Mini 4-H

More Bugs

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Acknowledgments:

We would like to thank the following people for their dedication to positive youth development:

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The Zaner-Bloser font used in this manual was chosen because it closely resembles children's writing style.

Initial Development Team (1996-1997):

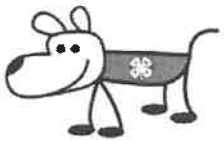
A debt of gratitude is owed to the following people for their persistence and foresight in compiling the initial project activity manuals:

David Caldwell, Natalie Carroll, John Crites, Jonathan Ferris, Jeanette Findley, Brian Gauck, Dan Kirtley, Anita Krug, Leanne McGiveron, Carolyn Miner, RaeAnn O'Neill, Sue Provost, Scott Ripberger, Debra Searcy, and Susan Trutner.

Contact your local Extension office for a list of available project activity manuals.

Welcome to the Mini 4-H Program! Mini 4-H is designed for youth, age Kindergarten to 2nd grade, to explore a variety of project areas.

As a Mini 4-H parent, your job will be to guide and encourage your child through the activities. Help them, guide them, work with them, and let them do all that they possibly can. The 4-H motto is **"learn by doing"** and is the best educational tool that we can provide for youth. At this age the *PROCESS* of learning is more important than the *PRODUCT*.



The Mini 4-H program is set up to allow your child to exhibit a project at the 4-H Fair. This is non-competitive, with ALL participants receiving a Mini 4-H blue ribbon.

The 4-H Fair is an exciting time for 4-H members and families. It is a week in the summer that allows community youth to showcase their talents, interests, and enthusiasm for learning. We're excited to see your family there and invite you to take part in the events throughout the week.

If you have any questions regarding Mini 4-H or other 4-H programs, please feel free to contact the Floyd County Extension Office, (812) 948-5470.

Mini 4-H is fun!

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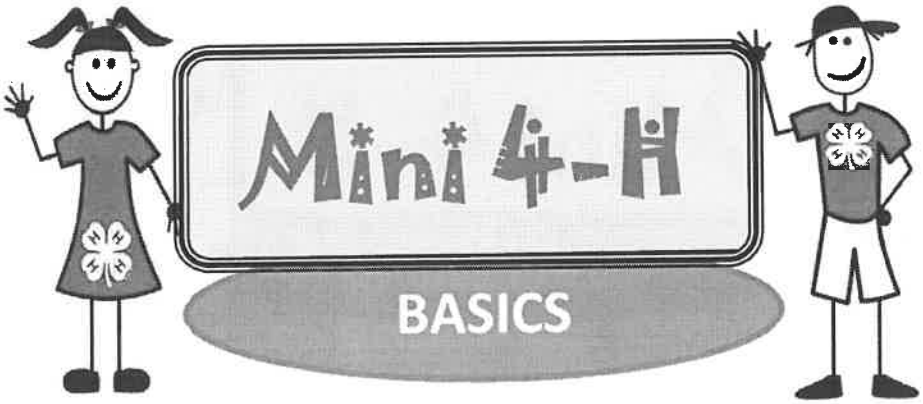
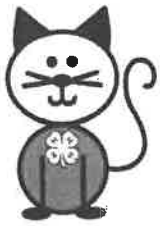


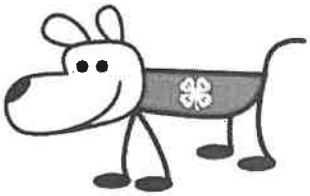
4-H Symbol: A four-leaf clover with an "H" in each leaf *"Head"*, *"Heart"*, *"Hands"*, and *"Health"*

4-H Colors: Green and White

4-H Motto: To make the best, better.

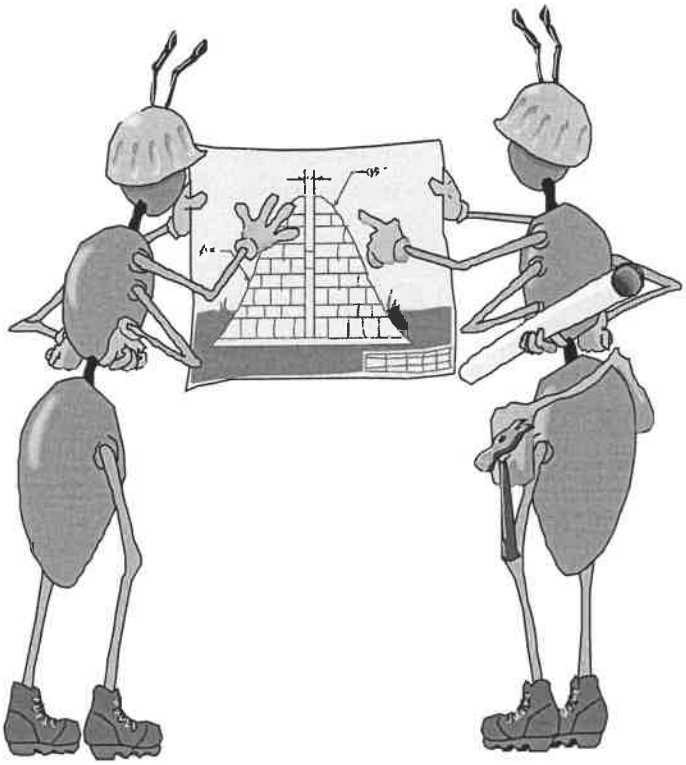
4-H Pledge: I pledge my *Head* to clearer thinking,
my *Heart* to greater loyalty,
my *Hands* to larger service, and
my *Health* to better living,
for my club, my community,
my country, and my world.





Are Bugs Like Me?

Have you ever sat and watched a bug? It is fun to watch bugs do bug things. Bugs can crawl and dig and carry things just like people can. Have you ever wondered if bugs have families or what kind of houses bugs go to when they go home? How do bugs talk to each other? What do bugs eat when they want a quick snack? Bugs are very different from people, but bugs also do a lot of the same things that people do. Bugs talk to each other, bugs work together, and bugs eat. Some kinds of bugs are social insects that live together in groups called **colonies**. Ants and bees are social insects.



Each ant and each bee has its own job to do. There is only one **queen** in each colony. The queen lays all of the eggs. She lays so many eggs that laying eggs is all she does all day long. She is well taken care of and doesn't have to do anything for herself. The **workers** do most of the chores and the things that keep the colony running smoothly. The **scouts** are the ones that look for food, but the workers have the job of gathering the food and then bringing the food back to the rest of the group. The workers also build the places where the colony lives. Ant colonies live in tunnels under the ground, and bee colonies live together in hives.

