

VITAMIN BEE

COLORING & ACTIVITY BOOK

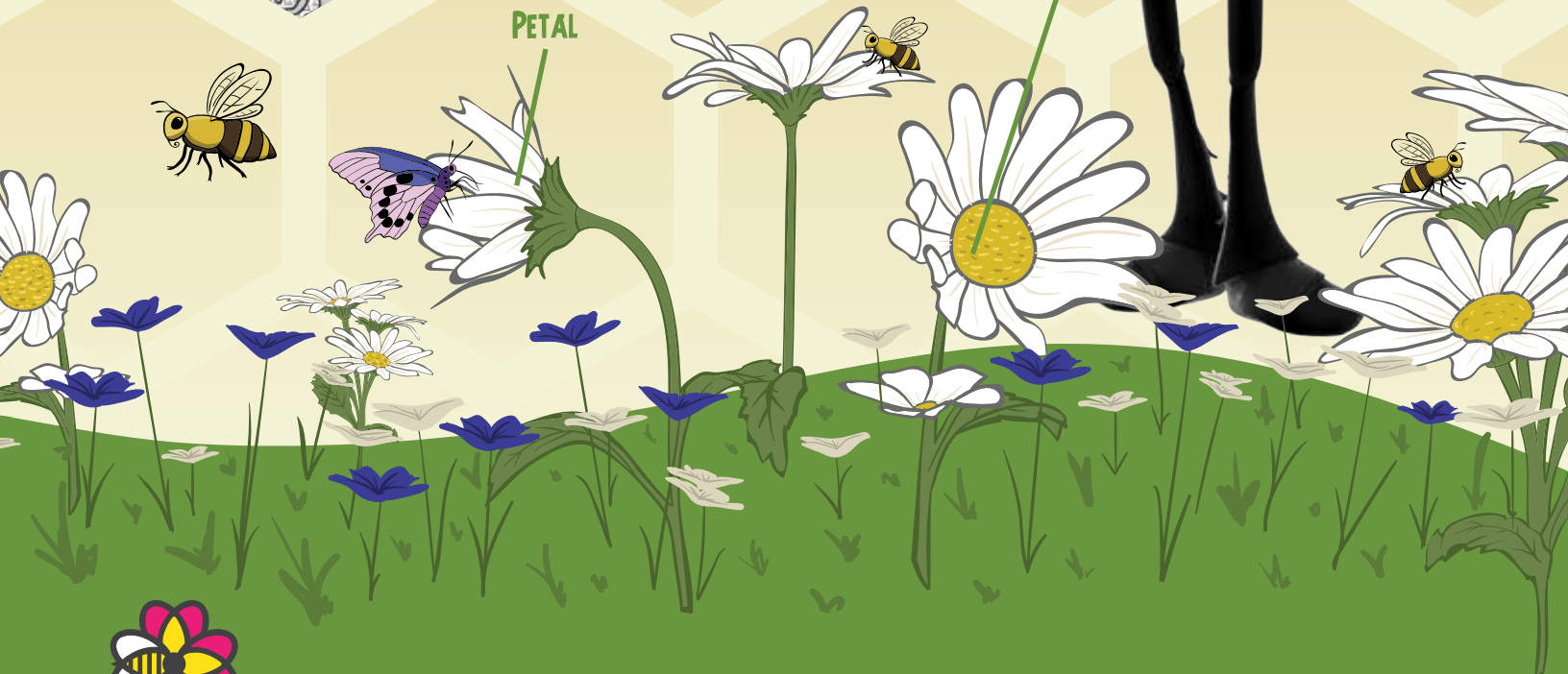
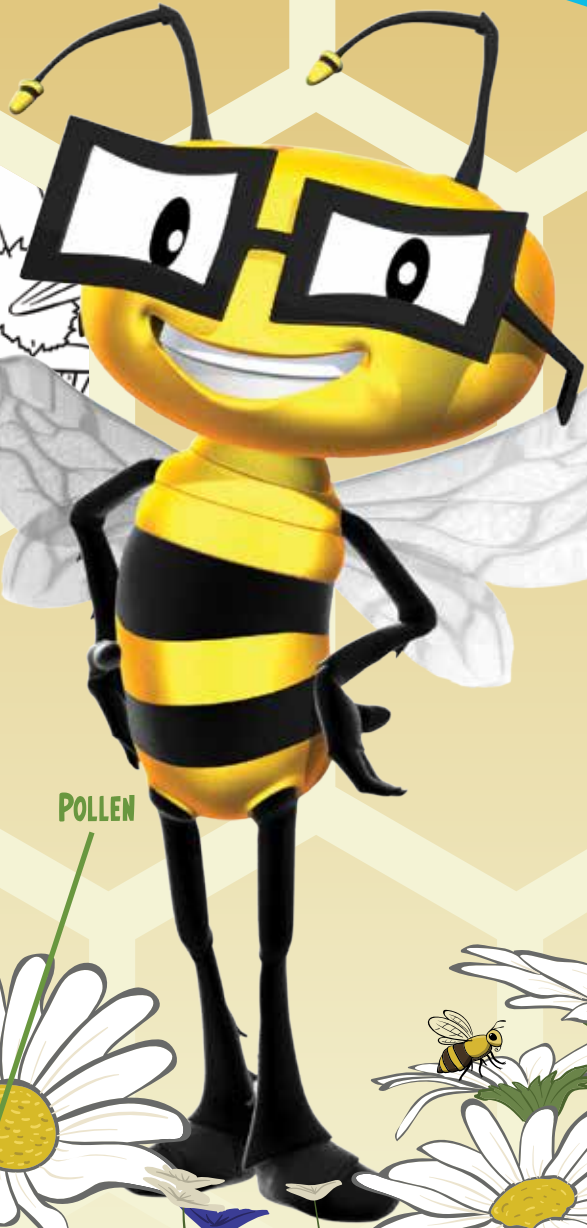
THE BUZZ ON FOOD, BEES, PLANTS, AND MORE!



**GAMES.
FUN FACTS.**



**MAZES
AND MORE!**



Feed a Bee

POLLINATION JUST GOT COOL!

VITAMINBEE.TV™



For nearly 30 years, Bayer has been committed to environmental stewardship and the protection of beneficial insects and bees. Providing society with safe, abundant and affordable food depends both on finding solutions to increase crop yields and protecting pollinators. The Bayer Bee Care Program developed several major initiatives to improve bee health including Feed a Bee which aims to improve nutrition for pollinations through additional forage sources; and Healthy Hives which funds research to improve hive health in the United States.

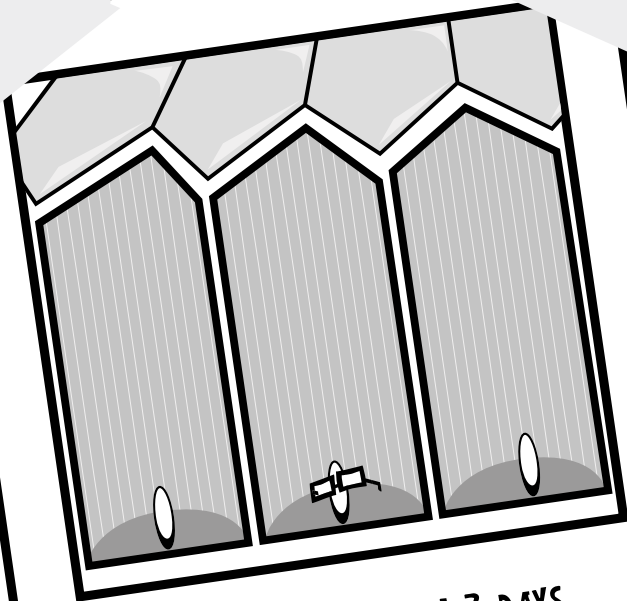
To learn more, visit beehealth.bayer.us.

This workbook is a collaboration with the Bayer Feed a Bee initiative.
To learn more, visit feedabee.com.

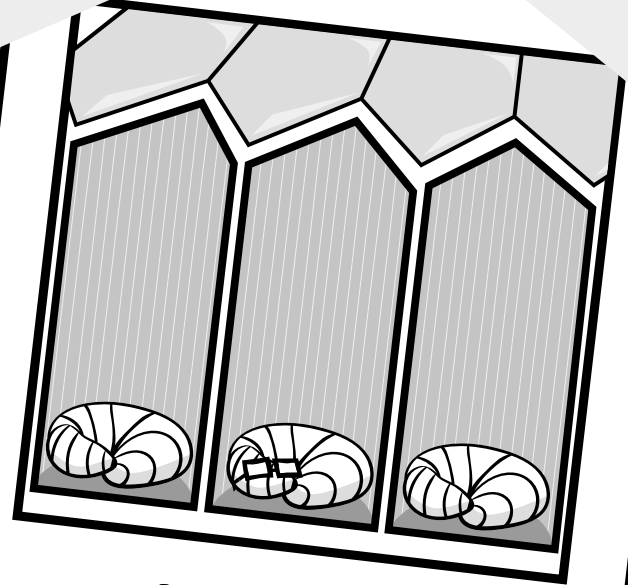
LIFE CYCLE

A BEE'S LIFE

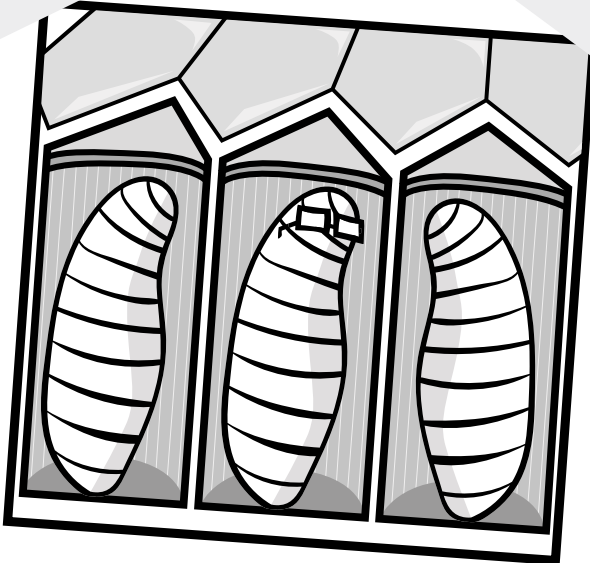
DIRECTIONS: It looks like Vitamin Bee is going through his old photo album. Color each stage of a worker bee's life cycle.



