

“Go Batty!” Discovering Bats on Long Island Patch Program

Look up in the sky.
It’s a bird, it’s a plane . . .
no, it’s a **BAT!**

BATS are one of the most misunderstood creatures in the world. Find out more about this interesting and unique animal by completing the steps below with your troop.



Daisy

1. Bat Introduction

Materials Needed:

- The book *Stellaluna* by Janell Cannon or *Bats* by Gail Gibbons (Included in the GSNC Kit)
- Bat puppet, optional (Included in the GSNC kit)

Start the Activity:

- Read a book to the girls to teach them about basic bat facts. If possible, use a bat plush toy or puppet as a prop to narrate the book for fun. Discuss the information learned with the girls.

2. BATS MYTHS

Materials Needed:

- Internet access

Start the Activity:

- Show the girls a video that busts the myths about bats. The video should teach them about echolocation and what bats eat. Here is a great video: <https://www.youtube.com/watch?v=ILxKHBzVOjw>. Discuss the information learned with them.

3. BAT MEASUREMENT/ANATOMY

Materials Needed:

- *Bat Anatomy Game Pieces* (Included in the GSNC Kit)
- *Bat Anatomy Answer Sheets*
- *Bat Measurement Sheet*
- Several paper clips, rubber bands, crayons, pennies, and a few rulers for the girls to share (Included in the GSNC Kit)

Start the Activity:

- Divide the girls into groups of 2-4. Hand out the Bat Anatomy Game Pieces to each group. Ask them to make their best guesses to put the body parts on the bat. Use the Bat Anatomy Answer Sheet to review the correct answers with each group.
- Using the Bat Measurement Sheet, have the girls measure the bat's wingspan with everyday objects listed on the Bat Measurement Sheet.

4. BAT MASK-AND-TELL

Materials Needed:

- Choose one *Bat mask* and cut out for each girl (Included in the GSNC Kit)
- Crayon or markers for girls to share
- Popsicle stick for each girl
- Glue for the girls to share

Start the Activity:

- Have each girl decorate one of the four bat masks. Then have them glue a popsicle stick to the bottom of the mask to use as a handle. Then have each of them tell the other girls in their troop their favorite thing about bats that they've learned.



Brownie

1. BAT INTRODUCTION

Materials Needed:

- *Bats* by Gail Gibbons (Included in the GSNC Kit)

Start the Activity:

- Read a book to the girls that teaches them about basic bat facts. Discuss the information learned with the girls.

2. TYPES OF BATS

Materials Needed:

- *Types of Bats Matching Game Pieces* (Included in the GSNC Kit)
- *Types of Bats Matching Game Answer Sheet*

Start the Activity:

- Divide girls into groups of 2-4. Hand out the Bat Matching Game pieces to each group. Ask them to make their best guess to match the six sentences to the bat images. Then use the answer sheet to review the correct answers with each group.

3. BAT LIFECYCLE

Materials Needed:

- *Bat Life Cycle cards*
- *Bat Life Cycle Answer Sheet*

Start the Activity:

- Divide girls into groups of 2-4. Hand out the Bat Lifecycle cards to each group. Read each card out loud with the girls to review the information. Then give them time to put them in order. Review the correct order with the girls.

4. BAT MEASUREMENT/ANATOMY

Materials Needed:

- *Bat Anatomy Game Pieces* (Included in the GSNC Kit)
- *Bat Anatomy Answer Sheets*
- *Bat Measurement Sheet*
- Several paper clips, rubber bands, crayons, pennies, and a few rulers for the girls to share (Included in the GSNC Kit)

Start the Activity:

- Divide the girls into groups of 2-4. Hand out the Bat Anatomy Game Pieces to each group. Ask them to make their best guesses to put the body parts on the bat. Use the Bat Anatomy Answer Sheet to review the correct answers with each group.
- Using the Bat Measurement Sheet, have the girls measure the bat's wingspan with everyday objects listed on the Bat Measurement Sheet.