Activity 1 – Teamwork Gets More Done

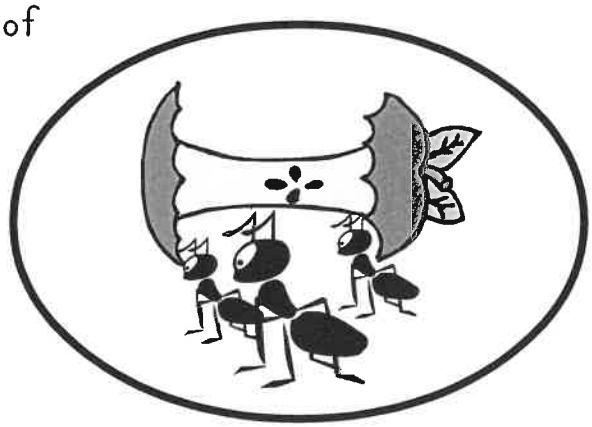
Watch ants on the sidewalk or in the grass as they run back and forth. Ants don't ever seem to get tired even though they are very small . Many ants spend most of their lives building the underground tunnels they live in. It takes many hours and lots of teamwork to move all of the dirt. The ants are always working to keep the tunnels clear. The tunnels have many small rooms coming off of them. Some of the rooms are used to store food. Some of the rooms are used for the eggs that the queen lays. It takes many ants to keep the colony running smoothly because there is a lot of work to do. Ants work together to get more done.

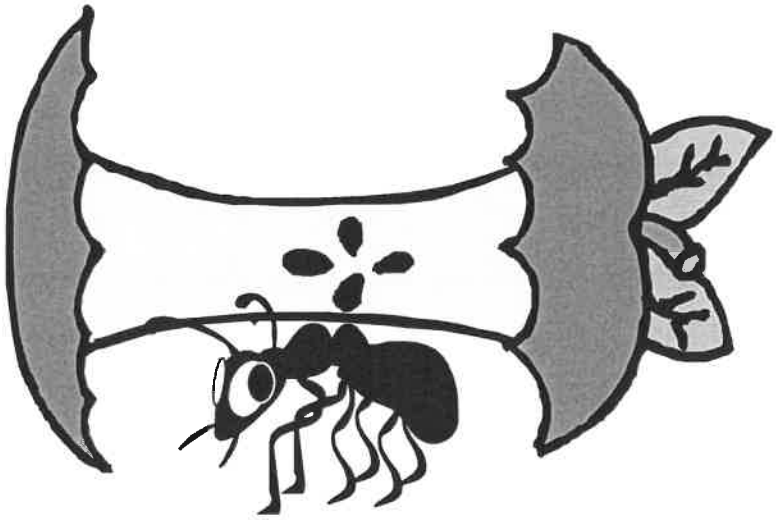
Things you need:

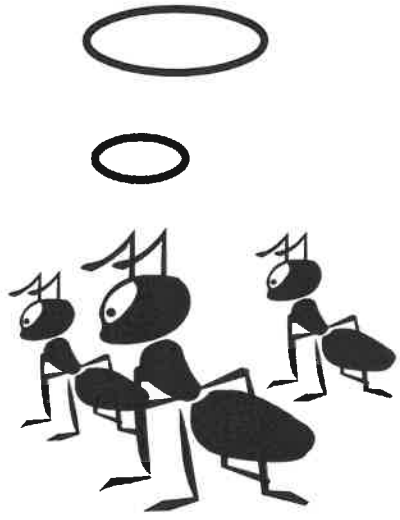
- Large bowl with uncooked rice
- 2 empty bowls
- 4 spoons

What you do:

1. Have 3 children each scoop 10 spoonfuls of rice into one empty bowl.
2. Have another child scoop 10 spoonfuls of rice into the other empty bowl.
3. Ask the children which group (the 3 children working together as a team or the child working alone) got more done?







Activity 2 – Building Teamwork

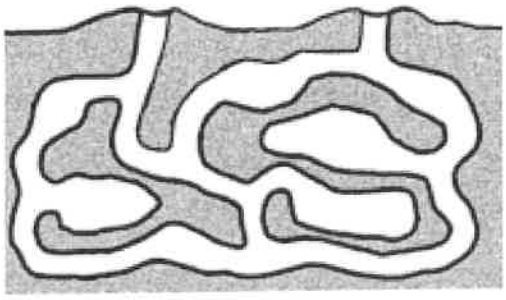
Do you think you could build like the ants do? Work with some of your friends to make a mural showing the underground tunnels of an ant colony.

What you need:

- Several feet of paper (like the brown packaging paper that comes on a roll)
- Glue
- Dirt
- Uncooked white rice
- Markers
- Washable black ink stamp pads
- Scraps of colored yarn and paper

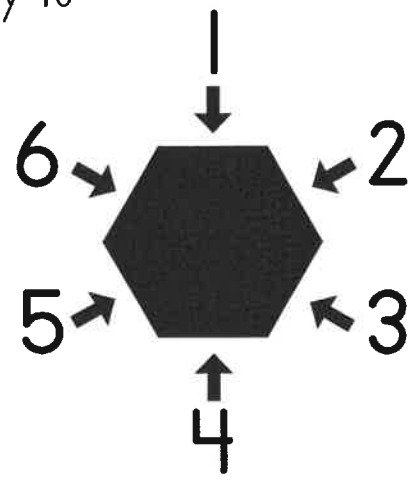
What to do:

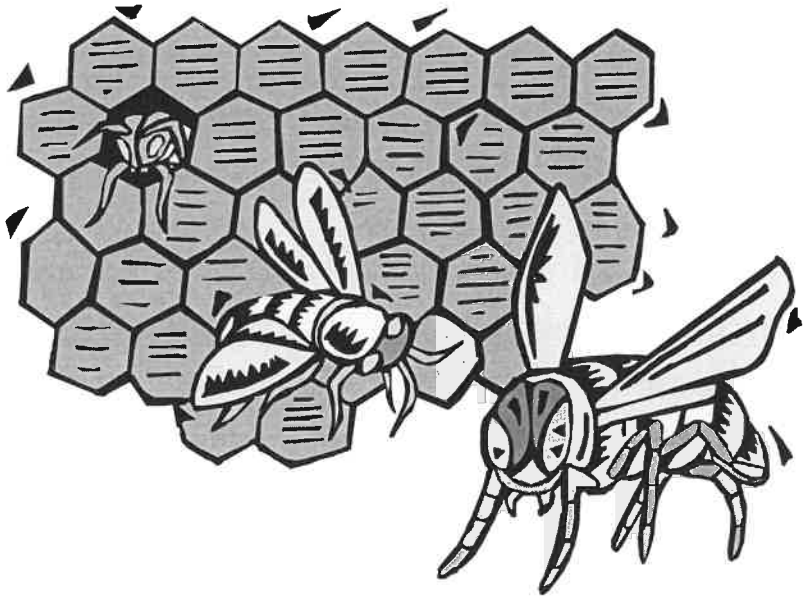
1. Lay the paper on the floor or across a large table. Tape down the edges.
2. Draw tunnels and connecting tunnel rooms (like the picture below) on the paper with a pencil.
3. Spread glue on the paper and sprinkle with dirt. Try to keep tunnels free of dirt.
4. Use the stamp pad to make fingerprint ants. Be sure each ant has 3 body parts (fingerprints). Add 6 legs to each ant using a marker.
5. Glue ant eggs or larvae (rice) in one of the rooms. Find pictures of what the queen ant looks like so you can add a queen to your colony.
6. Use your markers to draw bug parts or crumbs of food in the room where the ants store their food.
7. You may even want to add earthworms to the dirt around the tunnels using pink yarn, or grass above the tunnels using green construction paper or yarn. Can you think of other things to add to your colony?