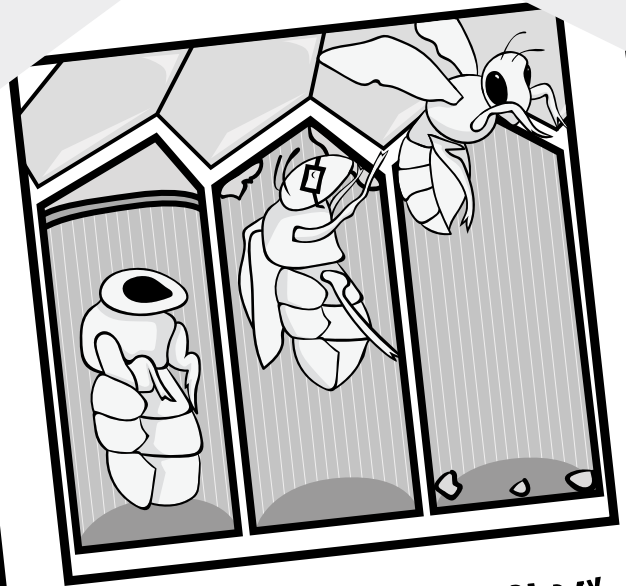
EGG 1-3 DAYS



LARVA 4-9 DAYS



PUPA 10-20 DAYS

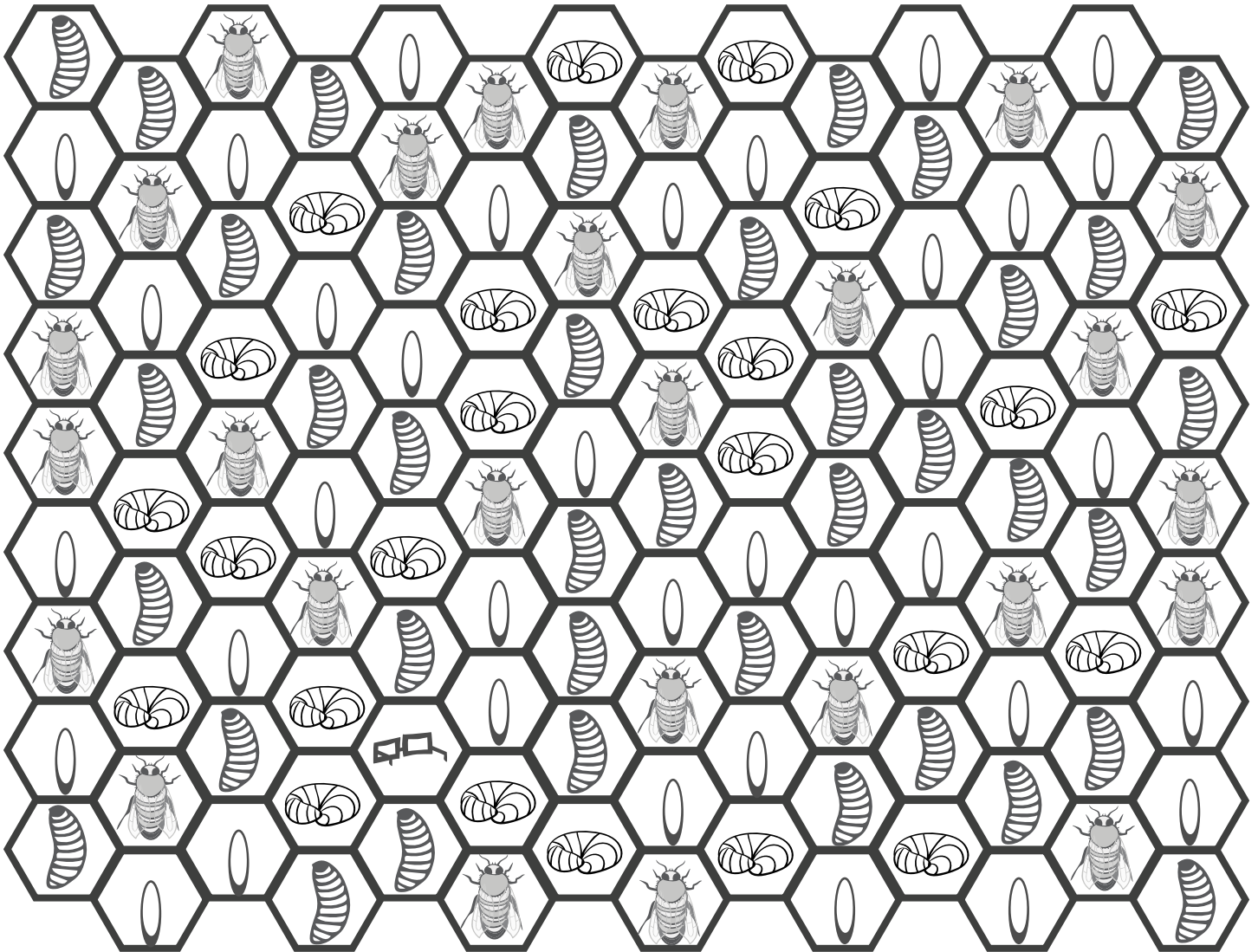


ADULT 21 DAY

COUNTING

THE HIVE THRIVES

DIRECTIONS: In any hive, you will find bees at different stages of their life. With up to 60,000 bees in a hive things can get confusing. Count the eggs, larva, pupa, and bees separately to help them keep track.



How many of each are there?



Egg



Larva



Pupa

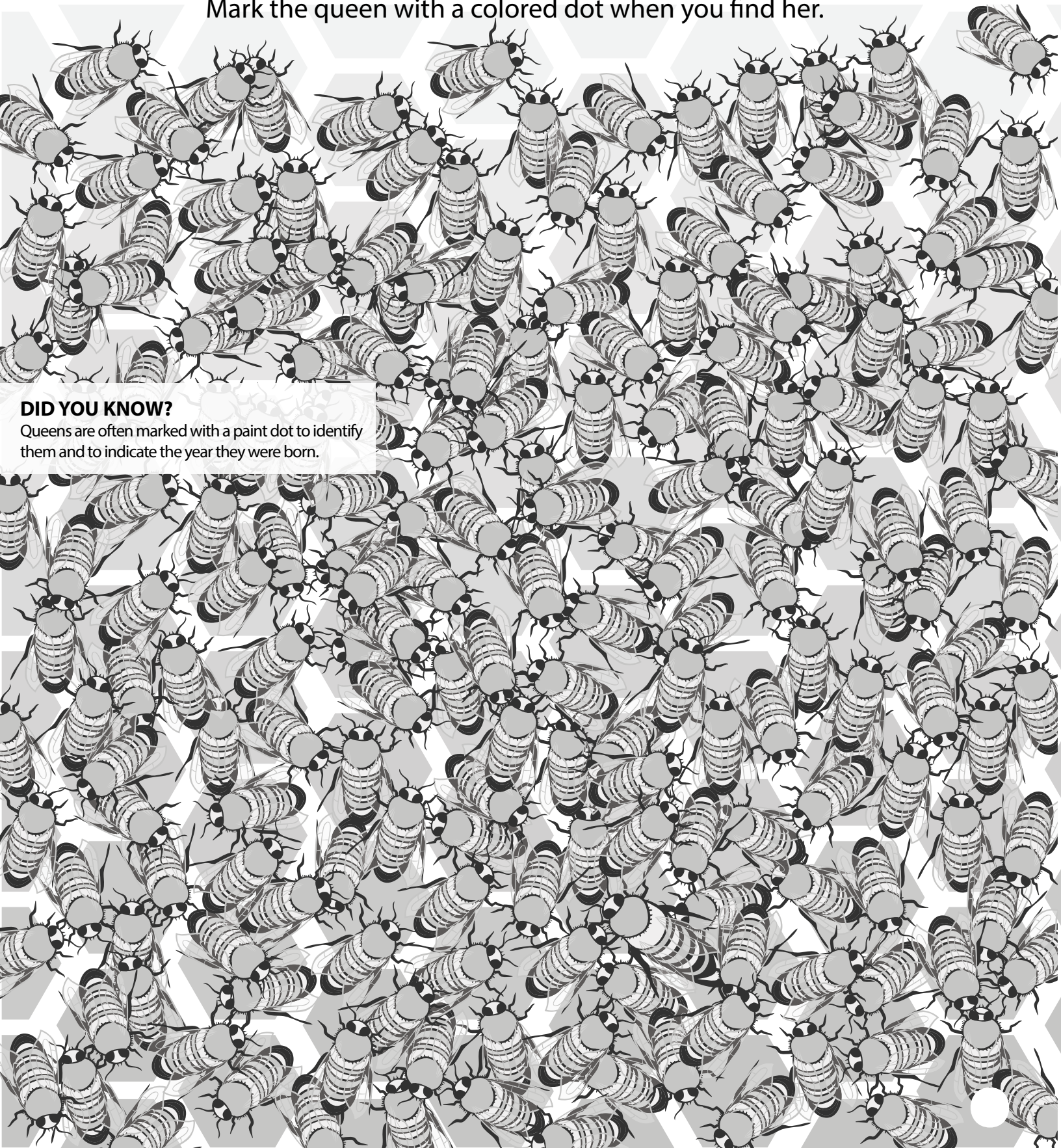


Adult

DIRECTIONS: The queen has gone missing! Can you find her in the chaos of all the busy worker bees? The queen has a longer abdomen than the worker bees. Mark the queen with a colored dot when you find her.

DID YOU KNOW?

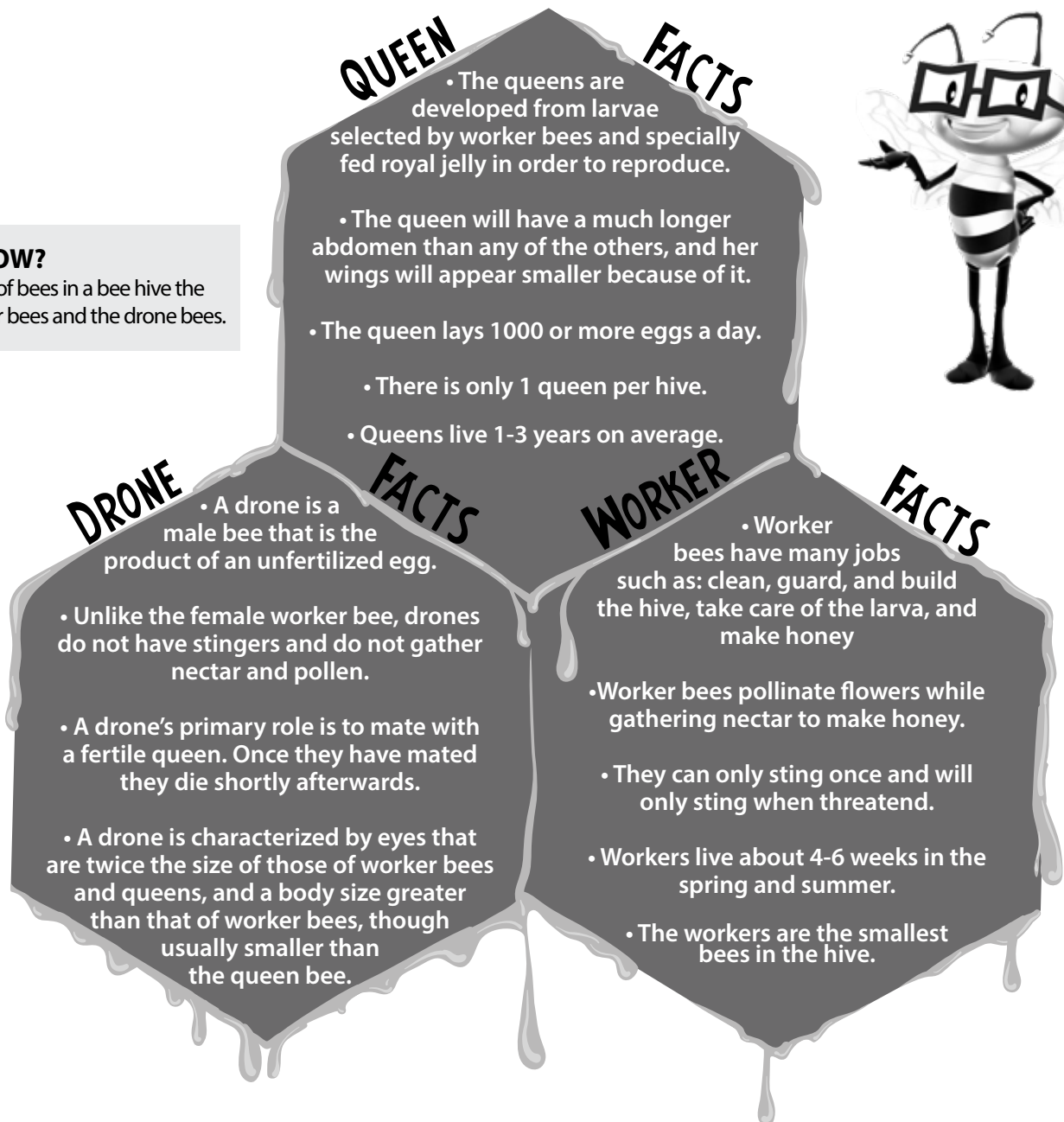
Queens are often marked with a paint dot to identify them and to indicate the year they were born.