5. BAT PRESENTATION

Materials Needed:

- Internet Access
- Poster boards
- Markers/crayons for the girls to share

Start the Activity:

- Have the girls watch a video teaching them about echolocation and anything else they want to learn about bats. Here is a great one: https://www.youtube.com/watch?v=2Mii45v85YY&list=PL_gU-wp9rKHxM7ixxuYJJYLYzdkuj6AV_a.
- Then have the girls either individually or team up to make posters, that show what they learned from the video and share it with others they know. Encourage them to be as creative as possible.

Junior



1. BAT INTRODUCTION

Materials Needed:

- Bats: Fact or Fiction game (Included in the GSNC Kit)

Start the Activity:

- Divide the girls up into 2 groups. Read the instructions of the game out loud to them. Read one card and have each group answer whether or not they think it's true or false. Have them answer and then reveal the answer. After getting through the cards, have each girl share which fact was the most surprising to learn.

2. ECHOLOCATION

Materials Needed:

- *Echolocation Game*
- One blindfold for the girls to share
- Clear open space

Start the Activity:

- Explain to the girls that bats can see just as well as any other mammal. However they also use something called echolocation to navigate. Basically, bats project beep-like sounds, then collect and analyze the echoes that come bouncing back. Using sound alone, bats can see everything but color and detect obstacles as fine as human hair.
- Follow the instructions to play the Echolocation Game to teach the girls that bats have good vision.

3. BECOMING BAT-OLOGISTS

Materials Needed:

- Poster boards for each group of 2-4 girls
- Pens/Markers for girls to share
- Internet/Books

Preparation:

- Tell the girls that they will now learn about different types of bats and what they eat. Break the girls up into groups of 2-4 and tell them to pick any type of bat, and bring in an image of the bat so they know what it looks like. Have the girls go to 1. batcon.org, 2. Resources tab, 3. Media & Education and 4. Species Profile to locate information about bats.
- Tell them to also find out what their bat eats. Have them come to the next meeting with a list of those foods.

Start the Activity:

- Using their lists, have each group create a menu to share their findings with the rest of the girls. Have each group work together to draw pictures of their bats. Below each image they can draw the foods they've selected for each bat.

4. BAT LIFECYCLE

Materials Needed:

- *Bat Life Cycle cards*
- *Bat Life Cycle Answer Sheet*

Start the Activity:

- Divide girls into groups of 2-4. Hand out the Bat Lifecycle cards to each group. Hand out the Bat Life Cycle cards to each group. Read each card out loud with the girls to review the information. Then give them time to put them in order. Review the correct order with the girls.

5. BAT ANATOMY

Materials Needed:

- *Bat Anatomy Game Pieces* (Included in the GSNC Kit)
- *Bat Anatomy Answer Sheets*

Start the Activity:

- Divide the girls into groups of 2-4. Hand out the Bat Anatomy Game Pieces to each group. Ask them to make their best guesses to put the body parts on the bat. Use the Bat Anatomy Answer Sheet to review the correct answers with each group.

6. BAT PERFORMANCE

Materials Needed:

- Pen for girls to share
- Paper for the girls to share

Start the Activity:

- Have the girls in groups 2-4 create a song or poem about any topic they've learned so far about bats. For example, a song about what bats eat, their anatomy, etc. Tell them they can add in anything else they choose to make their song fun. When the girls are finished, have them share their song or poem with the rest of the girls.



Cadette, Senior and Ambassador

1. BAT INTRODUCTION

Materials Needed:

- Bats: Fact or Fiction game (Included in the GSNC Kit)

Start the Activity:

- Divide the girls up into 2 groups. Read the instructions of the game out loud to them. Read one card and have each group answer whether or not they think it's true or false. Have them answer and then reveal the answer. After getting through the cards, have each girl share which fact was the most surprising to learn.

2. BUSTING BAT MYTHS

Materials Needed:

- Bats: Fact or Fiction game (Included in the GSNC Kit)
- Pens/Markers for girls to share
- Craft materials for posters
- Poster for each group of 2-4 girls

Preparation:

- Invite younger Girl Scouts to your troop meeting, or attend a younger troops meeting

Start the Activity:

- Have each group go back to the Bats: Fact or Fiction game and create a poster with all of the myths they learned about bats. Encourage the girls to make the posters as fun and creative as they want.
- Then have the girls teach younger Girl Scouts about the myths using the posters they created.