Activity 3 – Build Like the Bees Do

Bees work hard just like ants do. Each bee has a special job to do that helps keep the colony growing. There is one queen bee for each colony. She lays all the eggs. The worker bees do most of the other jobs in the hive. The workers take care of the eggs, keep the hive cool, guard the hive, gather the nectar, and store the honey. The workers also build the hive where the colony lives. Worker bees use a special shape to build the hive. A hexagon is a shape that has 6 sides. Things made in the shape of a hexagon are very strong and are not easy to break. Honeycombs are made out of many small rooms called cells. Each cell is in the shape of a hexagon so it will be strong. The queen bee lays her eggs in the cells. Food for the bees is stored in the cells.





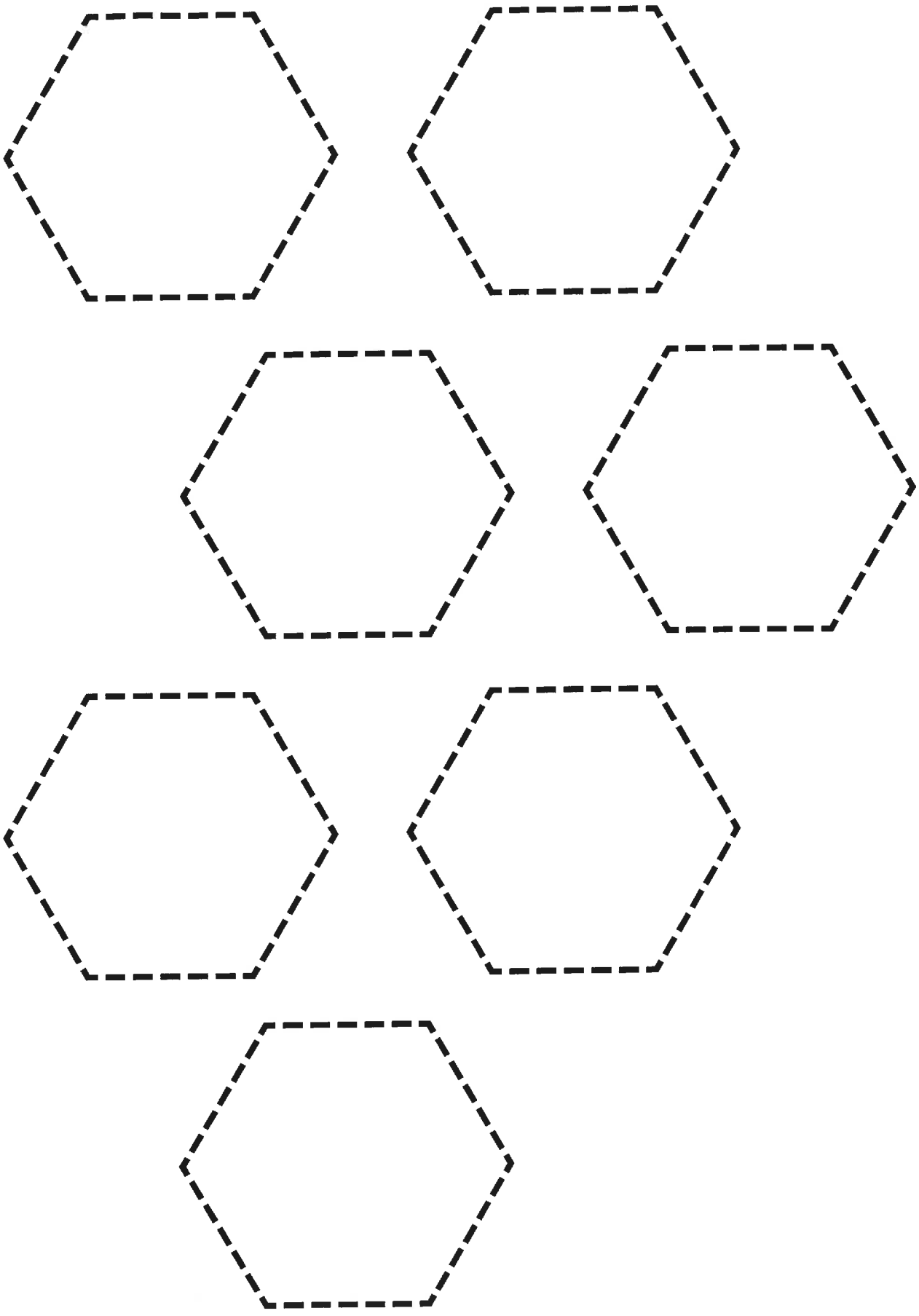
Things you need:

- Crayons or markers
- Scissors

What you do:

1. Color and cut out all the hexagons on the **Build Like the Bees Do Activity Page.**
2. Put the hexagons together so they make a picture of something that bees like to find.
   (*Hint: Bees get nectar from this. Answer on page 26*)

Build Like the Bees Do Activity Page



Activity 4 –Follow That Ant

Ants gather food from anywhere they can find it. Sometimes ants find dead bugs that they tear apart and take back to their underground homes to store and eat later. Sometimes ants find and pick up crumbs from the food people drop on the ground. When an ant finds food, it needs to be able to tell the other ants where to go so they can help carry the food back to the colony. The ant that finds the food leaves a scent on the ground that the other ants can smell. The ants follow the smell to find the food.

If you have ever been on a picnic, you probably had ants show up even though you did not invite them. Use your imagination to make a picnic that you think ants might like to come to.