DIRECTIONS: Read over the facts and answer the multiple choice questions below.

DID YOU KNOW?

There are 3 types of bees in a bee hive the queen, the worker bees and the drone bees.



MULTIPLE CHOICE

Which is not a type of honey bee?

- A) Drone B) King C) Worker D) Queen

On average, how far will worker bees fly a day?

- A) 5-10 miles B) 2-3 miles C) 20+ miles D) 500 feet

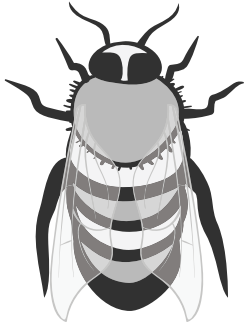
What is the right order of the bee life cycle?

- A) Egg, pupa, larva, adult B) Adult, egg, pupa, larva C) Egg, larva, adult, pupa D) Egg, larva, pupa, adult

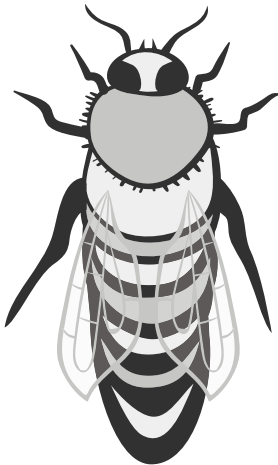
MATCH GAME

WHAT'S THE BUZZ

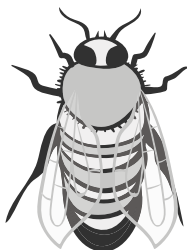
DIRECTIONS: Vitamin Bee wants you to show him what you know about the bees. Draw a line from the type of bee to the correct job or trait.



DRONE



QUEEN



WORKER

GUARDS HIVE

BUILDS HIVE

HAS THE BIGGEST EYES

POLLINATES FLOWERS

MALE BEE

TAKES CARE OF LARVA

EXCLUSIVELY FED ROYAL JELLY

MAKES HONEY

LAYS EGGS

MATES WITH QUEEN

LONG ABDOMEN

DIES AFTER MATING

ONLY 1 IN THE HIVE

NO STINGER

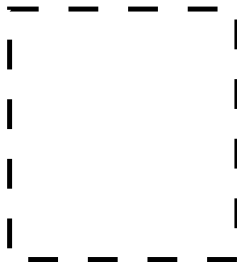
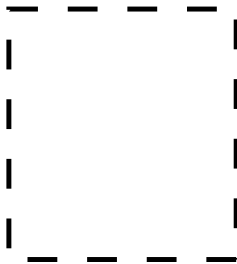
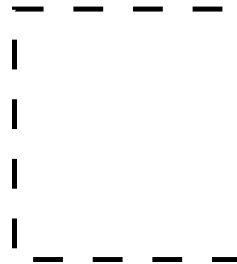
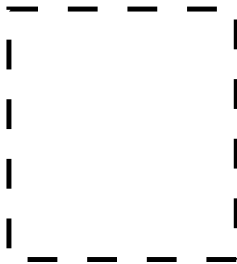







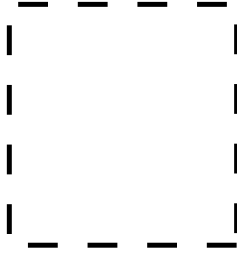

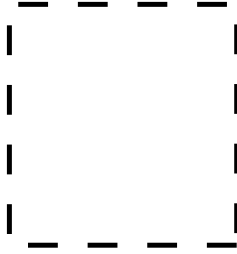
CLEANS HIVE

DRAWING

JACK-OF-ALL-TRADES

DIRECTIONS: A worker bee's life cycle is only 4-6 weeks long, it's filled with many jobs that keep the hive going.

Draw the object that fits with each job, use the pictures at the bottom as reference.

						
CLEANING	FANNING	WAX MAKING	FORAGING			
						
NURSING & SERVING		NECTAR TRANSFER		GUARDING		
						

OBJECTS



MEMORY

FLOWER FIELD

DIRECTIONS: It's easy to get lost in a flower field. Follow the bees dotted trail and answer each question along the way to make it safely through.

How long do worker bees live?

True or False, drone bees forage?

DID YOU KNOW?

Foraging worker bees travel 3-5 miles, visit 1200 flowers, and make 7-13 trips to the hive in a single DAY.

How many eggs does a queen bee lay a day?

True or False, wax making is one of a worker bees many jobs?

DID YOU KNOW?

Bees collect nectar from plants and store it in their honey stomachs.

What is a queen bee's lifespan?

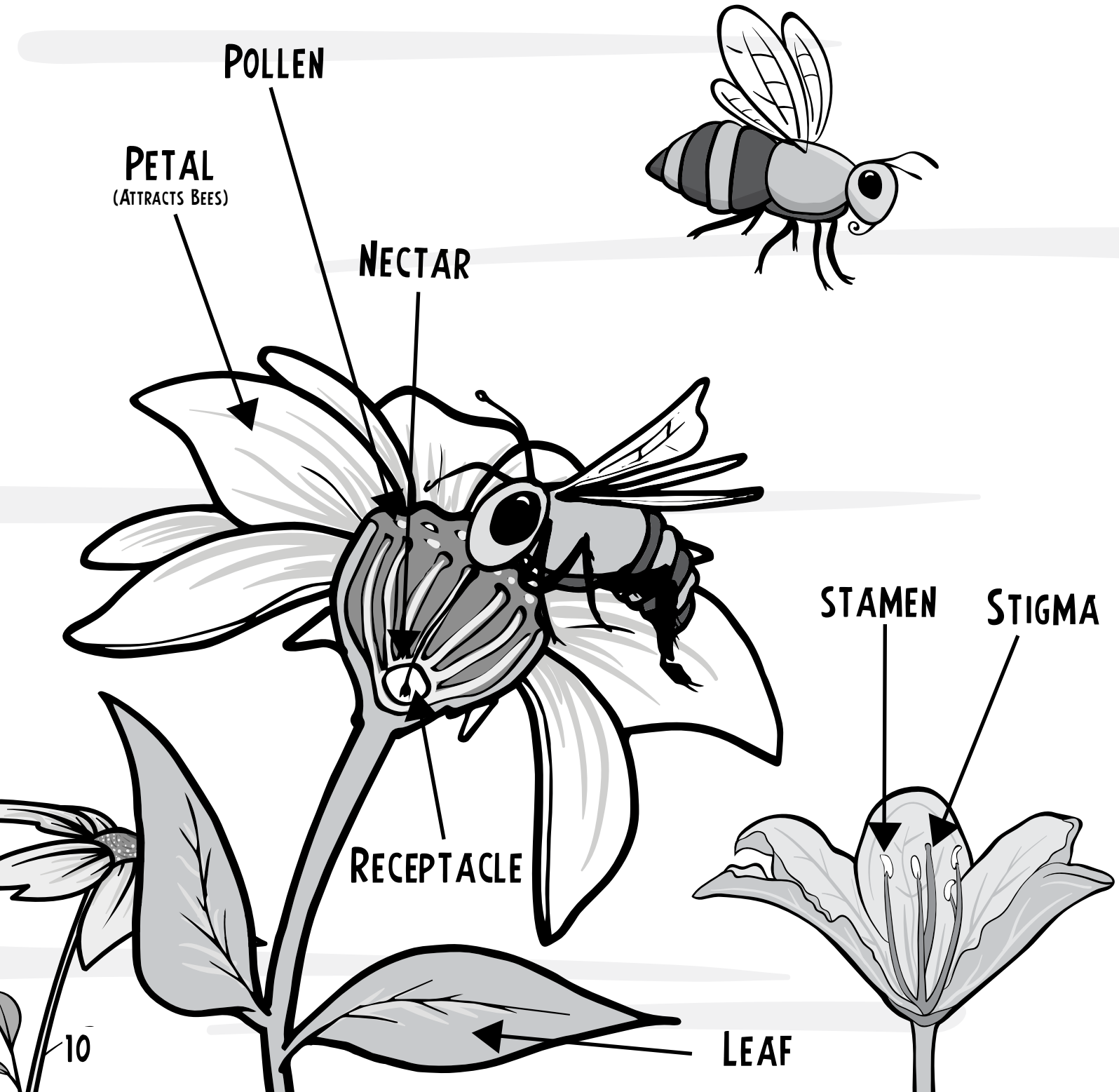
True or False, worker bees have 3 stingers?

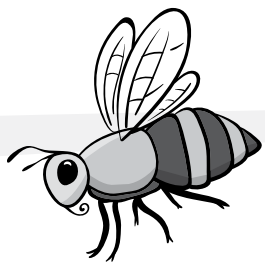
ACTIVITY

COLLECTING FOOD & POLLEN

DIRECTIONS: Bees forage for nectar to produce honey and feed the hive. Pollen is the protein source for bees and pollination by the bees helps plants reproduce. While collecting nectar they transfer pollen from flower to flower.

Use cotton balls to represent pollen and glue them to the correct areas where they collect on the bees.





COMPOUND EYE

WINGS

ANTENNA

HEAD

ABDOMEN

PROBOSCIS/TONGUE

THORAX

PLACE COTTON
HERE

PLACE COTTON
HERE

POLLEN BASKETS

LEGS

PLACE COTTON
HERE

PLACE COTTON
HERE

PLACE COTTON
HERE

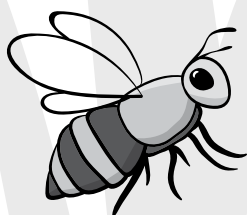
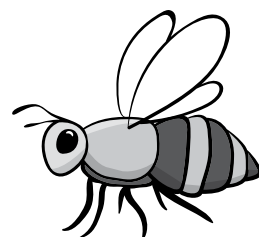
COORDINATION

STICKY SITUATION

DIRECTIONS: Vitamin Bee has gotten himself in a sticky situation. Draw a line as quickly as you can through the hive to help him get out. Try not to touch the walls or you'll get stuck!