3. ECHOLOLOCATION

Materials Needed:

- *Echolocation Game*
- One blindfold for the girls to share
- Clear open space

Start the Activity:

- Explain to the girls that bats can see just as well as any other mammal. However, they also use something called echolocation to navigate. Basically, bats project beep-like sounds, then collect and analyze the echoes that come bouncing back. Using sound alone, bats can see everything but color and detect obstacles as fine as human hair.
- Follow the instructions to play the Echolocation Game to teach the girls that bats have good vision and are not blind.

4. BECOMING BAT-OLOGISTS

Materials Needed:

- Poster boards for each group of 2-4 girls
- Pens/Markers for girls to share
- Internet/Books

Preparation:

- Tell the girls that they will now learn about different types of bats and what they eat. Break the girls up into groups of 2-4 and tell them to pick any type of bat, and bring in an image of the bat so they know what it looks like. If using the internet, have the girls go to 1. batcon.org, 2. Resources tab, 3. Media & Education and 4. Species Profile to locate information about bats.
- Tell them to also find out what their bat eats. Have them come to the next meeting with a list of those foods.

Start the Activity:

- Using their lists, have each group create a menu to share their findings with the rest of the girls. Have each group work together to draw pictures of their bats. Below each image they can draw the foods they've selected for each bat.

5. BAT ANATOMY

Materials Needed:

- *Bat Anatomy Game Pieces* (Included in the GSNC Kit)
- *Bat Anatomy Answer Sheets*

Start the Activity:

- Divide the girls into groups of 2-4. Hand out the Bat Anatomy Game Pieces to each group. Ask them to make their best guesses to put the body parts on the bat. Use the Bat Anatomy Answer Sheet to review the correct answers with each group.

6. BAT PERFORMANCE

Materials Needed:

- Pen for girls to share
- Paper for the girls to share

Start the Activity:

- Have the girls in groups 2-4 create a song or poem about any topic they've learned so far about bats. For example, a song about what bats eat, their anatomy, etc. Tell them they can add in anything else they choose to make their song fun. When the girls are finished, have them share their song or poem with the rest of the girls.

7. BRAVO, BATS

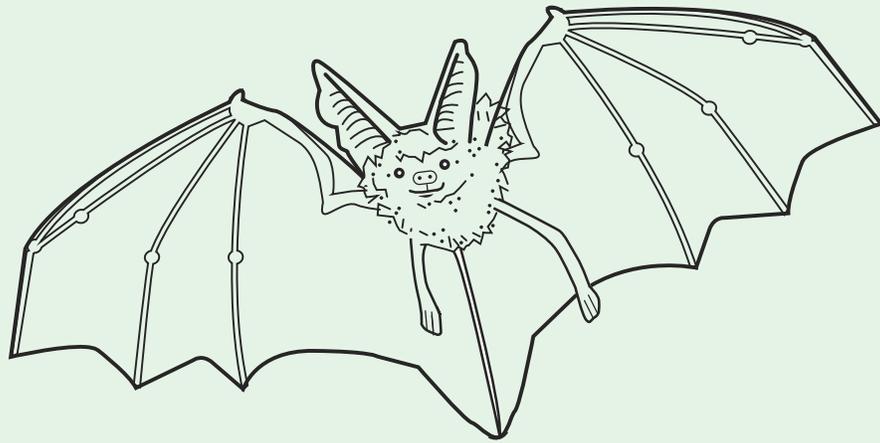
Materials Needed:

- Copy of *Bravo, Bats Fact Sheet* for each girl
- Small notebook for each girl
- Pens/pencils for each girl
- Craft supplies for recipe book
- Internet/books for research



Preparation:

- Tell the girls that they will now learn about different types of foods that wouldn't exist without bats. Read the bats Fact Sheet as a group.
- Help the girls identify the bat-dependent ingredients while reading the fact sheet. Have them each write down what those ingredients are. Then have them go home and research 6 recipes, using the ingredients they wrote down as a reference. Have them bring in a list of those recipes to the next meeting.