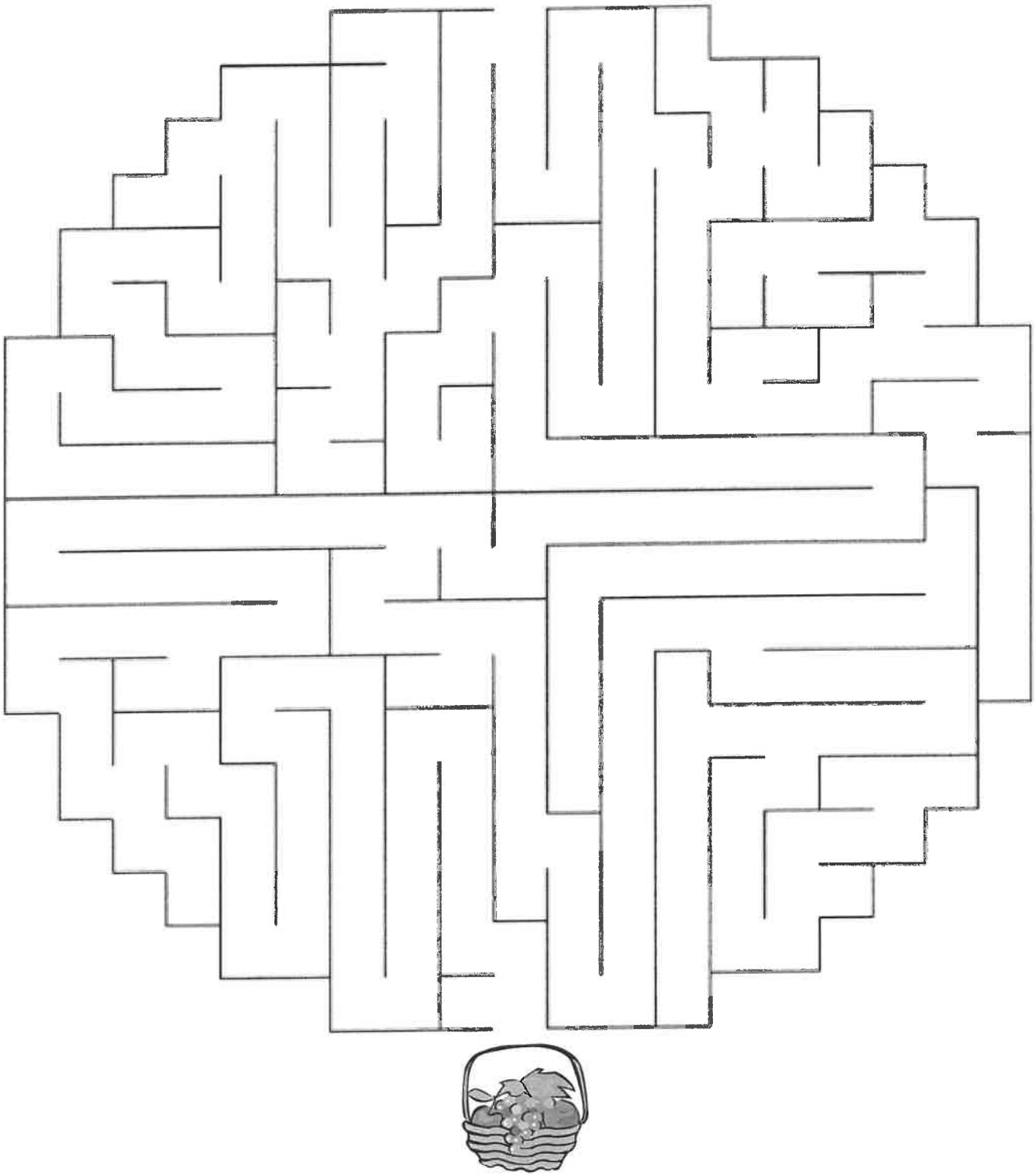
Things you need:

- Disposable paper tablecloth
- Magazines with pictures of food
- Brown construction paper, cut in strips
- Small black pompoms
- Markers
- Paper plates
- Shoe box
- Scissors
- Glue

What to do:

1. Weave brown construction paper and cover the shoe box to make a picnic basket.
2. Cut out pictures of food and glue to the paper plates.
3. Lay the tablecloth on the floor or across a table.
4. Glue the paper plates of food to the tablecloth.
5. Make ants by gluing 3 pompoms in a row to the tablecloth. Use markers to give each ant 6 legs. Be sure to put ants all around.

Activity 5 –Help the Ants Find Their Lunch



Activity 6 – Talk to the Bees

Have you ever heard people say that someone is as busy as a bee? This means that the person is working a lot. You could probably guess how this saying got started if you have ever watched a bee fly from flower to flower without stopping to rest. Bees travel from one flower to another to collect nectar. The bees collect the nectar and use it to make honey. Each time the bee lands on a flower to drink the nectar, the bee also gets the pollen from the flower on its body. A little bit of the pollen falls off onto each flower as the bee flies from plant to plant. Plants need the pollen from other plants to help them make new plants. Sometimes a bee will find a lot of great flowers to gather nectar from. The bee will go back to the hive and tell the other bees where to find the flowers by doing a **waggle dance**. During the waggle dance the bee wiggles its abdomen back and forth very quickly. The bee dances back and forth to let the other bees know which way to go and how far to fly to find the flowers. Do you think you could figure out what a bee is saying by watching his waggle dance? Find out by doing the activity below.

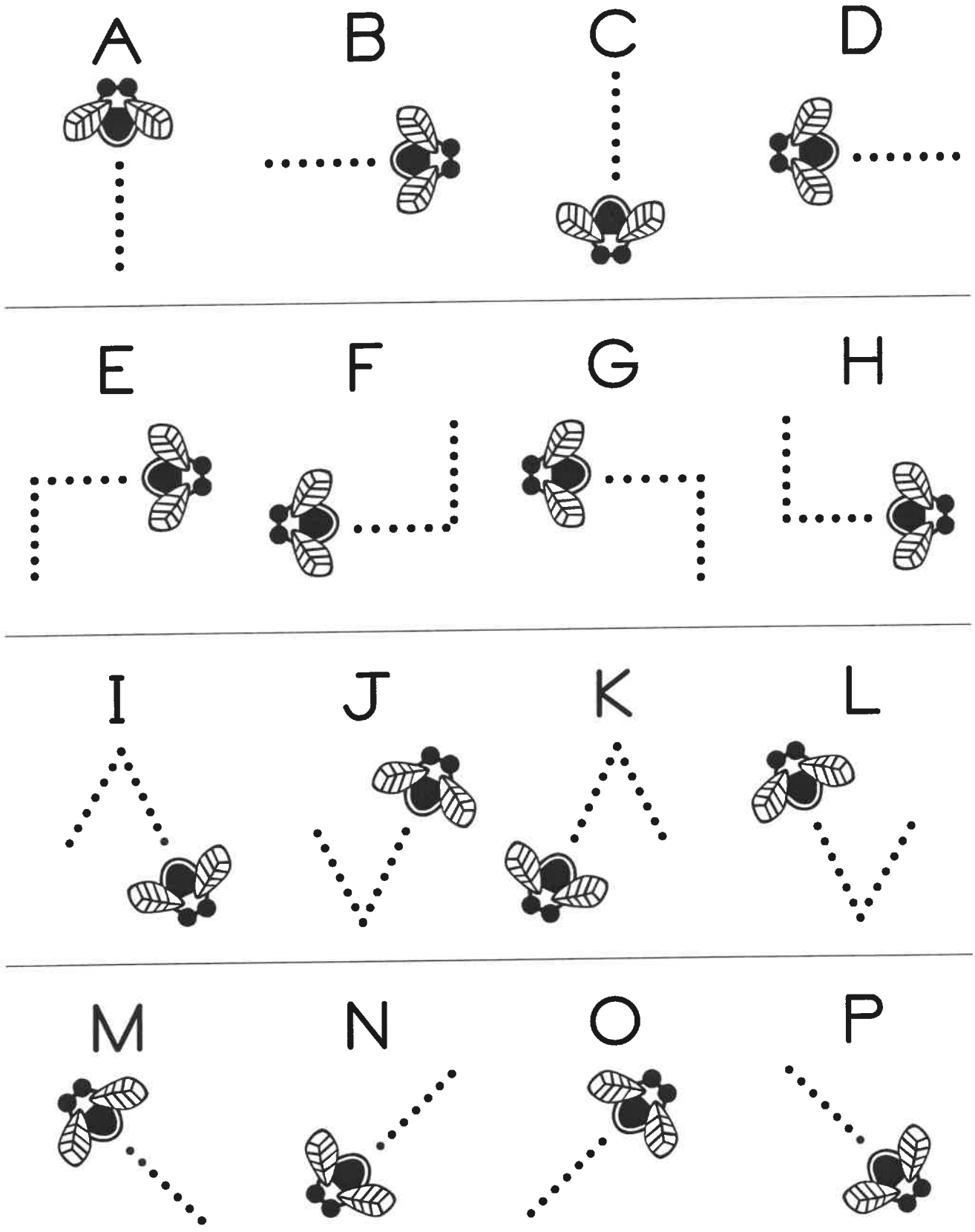
What you need:

- Bee Codes Activity Page
- More Bee Codes Activity Page
- Message From a Bee Activity Page
- Pencil

What to do:

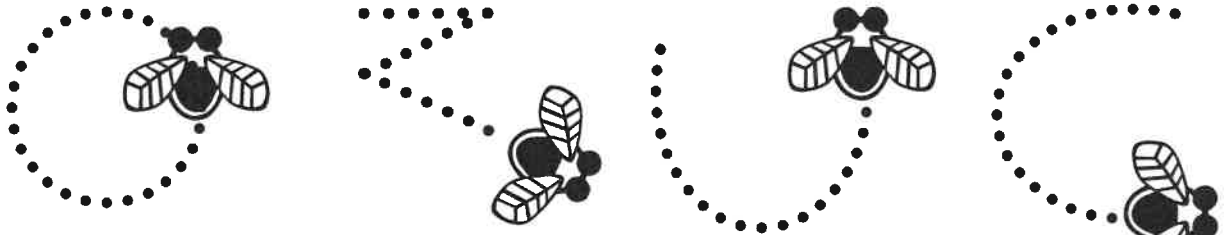
1. Match and copy the letters from the **Bee Codes Activity Page** to the **Message From a Bee Activity Page.**
2. Match and copy the letters from the **More Bee Codes Activity Page** to the **Message From a Bee Activity Page.**
3. Read the message from the bee.