START



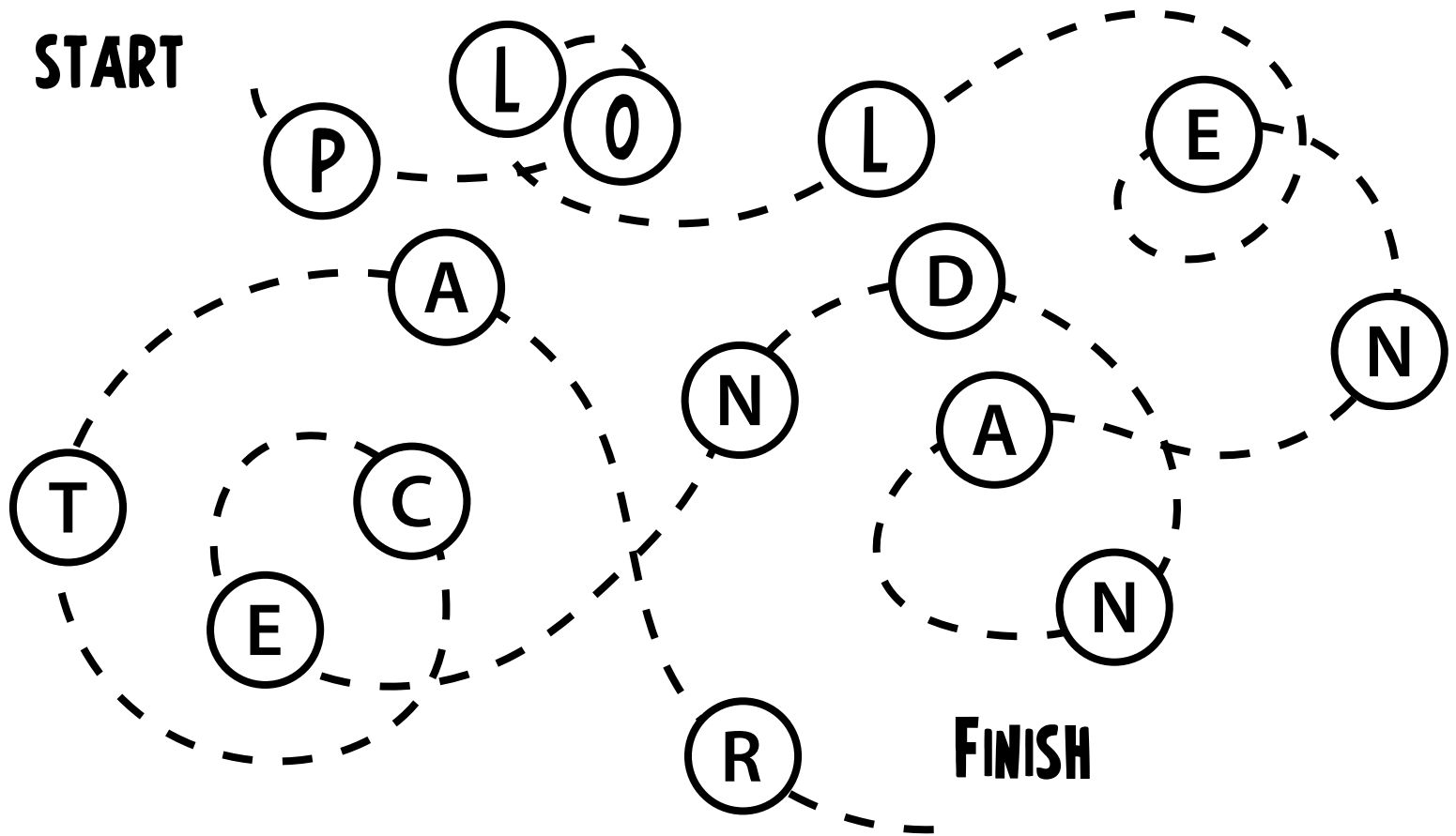
FINISH

UNSCRAMBLE

FOLLOW THE PATH

DIRECTIONS: Without moving your head use your eyes to follow the path and spell out the words you see to answer the question:

What do bees collect?



DID YOU KNOW?

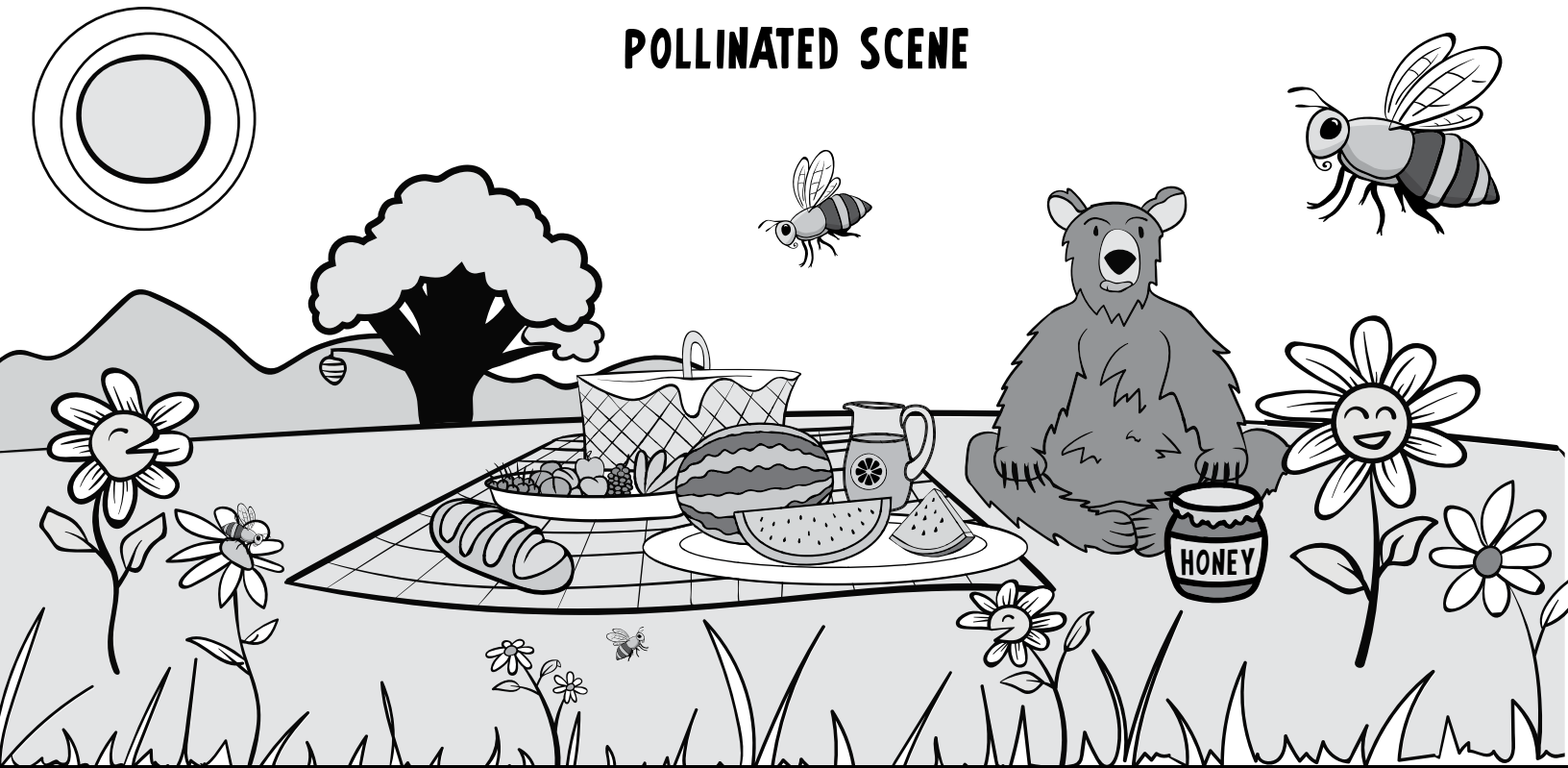
Pollen is the protein source and nectar is the carbohydrate source for bees

DIFFERENCES

FRUITS OF LABOR

DIRECTIONS: Thanks to bees and other pollinators, we are able to enjoy many yummy foods such as fruits, vegetables and nuts. Circle the 15 differences between the pollinated scene vs the unpollinated scene.

POLLINATED SCENE



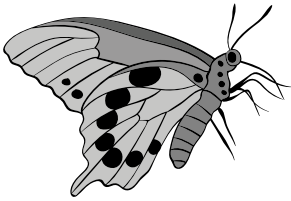
UNPOLLINATED SCENE



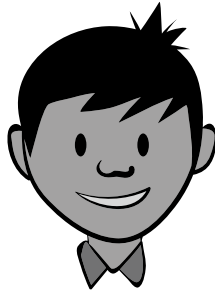
IDENTIFY

POLLINATORS

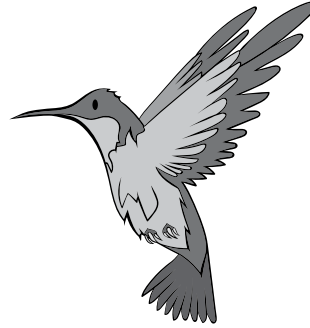
DIRECTIONS: Bees aren't the only pollinators. Many other animals transfer pollen from flower to flower. Circle the 7 animals that also help pollinate.



