch, the colony can grow more quickly because the queen can spend all of her time laying **eggs**.

By **summer**, the colony is very large, and yellowjackets often find food wherever people eat outdoors. This often results in people getting stung. Later in the summer, the colony produces new **queens** and harmless **males** (males cannot **sting**).

Before the heavy rains return in the **fall**, the new queens and males will leave the nest. Soon the old **queen** will die and the nest will be flooded, but the new queens will search for safe hiding spots for **winter**, and will start new nests in the **spring**.

Yellowjacket Crossword Puzzle



Use the clues on the next page to solve the puzzle. If you can't figure out a word, read the story on the page before. The words in blue are the words used in the puzzle.

Crossword Puzzle Clues...

Across

1. Season with the most stings
5. Yellowjackets collect this, but bees do not
6. Life stage with wings
10. Insects use _____ to smell (plural)
11. Season when queens are hidden (without a nest)
13. Worm-like life stage
14. Adult yellowjackets have 4 of these
16. The resting stage
17. Season when rain returns and underground nests flood
18. These are laid in cells

Down (diagonal)

1. Yellowjackets are _____ because they live and work together
2. Adult yellowjackets that cannot sting
3. A system where individual yellowjackets have different jobs
4. She starts the colony
7. Another name for insect jaws
8. Females can do this, but males cannot
9. The six-sided space that yellowjackets make inside their nests
11. An adult female that is not a queen
12. Yellowjackets use their mandibles to chew up wood to make this
15. Season when workers start to hatch

Dear parents,

Yellowjackets cause serious problems locally, especially in the warmer months. This program teaches students about yellowjackets and a few other common stinging insects. Students learn why yellowjackets are so dangerous, what to do if they find an entrance to a yellowjacket nest, and safety tips for eating outdoors.

The Marin/Sonoma Mosquito & Vector Control District will eliminate ground nests free of charge when the location of the nest is known.

Please contact me if you have any questions about our programs.

Casey Richter

Education Program Specialist

Marin/Sonoma Mosquito & Vector Control District

caseyr@msmosquito.org



Marin/Sonoma Mosquito & Vector Control District
call **707.285.2200**
or visit us online at **www.msmosquito.org**



facebook.com/MSMVCD



twitter.com/MSMVCD