Bee Codes Activity Page

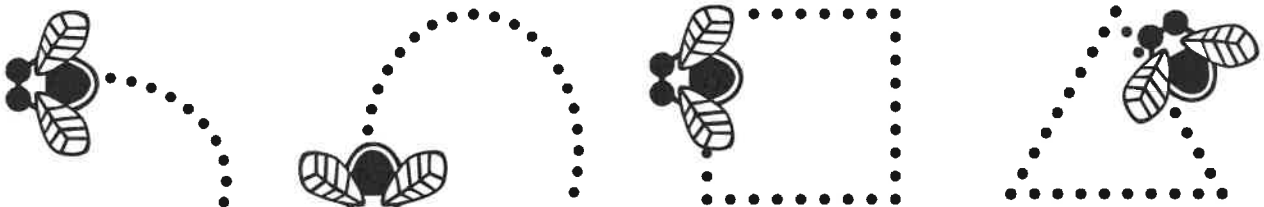


More Bee Codes Activity Page

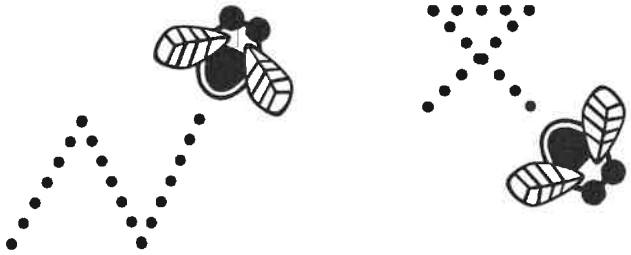
Q R S T

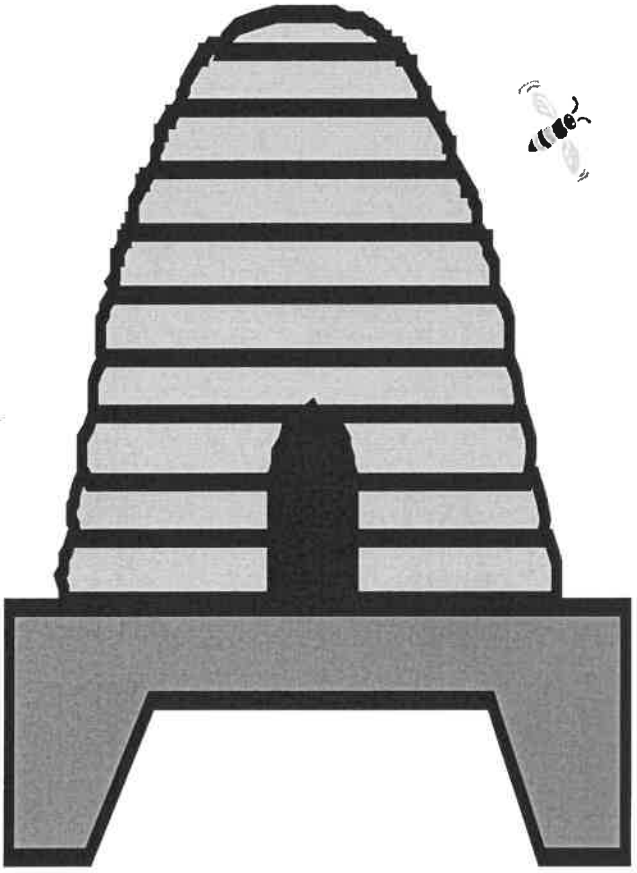


U V W X

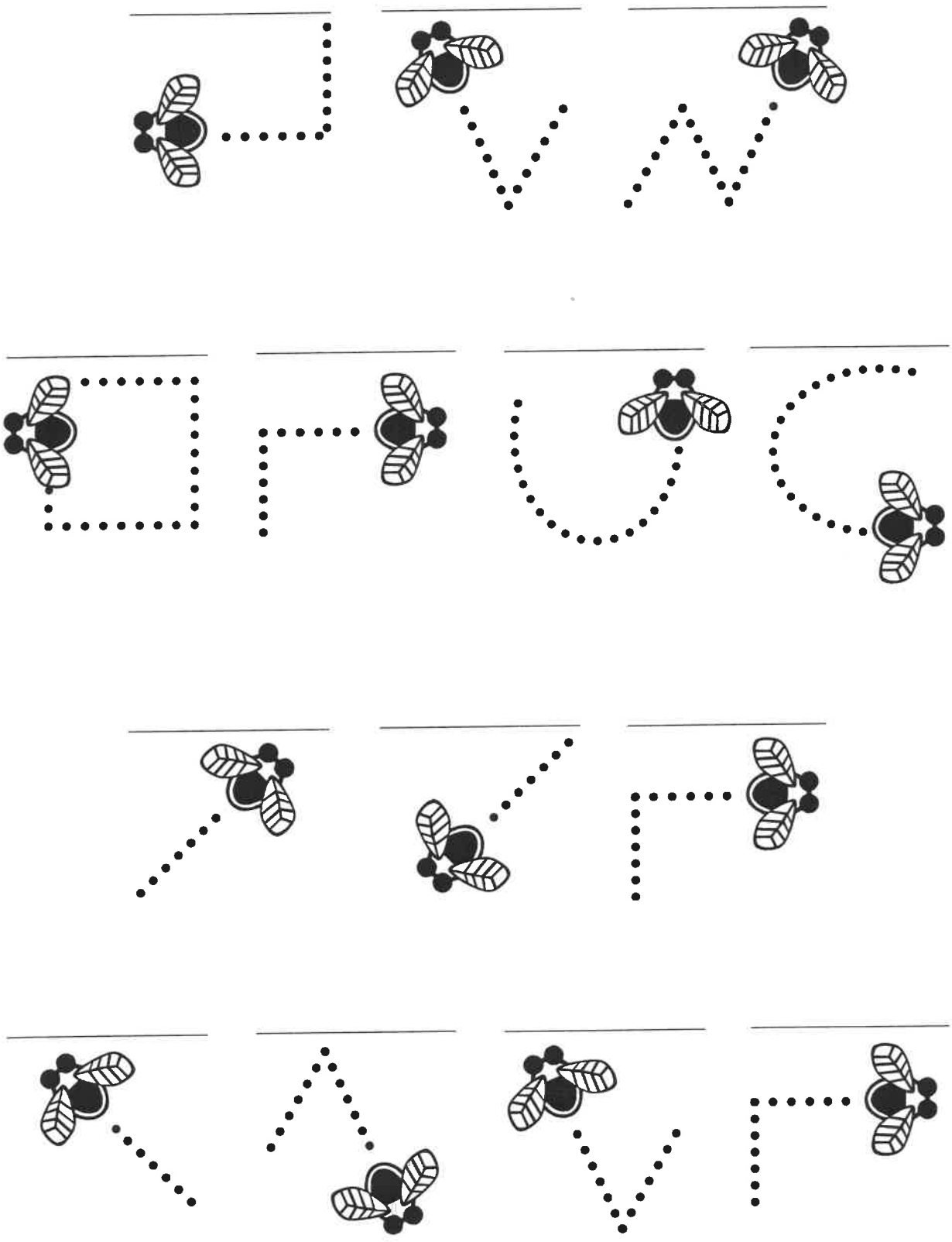


Y Z





Message From a Bee Activity Page



Activity 7 – To Bee or Not to Bee Funny

Bees work very hard gathering nectar and taking care of the business of keeping the hive running smoothly. Working this hard does not leave any time for anything else. But people have time for things other than work, so here is an activity that is just for fun. See if you can figure out what is funny about the pictures on the next page.

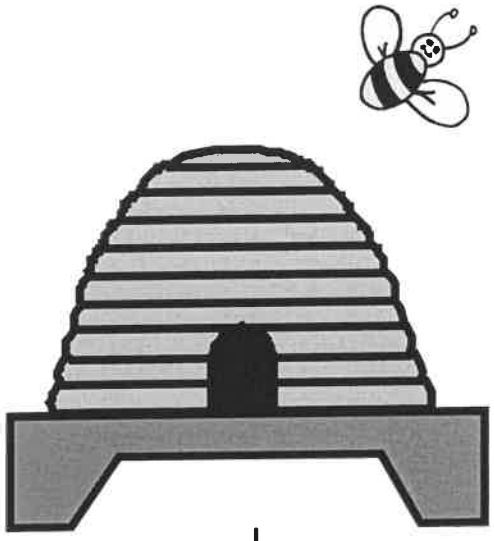
Things you need:

- **Bee Careful!** page
- Scissors
- Stapler

What you do:

1. Cut along dotted lines.
2. Arrange pages in order like a book.
3. Staple pages along left side to make a book.
4. Practice reading the book with the group. Ask children questions to help clarify the joke. Ask the children if they think bees really play jokes on each other. Encourage children to read their book to others.

BEE Careful!



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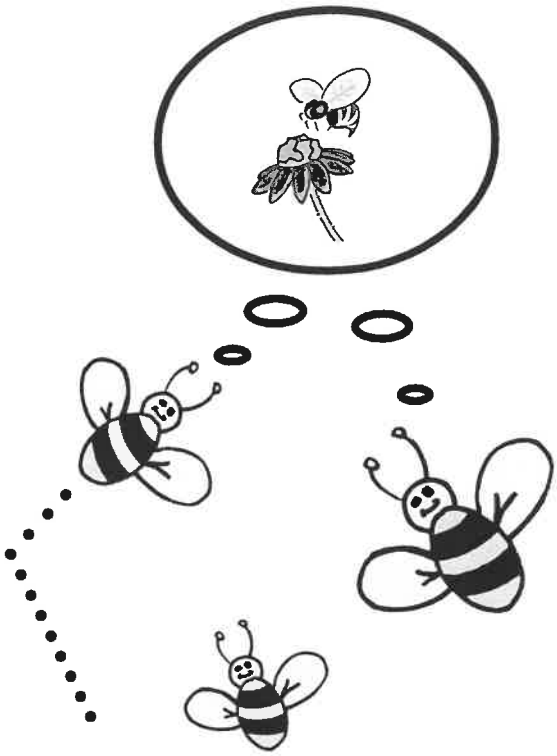
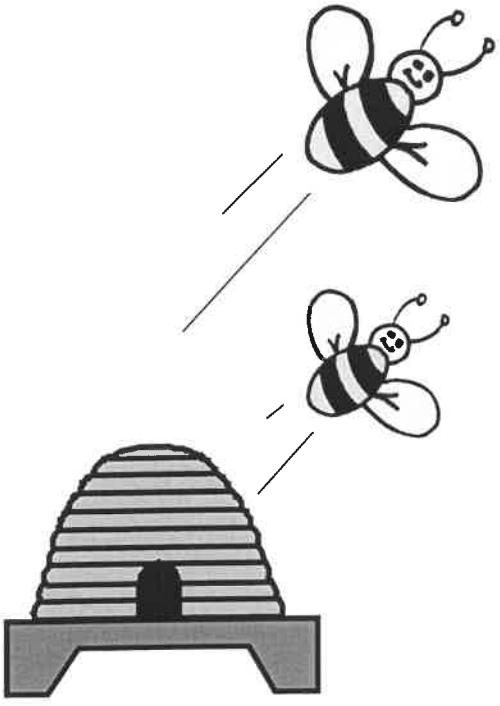


2



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4

Activity 8 – Bugs That Live Alone

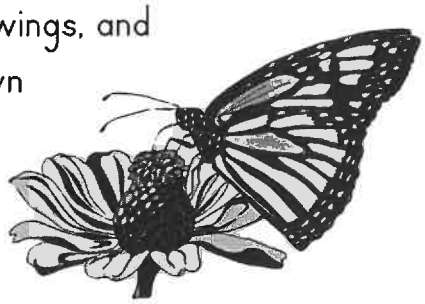
Many kinds of bugs live most of their lives by themselves. Butterflies and spiders are examples of bugs that live alone. Butterflies take shelter under leaves and in bushes to protect themselves from the wind and rain. Butterflies flit all around and don't really have a place they call home. Butterflies start their lives out as eggs. When the eggs hatch a caterpillar comes out. The caterpillar eats and eats until it gets big. Then the caterpillar makes a **chrysalis**, (KRIS a lis) a sort of cocoon or pouch, around itself where it stays until it becomes a butterfly. The butterfly's wings are wet when it first comes out of the chrysalis so the butterfly has to dry its wings before it can fly away.