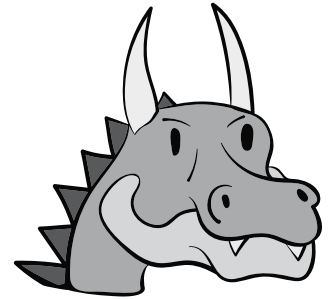
Butterflies



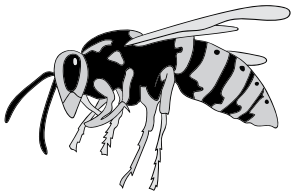
Humans



Humming Birds



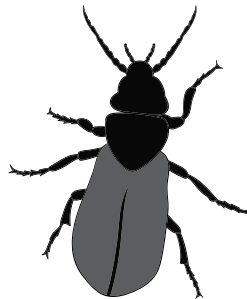
Dragons



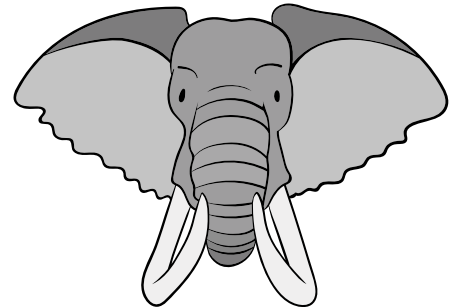
Wasps



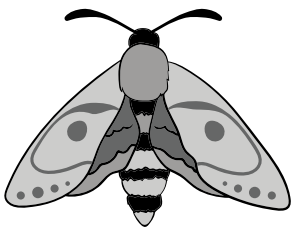
Bats



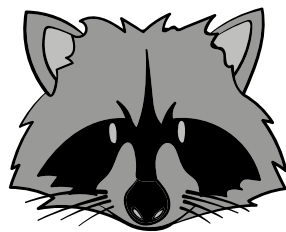
Beetles



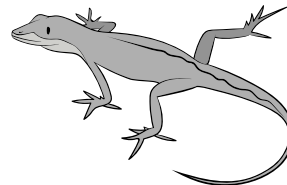
Elephants



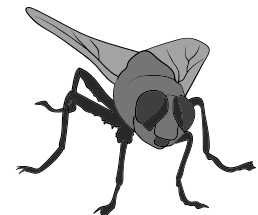
Moths



Racoons



Lizards



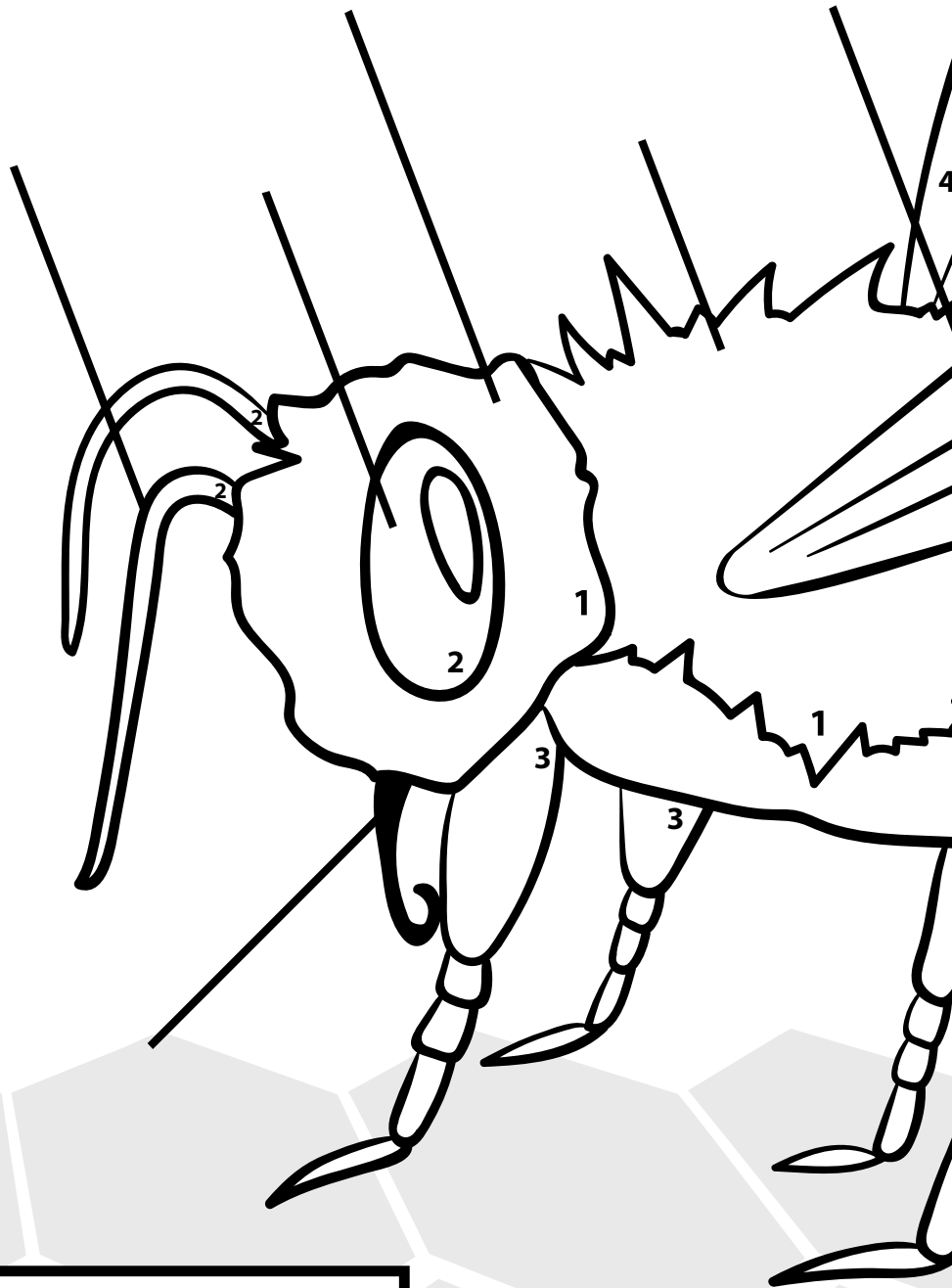
Flies

ANATOMY

PARTS OF THE BEE

DIRECTIONS:

- Label the bee's anatomy using the word bank as a guide.
- Use the number from the color key as reference to color the bee.



WORD BANK

- | | | |
|---------------|-----------|------------|
| •HEAD | •ANTENNAS | •FOREWING |
| •COMPOUND EYE | •THORAX | •HINDWING |
| •ABDOMEN | •STINGER | •PROBOSCIS |
| | | •LEGS |



- 1** Yellow
- 2** Black
- 3** Brown
- 4** Grey

FACTS

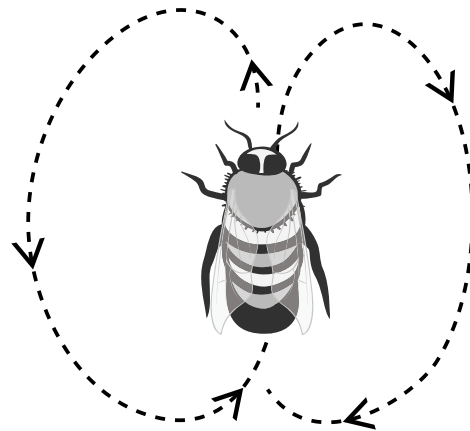
DANCE DANCE WAGGLE

DID YOU KNOW?: Bees use dance to communicate.
The waggle dance is for food sources further away.
The roundtail dance is for food sources close by.

> 1 MILE AWAY



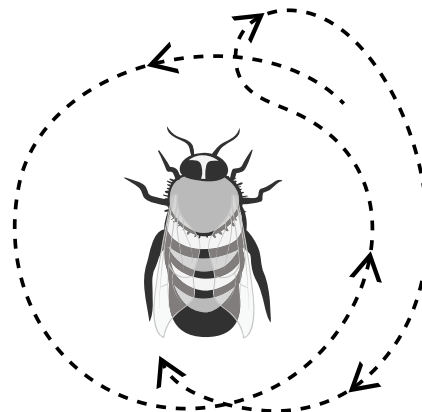
WAGGLE DANCE



< 300 FEET AWAY



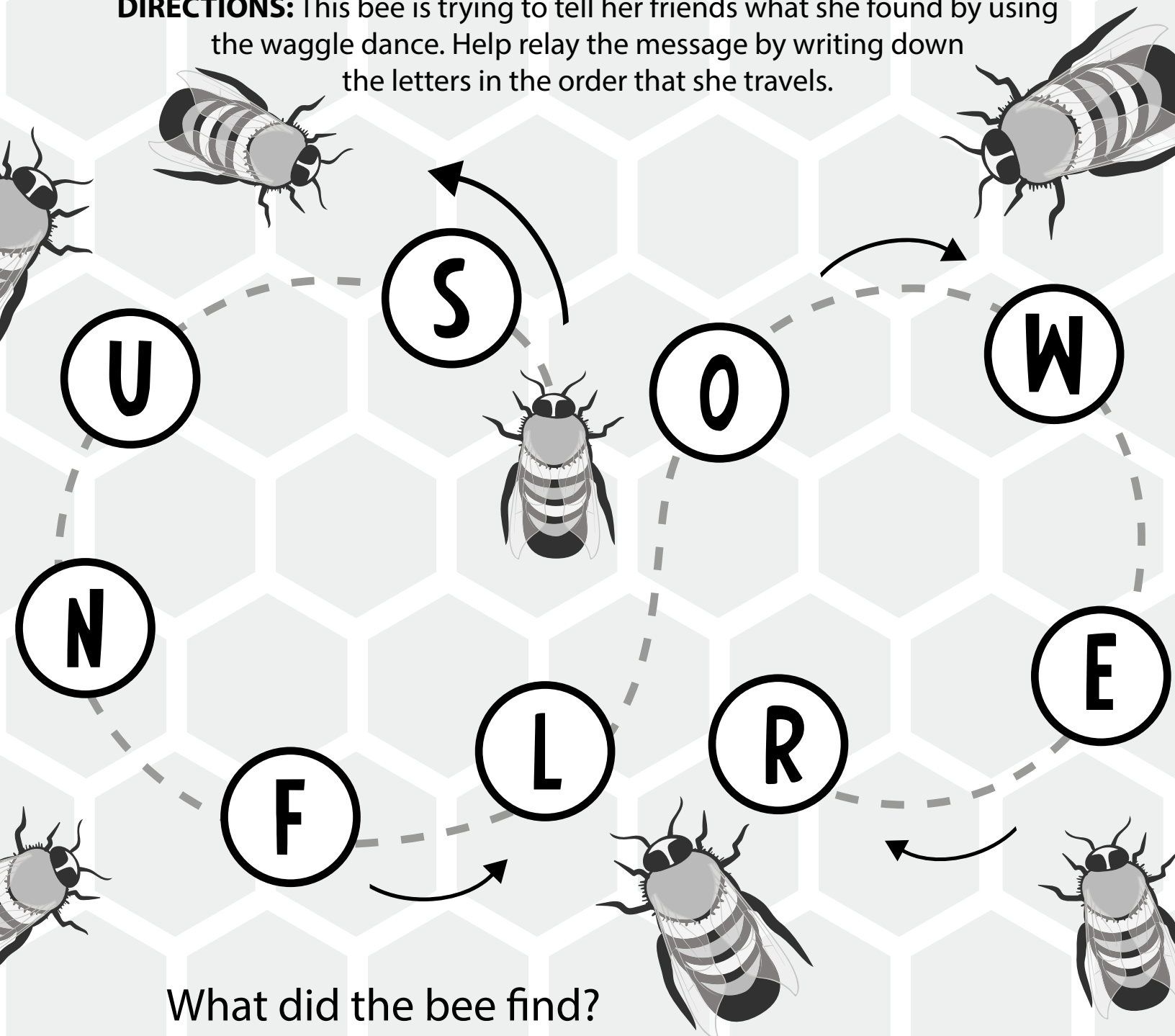
ROUNDTAIL DANCE



COMMUNICATION

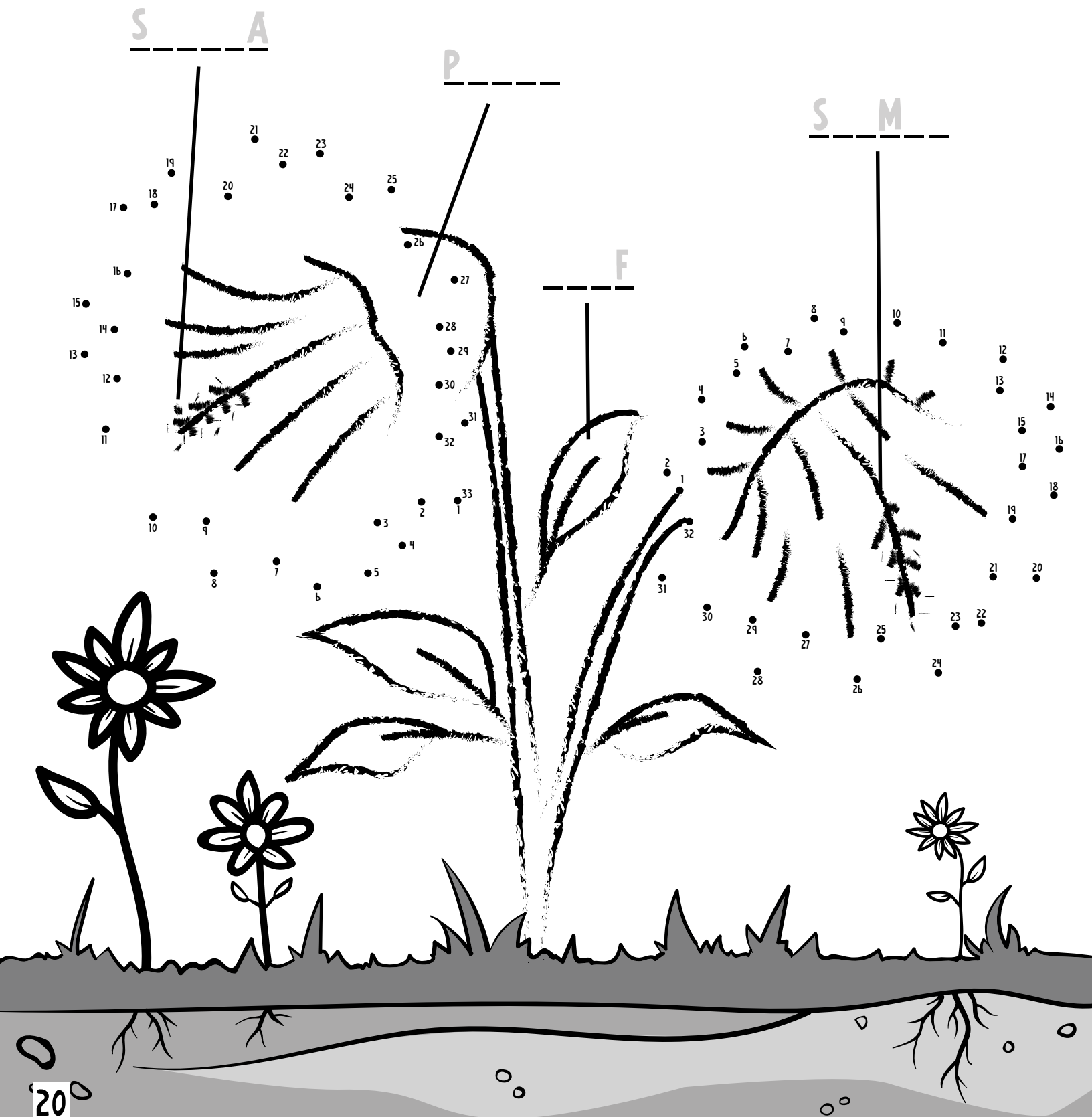
RELAY THE MESSAGE

DIRECTIONS: This bee is trying to tell her friends what she found by using the waggle dance. Help relay the message by writing down the letters in the order that she travels.



