

## How Busy Are Bees?



**LEVEL:** Grades K-3

**SUBJECTS:** Language Arts, Science, Math

**AZ ACADEMIC STANDARDS:** LS-R2, LS-R5, LS-F1, LS-F2, 1AV-R2, 1AV-F1, 1AV-F2, 1AV-F4, SC00-1C1, SC00-S1C3

### **MATERIALS**

bee pattern, yarn, six clothes pins

### **VOCABULARY**

colony, hive, cells, worker bee, drone bee, queen bee, timeline, job-house bee, beginning and advanced nurse bee, wax bee, guard bee, and forager bee.

### **RELATED LESSONS**

Buzzing Bees Wardrobe  
Do the Honeybee Dance!  
Those Busy Buzz'n  
Worker Bees  
To Bee or Not to Bee

### **SUPPORTING INFORMATION**

Honeybees live in colonies and are social insects. Within each colony there are worker bees, drones, and the largest of the honeybee - a queen. She can live from three to five years. The queen's job is to lay up to 3,000 eggs a day. The male members of the colony, the drones, exist only to mate with the queen. Drone and worker bees live for about two months, except over winter, when they live a few months longer. Most of the adult honeybees in the colony are female worker bees that tend the young, gather and store nectar

and pollen, make honey, royal jelly and beebread, produce wax, and care for the queen and the drones. Each bee, guided by an inner clock, does certain chores as it reaches a certain age.

### **GETTING STARTED**

Prepare ahead of time six copies of the bee pattern. Cut out each bee pattern; then write each job title and job description from the to-do list below on a different bee cutout. Next, stretch a length of yarn across the chalkboard, securing it at each end. Below the yarn, write the length of time a worker bee performs. Attach six clothes pins to the yarn above each length of time.

### **PROCEDURES**

1. Ask students if they have ever heard the term **busy as a bee?**
2. Explain to students that worker bees are always busy and they change jobs many times during their six week life span.
3. Read the job descriptions aloud and have student volunteers use clothes pins to hang each bee in sequential order along the timeline. (Most of the adult honeybees in the colony are female worker bees that tend the young, gather and store nectar and pollen, make honey, royal jelly and beebread, produce wax, and care for the queen and the drones.)

A Worker Bee's Busy Life

### **BRIEF DESCRIPTION**

Use a timeline activity to illustrate the different duties typical worker bees perform throughout their lives.

### **OBJECTIVES**

The students will:

- review the six different jobs a worker bee performs in its lifetime.
- sequentially order job descriptions/bees along the timeline.
- retell job descriptions in each phase.

### **ESTIMATED TEACHING TIME**

1 class period (45 minutes)

---

## PROCEDURES (cont'd)

Days 1 - 2

House Bees - clean the empty cells in the hive so they can be reused

Days 3 - 5

Beginning Nurse Bees - feed the worker larvae beebread made of pollen and honey

Days 6 - 11

Advanced Nurse Bees - feed royal jelly to the queen larva and bee milk to the drone and worker larvae

Days 12 - 17

Wax Bees - build cells from wax, repair old cells, and store nectar and pollen brought in by other workers

Days 18 - 21

Guard Bees - protect the entrance of the hive from enemies

Days 22 - 42

Forager Bees - fly from flower to flower gathering nectar and pollen

4. When the timeline is complete, invite students to take turns retelling the job descriptions for each phase of the worker bee's life.

## EVALUATION OPTIONS

1. Evaluate the thoroughness of students' completion of the timeline.

-Does the student understand the hierarchy of jobs?

-Is the student capable of putting each duty on a separate length of time?

2. Ask students to list three duties of a Guard Bee.

3. Assign small groups to illustrate this same timeline in another format, such as circular.

## EXTENSIONS AND VARIATIONS

Assign small groups to act out a given duty. For example, a group of four students act the advanced nurse bee duties. Using construction paper, markers, yarn, and pipe cleaners, students make props and costumes to assume their

role. Without telling their peers, students act out their duty while the rest of the class decides on the correct duty title.

## RESOURCES

*Insects: Mailbox Grades 1 - 3*, Published by The Education Center, Inc., NC, 2000.

National Honey Board. 390 Lashley Street, Longmont, CO 80501-6045;

[www.honey.com](http://www.honey.com)

*The Honey Makers*, by Gail Gibbons, Published by Morrow Junior Books, NY, 1997.

*The Honey Files: A Bee's Life, A Teaching Guide*, Produced by the National Honey Board, 2001.

## CREDITS

*Insects: Mailbox Grades 1 - 3*, Published by The Education Center, Inc., NC, 2000.

*The Honey Files: A Bee's Life, A Teaching Guide*, Produced by the National Honey Board, 2001.

## EDUCATORS' NOTES

### CURRICULUM DESIGN

Kelly Merriott  
2<sup>nd</sup> Grade Teacher  
Canyon Breeze Elementary  
Pendergast Elementary  
District

*This Arizona Grown Specialty Crop Lesson Plan was paid for by a grant from the Arizona Department of Agriculture's Office of Marketing and Outreach.*

---

**HOW BUSY ARE BEES?  
BEE PATTERN**