What you need:

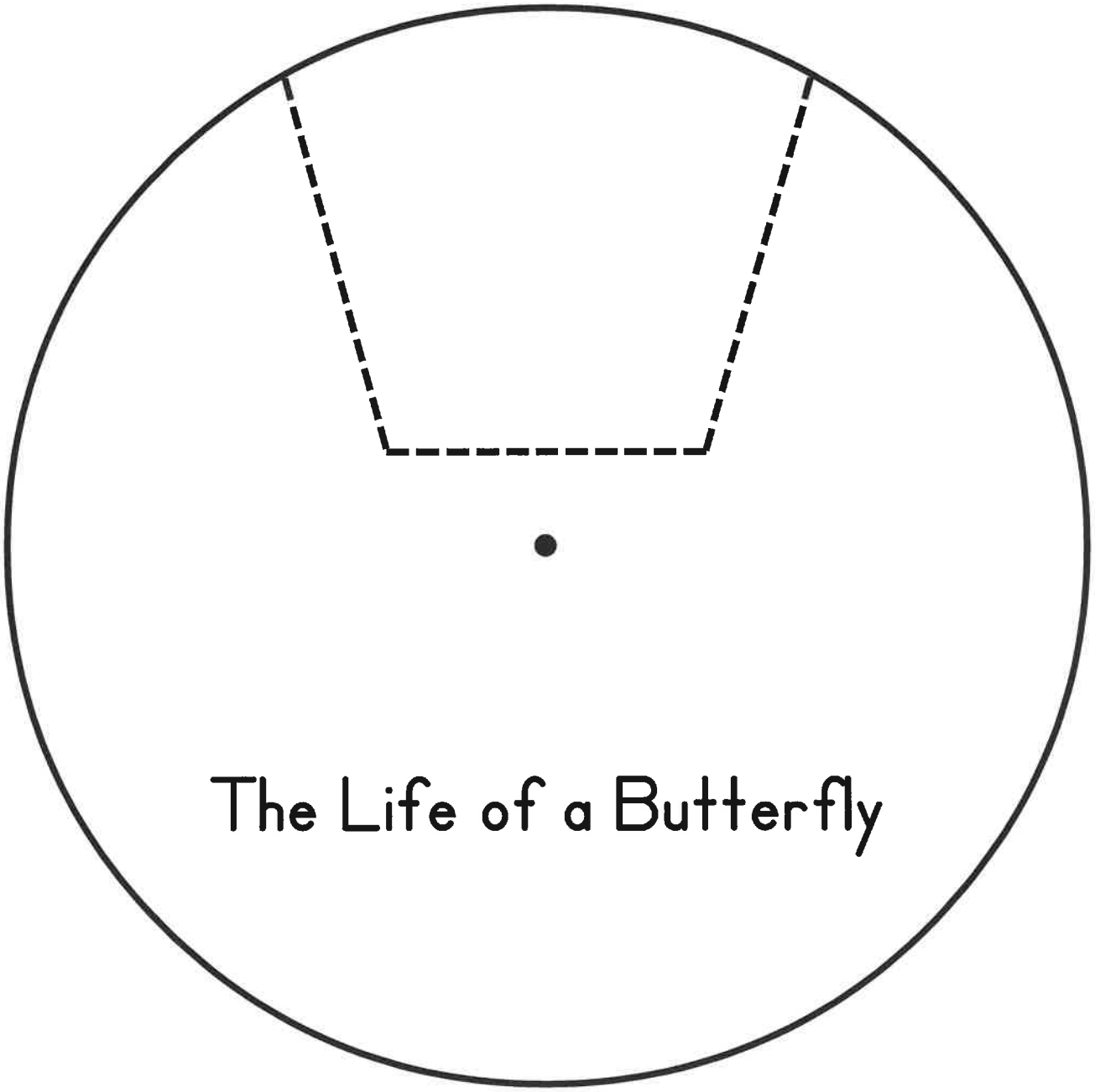
- **The Life of a Butterfly Activity Page**
- Scissors
- **The Life of a Butterfly Activity Page 2**
- Brass, pronged fastener

What to do:

1. Cut out the circle on the **The Life of a Butterfly Activity Page**. Lay it aside.
2. Cut out the circle on the **The Life of a Butterfly Activity Page 2**. Be sure to cut along the dotted lines and remove that section of the circle to make a window.
3. Place the circle from **The Life of a Butterfly Activity Page 2** on top of the circle from **The Life of a Butterfly Activity Page** and punch the pronged fastener through the center of both circles. Be sure to fold out the prongs on the fastener to make sure the circles stay in place.
4. You now can read **The Life of a Butterfly** starting the story with the window over the butterfly eggs. Next move to the caterpillar, then the chrysalis, then the butterfly with the damp wings, and finish the story with the picture of the full-grown butterfly showing through the window.



The Life of a Butterfly Activity Page


The Life of a Butterfly

Activity 9 – Spiders Weave Webs

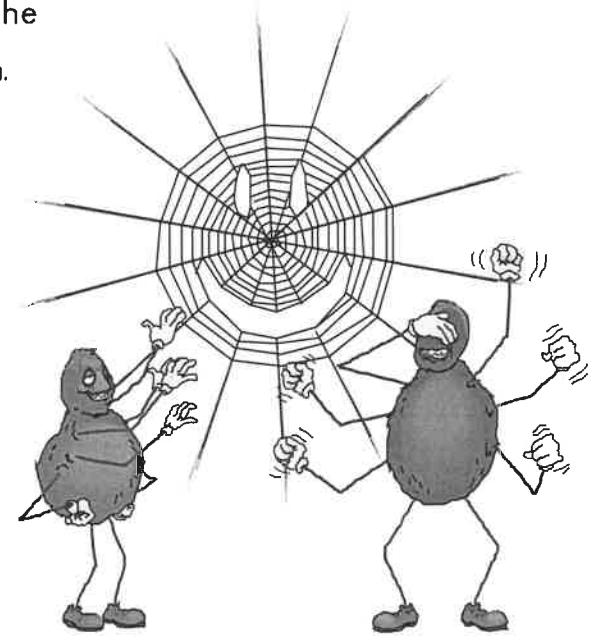
Spiders spend most of their lives alone and do not need other spiders to help them build a place to live. The bodies of most spiders make a silk thread that they weave into a web. The threads that make up the web are very strong even though the threads are very thin. The threads **vibrate**, or move back and forth very quickly, when something touches them. The spider can feel the movement and then knows that something is in the web. Do you think you would be able to tell if something had landed in your web? Try this activity and see.