CONNECT THE DOTS FLOWER POWER

DIRECTIONS: Connect the dots and label the flower parts.



COUNTING

BUSY BEES

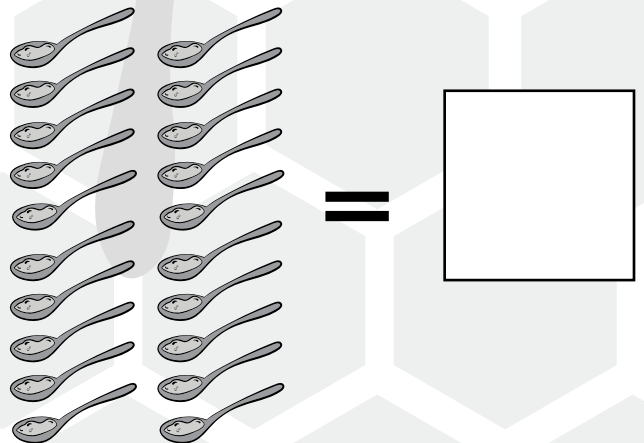
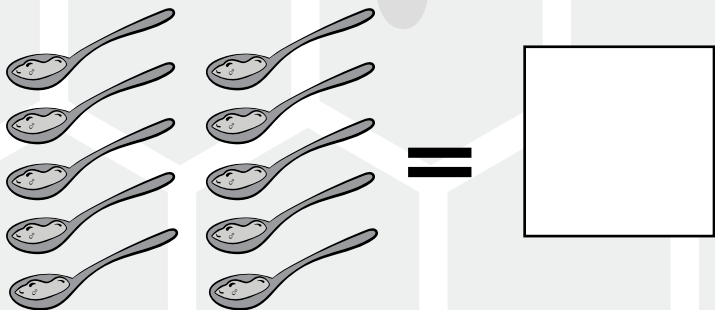
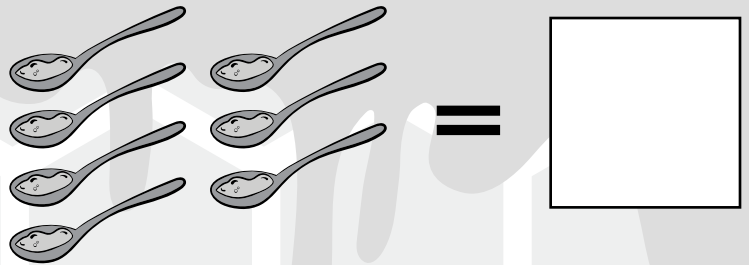
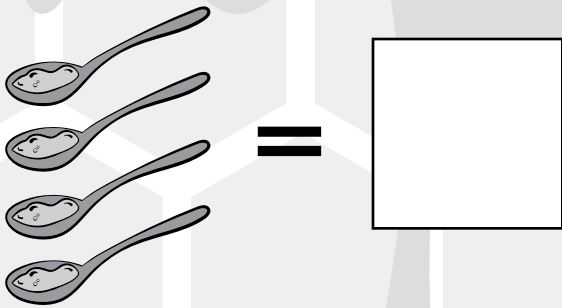
DIRECTIONS: Vitamin Bee is trying to figure out how many bees it takes to produce honey. Each spoon equals 1 teaspoon of honey. In the box, write how many bees it takes to make each amount of honey.

IT TAKES **12** BEES TO CREATE **1** TEASPOON OF HONEY

A SINGLE HIVE CONTAINS **40,000 TO 60,000** BEES

TO MAKE **1LB** OF HONEY, BEES MUST COLLECT NECTAR FROM OVER **2** MILLION FLOWERS

ON AVERAGE, **1** HIVE CAN PRODUCE **100LBS** OF HONEY A YEAR



DID YOU KNOW?

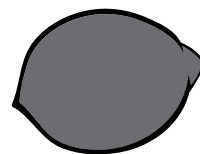
It takes 64 teaspoons of honey to make 1lb of honey

UNSCRAMBLE MIXED FRUITS/VEGGIES

DIRECTIONS: Unscramble each word to match the fruit or the vegetable on the right.

MENLO

=



TEONMALWER

=



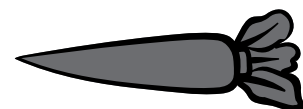
RUMUCEBC

=



TROCAR

=



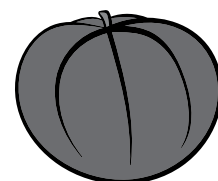
PAELP

=



MUPKPIN

=



AERP

=



RRREABSYTW

=



DID YOU KNOW?

Bees pollinate many of the fruits, vegetables, and nuts we enjoy. That's over half the food in our daily diet!

WORD SEARCH

BEE THINGS

DIRECTIONS: Use the word bank below to find the words in the letter grid.

N T O H Y T T H O R A X E A J
R E R O T I W O R K E R K D S
C T X N J E L N G R E F N T A
P Y L E F P O L L I N A T O R
X U O Y S L A Y N E C H S B O
D U P A H R O K F V N U V E U
B B Q A M C I W J H E U P E N
A Q U D R O N E E H C K R S D
N I E L K K I B M R T W O W T
T P E V I T A M I N A E B A A
E O N Q S S O L X U R U O G I
N L U V E G E T A B L E S G L
N L E X T W D H B R W X C L F
A E Y I C F R U I T V O I E R
C N H I V E Y P X A A A S F Y

WORD BANK:

ANTENNA
BEES
DRONE
FLOWER
FRUIT

HIVE
HONEY
LARVA
NECTAR
POLLEN

POLLINATOR
PROBOSCIS
PUPA
QUEEN
ROUNDTAIL

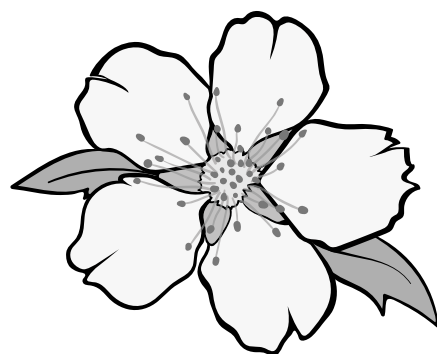
WAGGLE
WORKER
THORAX
VEGETABLE
VITAMIN

DID YOU KNOW?: Almonds are the #1 food crop pollinated by bees in the U.S.

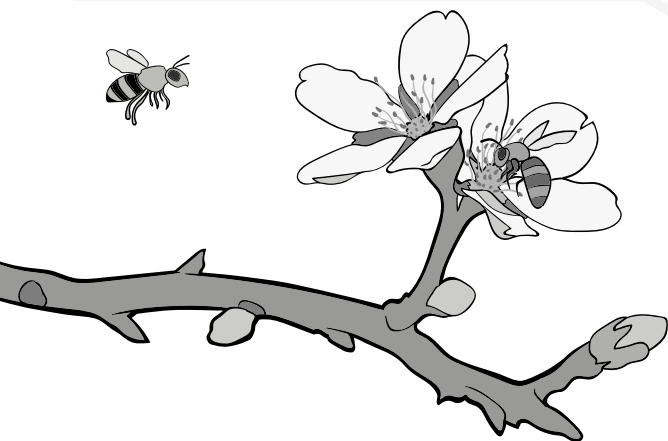
Almonds grow on trees.



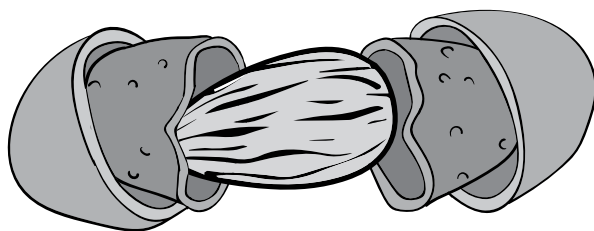
They bloom into a flower...



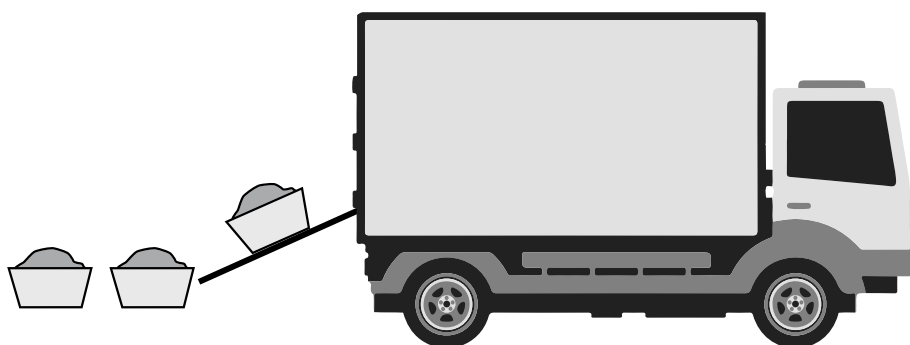
...are pollinated by bees...



...are turned into almonds...



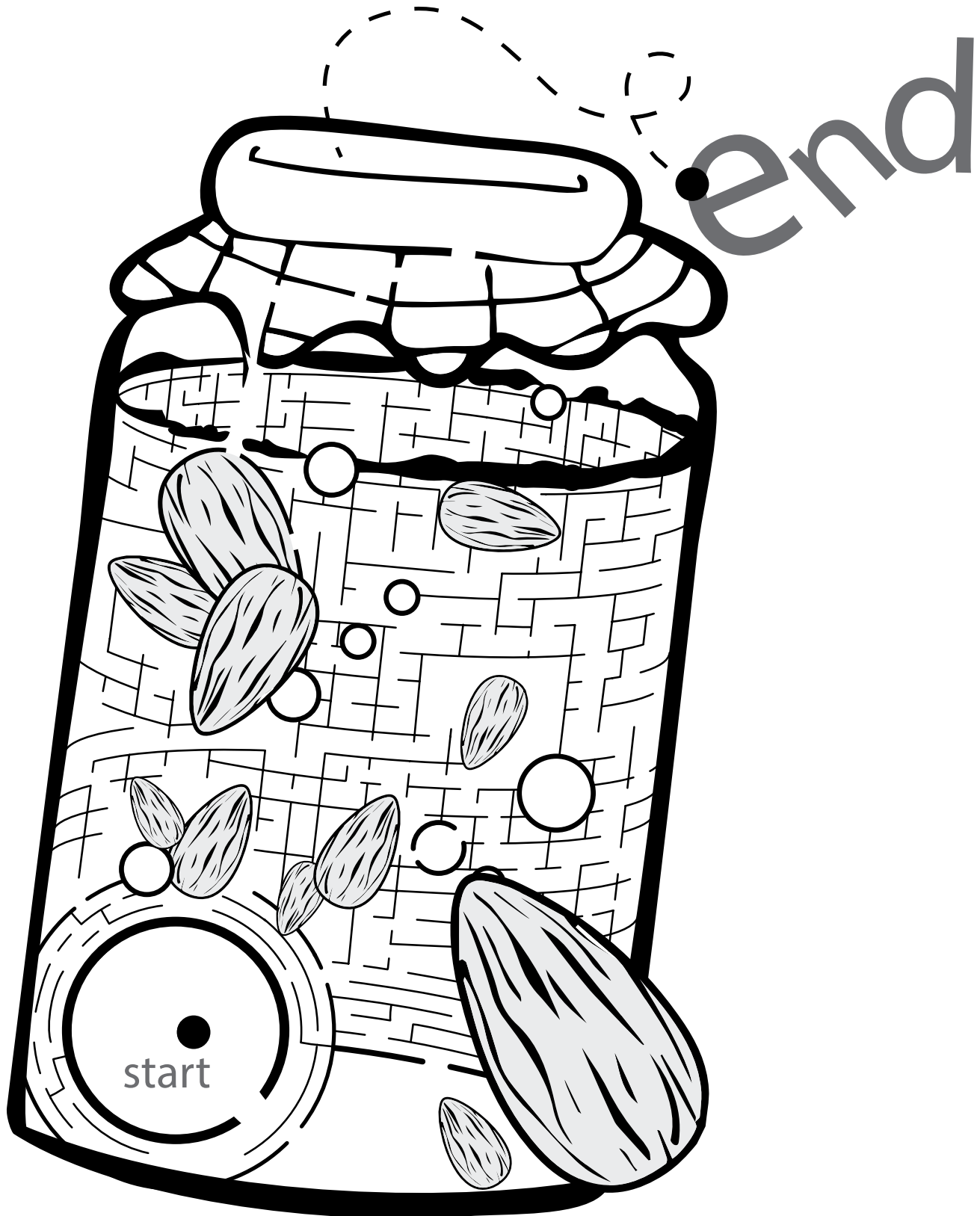
...and are harvested to eat!