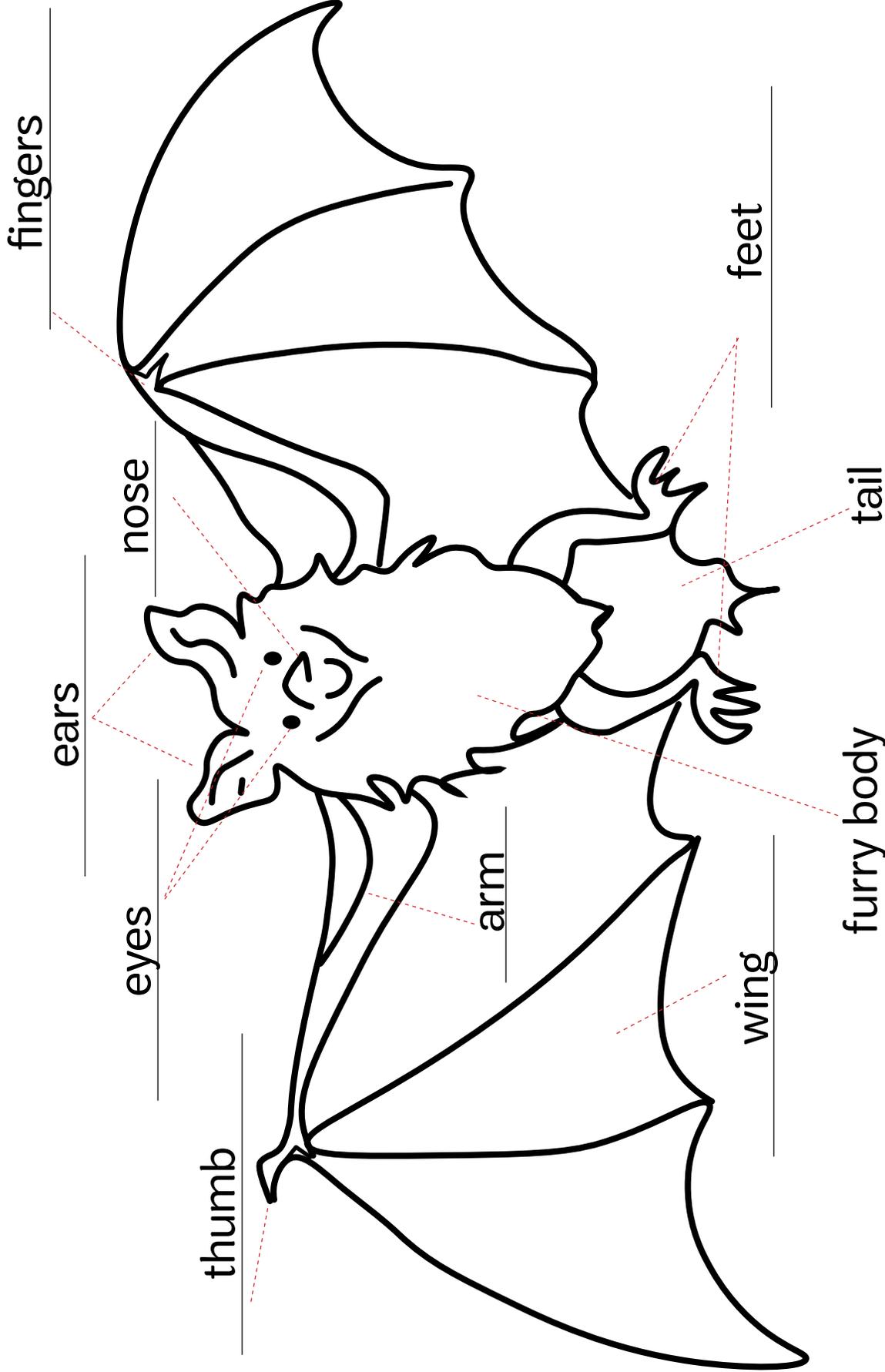




Bat Anatomy

Label the body parts

Answer Key



WORD BANK:

Furry Body	Feet	Nose	Wing	Thumb
Fingers	Tail	Eyes	Arm	Ears



girl scouts
of nassau county

Bat Anatomy

Label the body parts



WORD BANK:

Furry Body

Feet

Nose

Wing

Thumb

Fingers

Tail

Eyes

Arm

Ears

Furry Body
Feet
Nose
Wing
Thumb
Fingers
Tail
Eyes
Arm
Ears



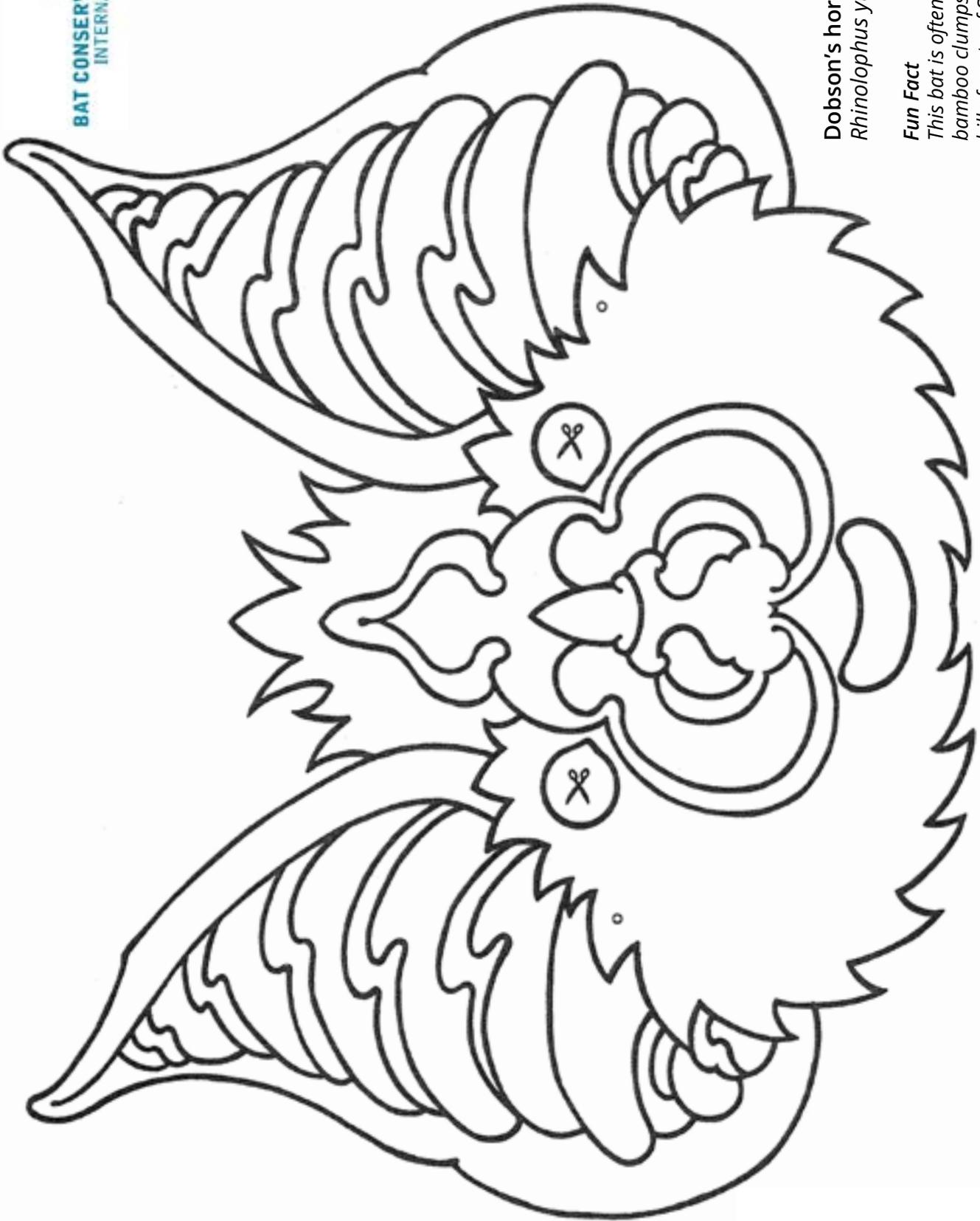
California leaf-nosed bat
Macrotus californicus

Fun Fact

California leaf-nosed bats usually use their sense of sight (rather than echolocation) when they are foraging, and resort to echolocation only in total darkness.