Things you need:

- Yarn
- Scissors

What you do:

1. Cut a nine-foot piece of yarn for each child.
2. Tie all the pieces of yarn together at one end.
3. One child is chosen to be the spider. All the remaining children are bugs and sit in a semi-circle around the "spider."
4. The "spider" holds the ends of the yarn that are tied. Be sure that the "spider's" fingers are positioned so that he or she can feel the movement of the yarn. Each "bug" takes one of the loose ends of yarn and pulls the yarn so it is stretched fairly tight.
5. The "spider" is blindfolded and the "bugs" take turns plucking their yarn. The "spider" then has to try to guess which thread of the web (string of yarn) has been disturbed by a "bug."



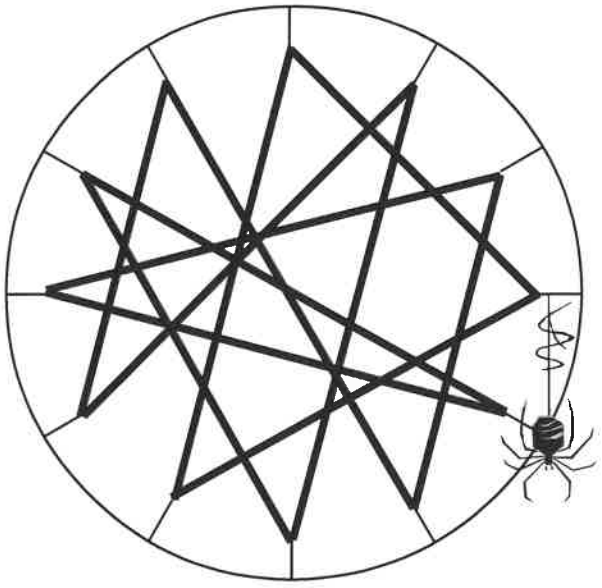
Activity 10 – Weave Your Own Web

Things you need:

- Sturdy 8" paper plate
- Scotch tape
- Yarn of a different color than the paper plate
- Scissors
- Empty toilet paper tube

What you do:

1. Make cuts 1" long every 2" around the outside edge of the paper plate. Lay the plate to the side.
2. Tape one end of the yarn to the middle of the empty toilet paper tube. Wrap the yarn around the center of the tube about 30 times and cut the yarn.
3. Tape the loose end of the yarn to the back of the paper plate in the center.
4. Start wrapping the yarn around the paper plate. Slide the yarn in the cuts around the edge (see picture below.)
5. Continue wrapping the yarn around the paper plate until all the yarn is used. Untape the end of the yarn from the toilet paper tube and tape the yarn to the back of the paper plate. Be sure to make a spider to go in your web.



Activity 11 – Feed the Spider Game

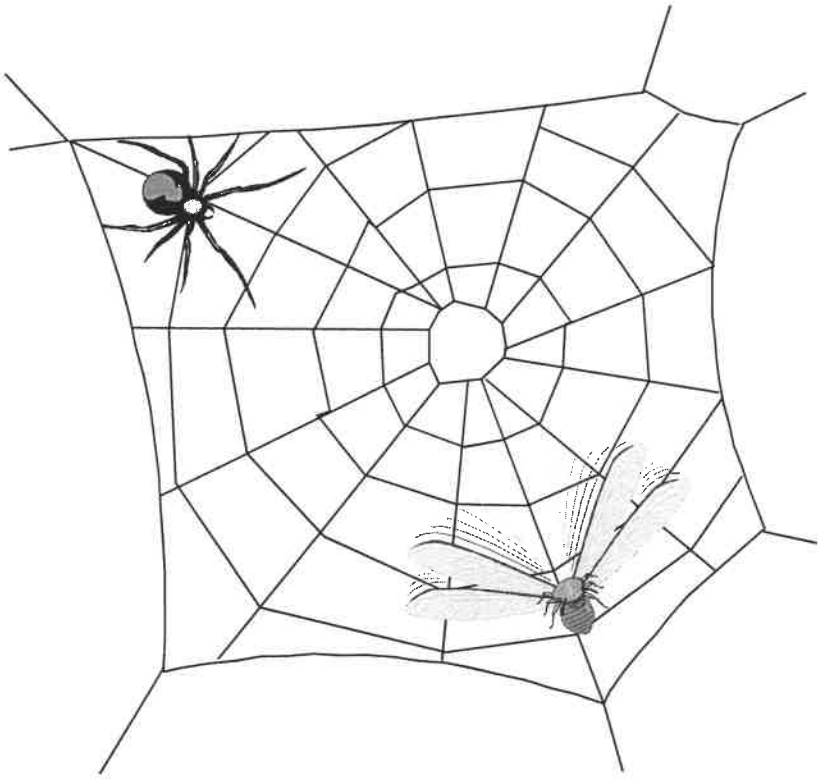
Spiders use their webs to catch bugs for food. Most of the threads in the web are very sticky. Once the bug lands on these sticky threads the bug usually is trapped and cannot get away. The spider does not even have to leave the web. How many bugs can your spider web catch? Try to activity below to find out.

Things you need:

- Several large buttons per child
- Several paper plate webs from Activity 10

What you do:

1. Place the children in a circle and put the paper plate webs on the floor inside the circle at varying distances from the children.
2. Have children estimate which web they think will collect the most button bugs.
3. The children then toss their buttons into the webs on the floor.
4. Have fun counting the number of button bugs each web collected to see which spider collected the most bugs for supper.



What to Exhibit

This is a list of project activities that can be shown at the 4-H fair or other places. Pick a project activity you would like to try. You do not have to make them in any order. If you have any questions, please call the Extension Office in your county. There are people there who can help you.

- Design and make your own bug using materials around your house.
- Make a poster or book showing the life cycle of a bug.
- Make a poster showing bugs that live in groups on one half and bugs that live alone on the other half.
- Make a project activity as a group and take it to the fair to show the kinds of things your group has been doing.
- Make a scrapbook of pictures showing your group having fun while making the project activities in this manual.
- Make a group mural showing a variety of bugs and where they live.

For information on when to take your project to the fair and where it needs to go, please contact your Extension Office.

More Places to Look

Ant Cities (HarperTrophy, 1988) by Arthur Dorros is a book about the interesting world of ants. Instructions for building an ant farm are included.

From Caterpillar to Butterfly (HarperTrophy, 1996) by Deborah Heiligman is the story of a caterpillar becoming a butterfly while in a jar in a classroom.

How Do Bees Make Honey? (E.D.C. Publications, 1995) by Anna Claybourne explains how bees make honey.

Spectacular Spiders (Millbrook Pr Trade, 1999) by Linda Glaser is the story of a yellow and black garden spider as it goes about its daily activities.

The Honeybee and the Robber: A Moving Picture Pop-Up Book (Philomel Books, 1995) by Eric Carle is the story of a honeybee that must try to save the hive's honey from a robber bear. Book includes lots of facts about bees in the back.

The Roly-Poly Spider (Scholastic, 1994) by Jill Sardegna is a story of a lonely spider and her eating habits.

Thinking About Ants (Mondo Pub. 1997) by Barbara Brenner answers many questions children may have about ants.

Answer to ***Build Like the Bees Do Activity Page*** *(Page 10)*

A FLOWER

Answer to ***Message From a Bee Activity Page*** *(Page 16)*

Fly west one mile