MAZE

BUTTER MOVE QUICK!

DIRECTIONS: Vitamin Bee is going nuts over this almond butter maze!
Help lead him out of this mess and into a butter situation.



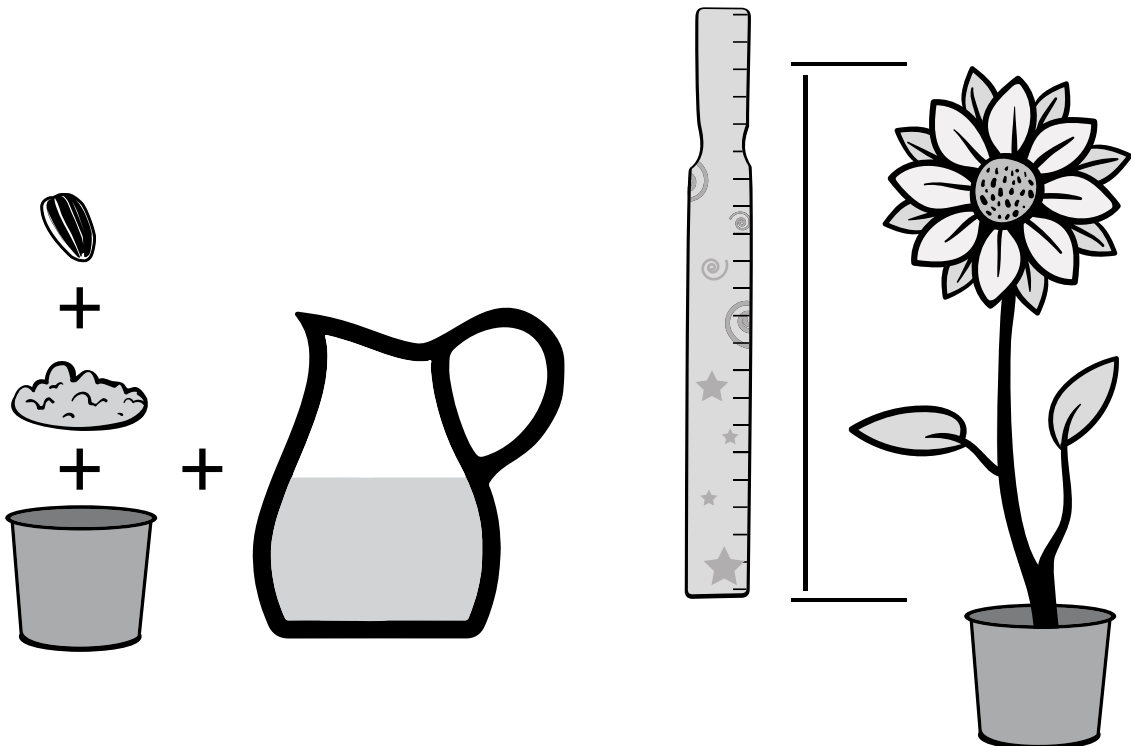
ACTIVITY FEED A BEE WITH A PLANT!

DIRECTIONS:

- You'll need 1 peat pot, potting soil, or garden bed.
- You'll need 1 wildflower or vegetable seed of choice.
- Insert the seed in the middle the soil being sure to cover it with the dirt.
- Fill a water pitcher and water the seed once a day.
- Be aware of new plant emergence from the soil and begin recording plant growth with your measuring stick.

To create your own measuring stick you'll need:

- 1 paint/popsicle stick.
- Markers.
- 1 ruler.
- Place the ruler next to the paint stick and using the markers mark down each inch of your paint stick. Then decorate your new measuring stick to make it unique.
- Now when your plant starts to grow you can use your measuring stick to keep track of how much it grows!
- Make observations and record plant growth with your measuring stick.
- Once your plant is blooming make observations about pollinator visit!



DECODE

CODE BREAKER

DIRECTIONS: Vitamin Bee wrote a secret code just for you.

Can you figure it out by using your math skills as a clue?

Write the letter in the circle, using the key.

KEY

$1 = a$

$6 = b$

$9 = c$

$0 = e$

$7 = f$

$10 = g$

$15 = h$

$12 = i$

$21 = l$

$40 = n$

$4 = o$

$48 = p$

$16 = r$

$24 = s$

$30 = t$

$54 = u$

$$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$$

B

6

$$\begin{array}{r} 0 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 21 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$$

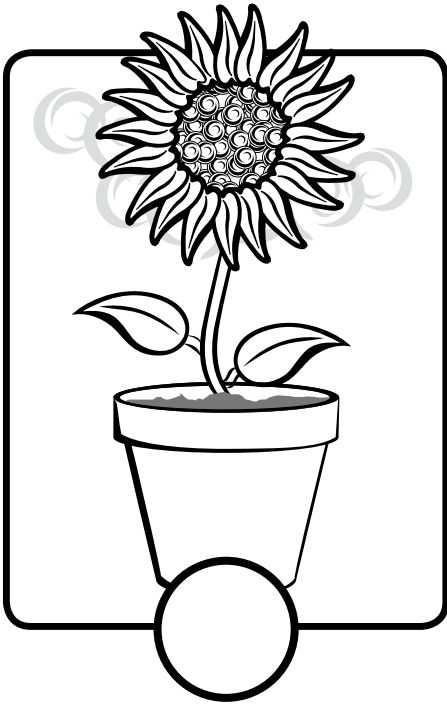
$$\begin{array}{r} 12 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$$

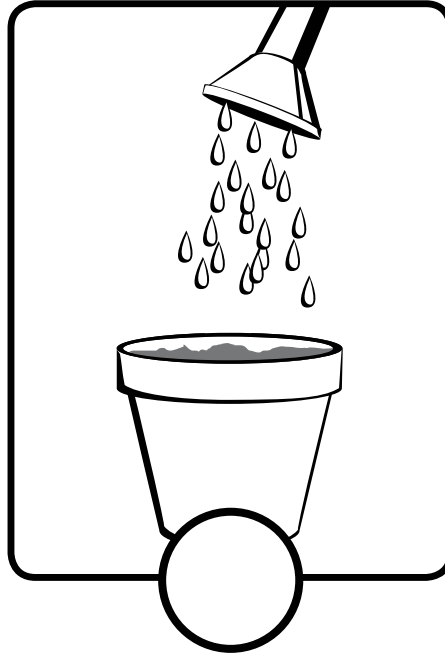
ACTIVITY

GROW A GARDEN

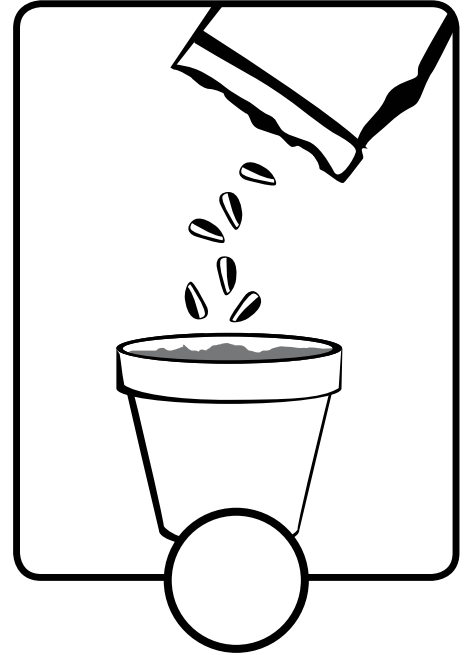
DIRECTIONS: Vitamin Bee loves flowers that give a lot of pollen and nectar. However, he's forgotten the steps needed in order to grow a sunflower. Write the order of each step into the correct circle.



Grow it.



Water it.



Plant it.

First,

Second,

Third,

MAZE

A WAY BACK HOME

DIRECTIONS: Help Vitamin Bee find his way back home.
Lead him through the crazy garden back to the hive.

START



END

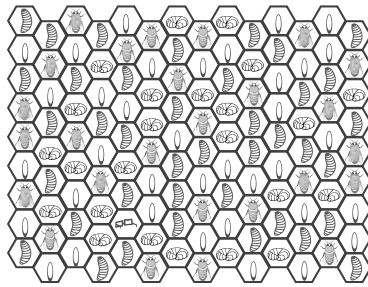


ANSWER KEY

COUNTING

THE HIVE THRIVES

DIRECTIONS: In any hive, you will find bees at different stages of their life. With up to 60,000 bees in a hive things can get confusing. Count the eggs, larva, pupa, and bees separately to help them keep track.



How many of each are there?



Egg
36



Larva
24



Pupa
39



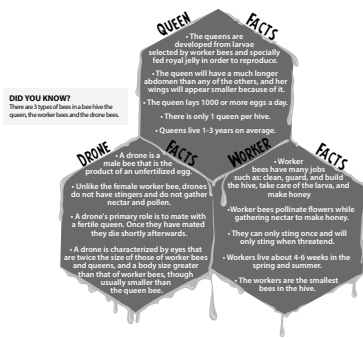
Adult
26

PAGE 4

FACTS

BEE AMAZED

DIRECTIONS: Read over the facts and answer the multiple choice questions below.



Which is not a type of honey bee?

A Drone B King C Worker D Queen

On average, how far will worker bees fly a day?

A 5-10 miles B 3-5 miles C 20+ miles D 500 feet

What is the right order of the bee life cycle?

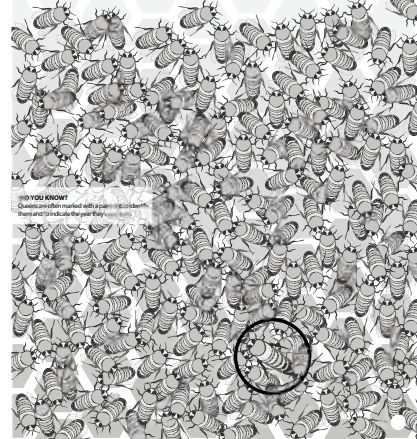
A Egg, pupa, larva, adult B Adult, egg, pupa, larva C Egg, larva, adult, pupa D Egg, larva, pupa, adult

PAGE 6

I SPY

FIND THE QUEEN

DIRECTIONS: The queen has gone missing! Can you find her in the chaos of all the busy worker bees? The queen has a longer abdomen than the worker bees. Mark the queen with a colored dot when you find her.

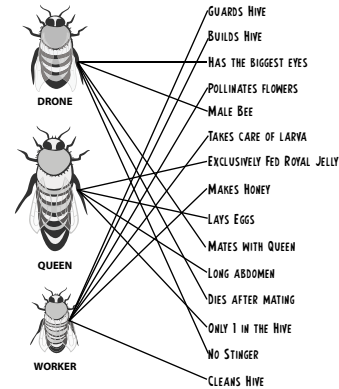


PAGE 5

MATCH GAME

WHAT'S THE BUZZ

DIRECTIONS: Vitamin Bee wants you to show him what you know about the bees. Draw a line from the type of bee to the correct job or trait.

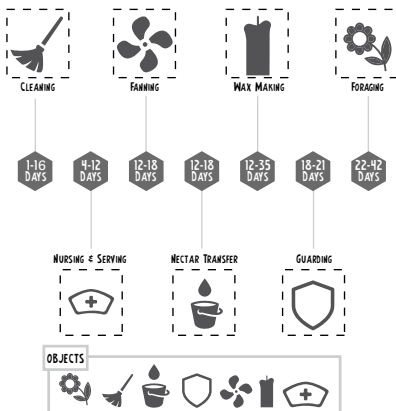


PAGE 7

DRAWING

JACK-OF-ALL-TRADES

DIRECTIONS: A worker bee's life cycle is only 4-6 weeks long, it's filled with many jobs that keep the hive going. Draw the object that fits with each job, use the pictures at the bottom as reference.

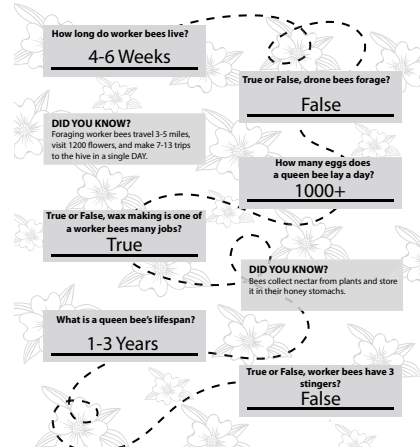


PAGE 8

MEMORY

FLOWER FIELD

DIRECTIONS: It's easy to get lost in a flower field. Follow the bees dotted trail and answer each question along the way to make it safely through.

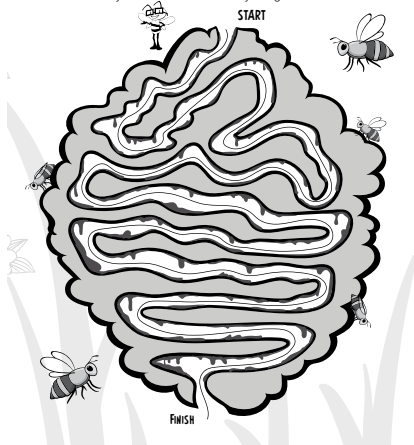


PAGE 9

ANSWER KEY

COORDINATION STICKY SITUATION

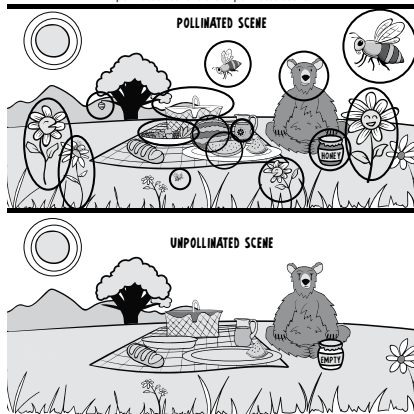
DIRECTIONS: Vitamin Bee has gotten himself in a sticky situation. Draw a line as quickly as you can through the hive to help him get out. Try not to touch the walls or you'll get stuck!



PAGE 12

DIFFERENCES FRUITS OF LABOR

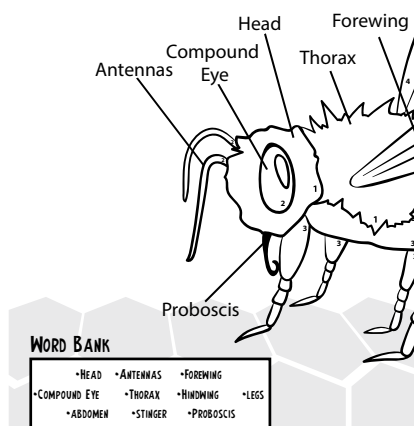
DIRECTIONS: Thanks to bees and other pollinators, we are able to enjoy many yummy foods such as fruits, vegetables and nuts. Circle the 15 differences between the pollinated scene vs the unpollinated scene.



PAGE 14

ANATOMY PARTS OF THE BEE

DIRECTIONS:
-Label the bee's anatomy using the word bank as a guide.
-Use the number from the color key as reference to color the bee.

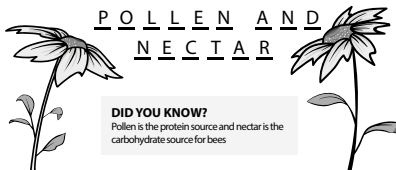
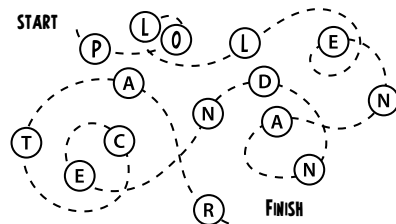


PAGE 16

UNSCRAMBLE FOLLOW THE PATH

DIRECTIONS: Without moving your head use your eyes to follow the path and spell out the words you see to answer the question: What do bees collect?

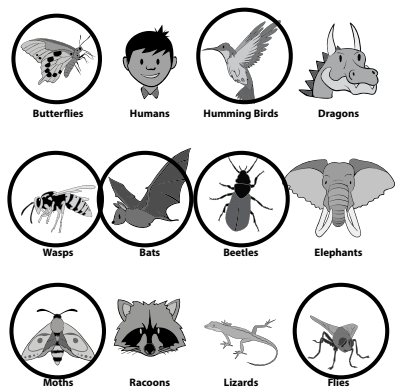
What do bees collect?



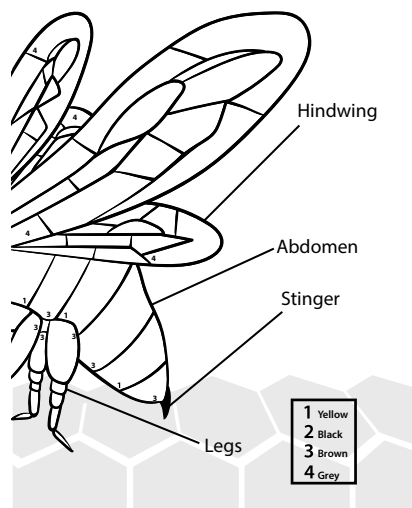
PAGE 13

IDENTIFY POLLINATORS

DIRECTIONS: Bees aren't the only pollinators. Many other animals transfer pollen from flower to flower. Circle the 7 animals that also help pollinate.



PAGE 15



PAGE 17

ANSWER KEY

DECODE

CODE BREAKER

DIRECTIONS: Vitamin Bee wrote a secret code just for you. Can you figure it out by using your math skills as a clue? Write the letter in the circle, using the key.

KEY

1 = a	7 = f	21 = l	16 = r
6 = b	10 = g	40 = n	24 = s
9 = c	15 = h	4 = o	30 = t
0 = e	12 = i	48 = p	54 = u

$\begin{array}{r} 3 \\ \times 2 \\ \hline 6 \end{array}$	$\begin{array}{r} 0 \\ \times 8 \\ \hline 0 \end{array}$	$\begin{array}{r} 5 \\ \times 0 \\ \hline 0 \end{array}$	$\begin{array}{r} 4 \\ \times 4 \\ \hline 16 \end{array}$
(P)	(O)	(L)	(S)
48	4	21	24

$\begin{array}{r} 8 \\ \times 6 \\ \hline 48 \end{array}$	$\begin{array}{r} 2 \\ \times 2 \\ \hline 4 \end{array}$	$\begin{array}{r} 7 \\ \times 3 \\ \hline 21 \end{array}$	$\begin{array}{r} 21 \\ \times 1 \\ \hline 21 \end{array}$	$\begin{array}{r} 4 \\ \times 3 \\ \hline 12 \end{array}$	$\begin{array}{r} 8 \\ \times 5 \\ \hline 40 \end{array}$	$\begin{array}{r} 1 \\ \times 1 \\ \hline 1 \end{array}$	$\begin{array}{r} 5 \\ \times 6 \\ \hline 30 \end{array}$	$\begin{array}{r} 9 \\ \times 0 \\ \hline 0 \end{array}$
(P)	(O)	(L)	(L)	(I)	(N)	(A)	(T)	(E)

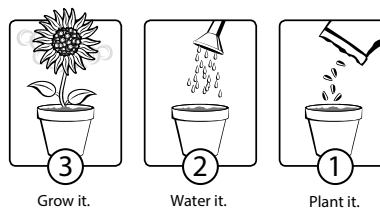
$\begin{array}{r} 3 \\ \times 3 \\ \hline 9 \end{array}$	$\begin{array}{r} 4 \\ \times 4 \\ \hline 16 \end{array}$	$\begin{array}{r} 2 \\ \times 2 \\ \hline 4 \end{array}$	$\begin{array}{r} 12 \\ \times 4 \\ \hline 48 \end{array}$	$\begin{array}{r} 3 \\ \times 8 \\ \hline 24 \end{array}$
(C)	(R)	(O)	(P)	(S)

PAGE 27

ACTIVITY

GROW A GARDEN

DIRECTIONS: Vitamin Bee loves flowers that give a lot of pollen and nectar. However, he's forgotten the steps needed in order to grow a sunflower. Write the order of each step into the correct circle.



First, Plant it.

Second, Water it.

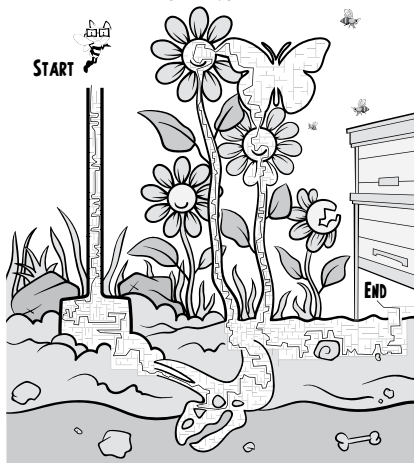
Third, Grow it.

PAGE 28

MAZE

A WAY BACK HOME

DIRECTIONS: Help Vitamin Bee find his way back home. Lead him through the crazy garden back to the hive.



PAGE 29

COLORING & ACTIVITY BOOK



Dear Parents and Caregivers,

There could be no better spokesman for eating fruits and veggies than Vitamin Bee. A fun, informative and energetic character that gets our audience excited about including nutritious foods into their lives. After all, without the honey bee, we wouldn't have all this great food!

Vitamin Bee represents a collection of individuals who believe learning about nutritious foods and creating healthy habits are just as essential to young growing minds and bodies as learning the "ABC's and 123's". Our creative family and valued contributors include individuals who have experience with promoting education through television media, a registered dietitian with a Master's in Public Health, and perhaps more importantly, health conscious parents and their young consumers.

It is a well-known fact that people, especially kids, learn more when they are having fun. So Vitamin Bee delivers huge doses of fun and much more with his curious facts about foods and the life of a bee, kid-friendly recipes and tips, all wrapped up in his love of music, art, and silly antics, that will inspire kids to make healthy choices, one episode at a time. Vitamin Bee also encourages kids, families, and schools to learn and work together in order to build the support needed to create a long-lasting healthy environment.

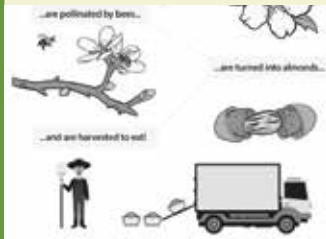
This workbook is a collaboration with the Bayer Feed a Bee initiative. To learn more, visit feedabee.com.



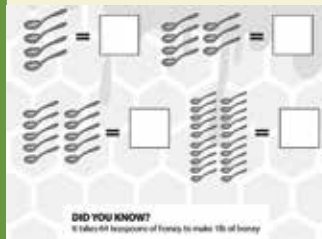
COLORING



NUTRITION



PROBLEM SOLVING



ACTIVITIES