batcon.org
BAT CONSERVATION
INTERNATIONAL



Dobson's horseshoe bat
Rhinolophus yunanensis

Fun Fact

This bat is often found among bamboo clumps in the dense hilly forests of Southeast Asia

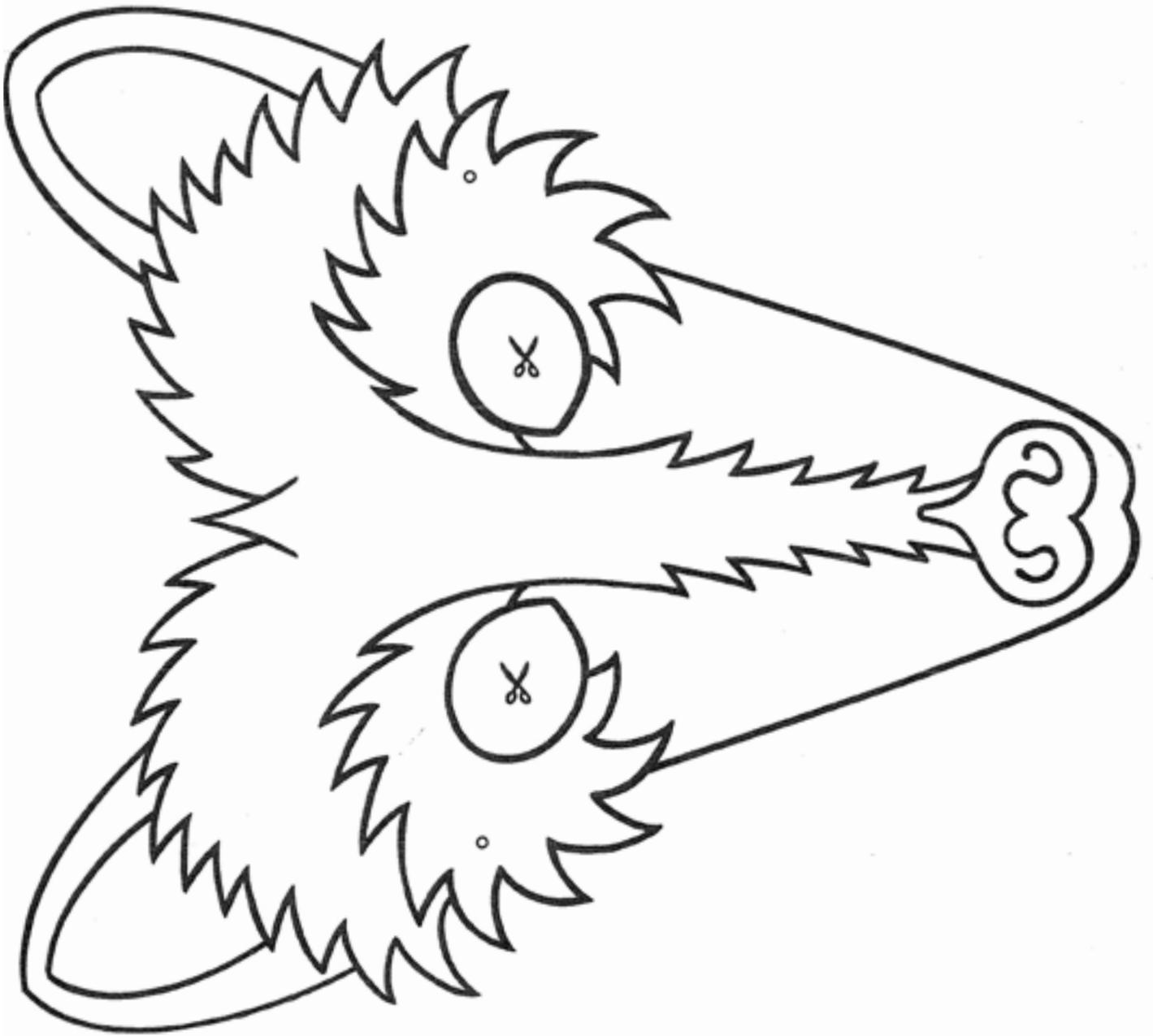
www.batcon.org

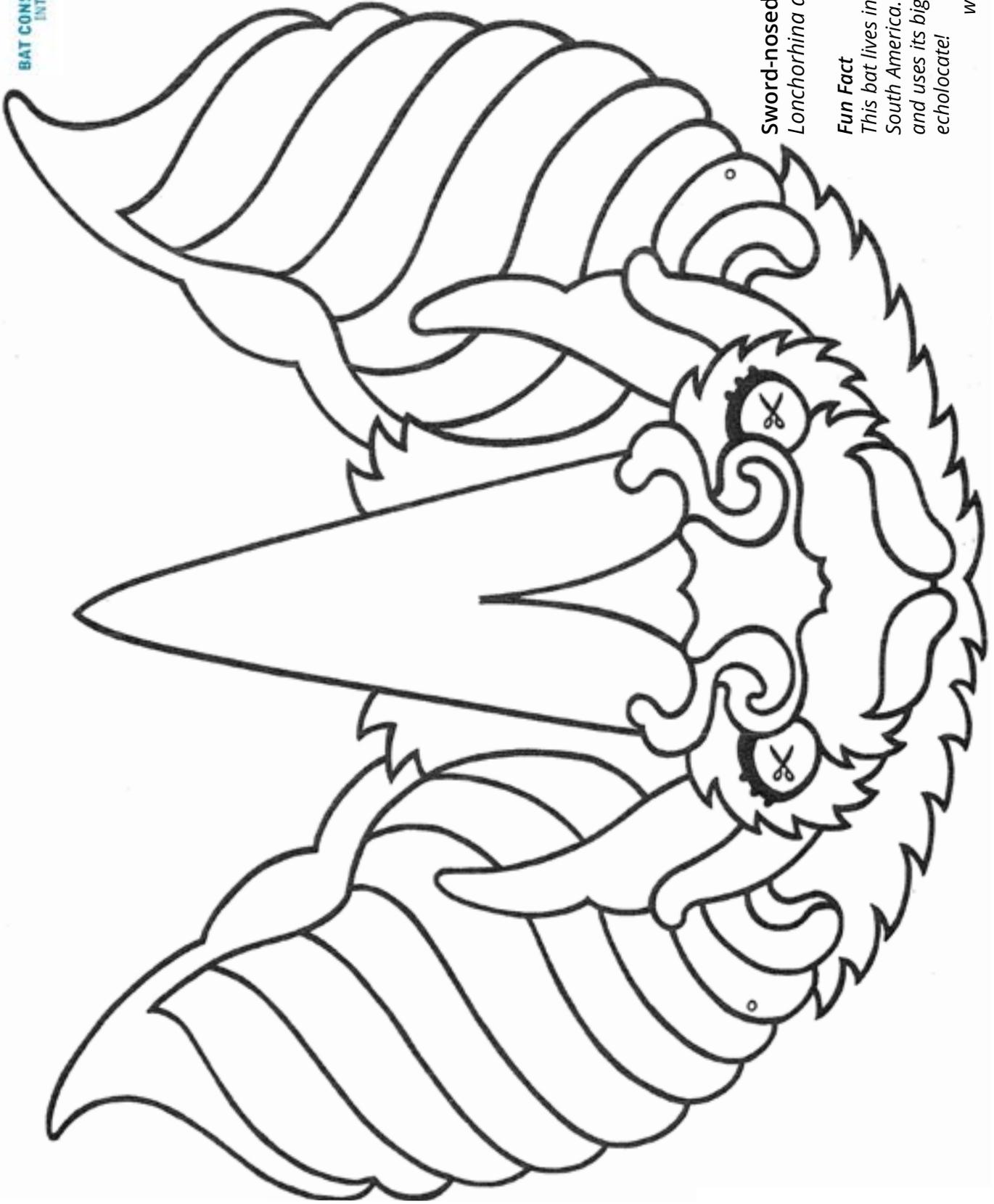
Grey-headed flying-fox
Pteropus poliocephalus

Fun Fact

This megabat is native to Australia and likes to eat fruit. This bat only uses its eyes to find its food - it does not echolocate!

www.batcon.org





Sword-nosed bat
Lonchorhina aurita

Fun Fact

This bat lives in Central, and South America. It eats insects and uses its big ears to help it echolocate!

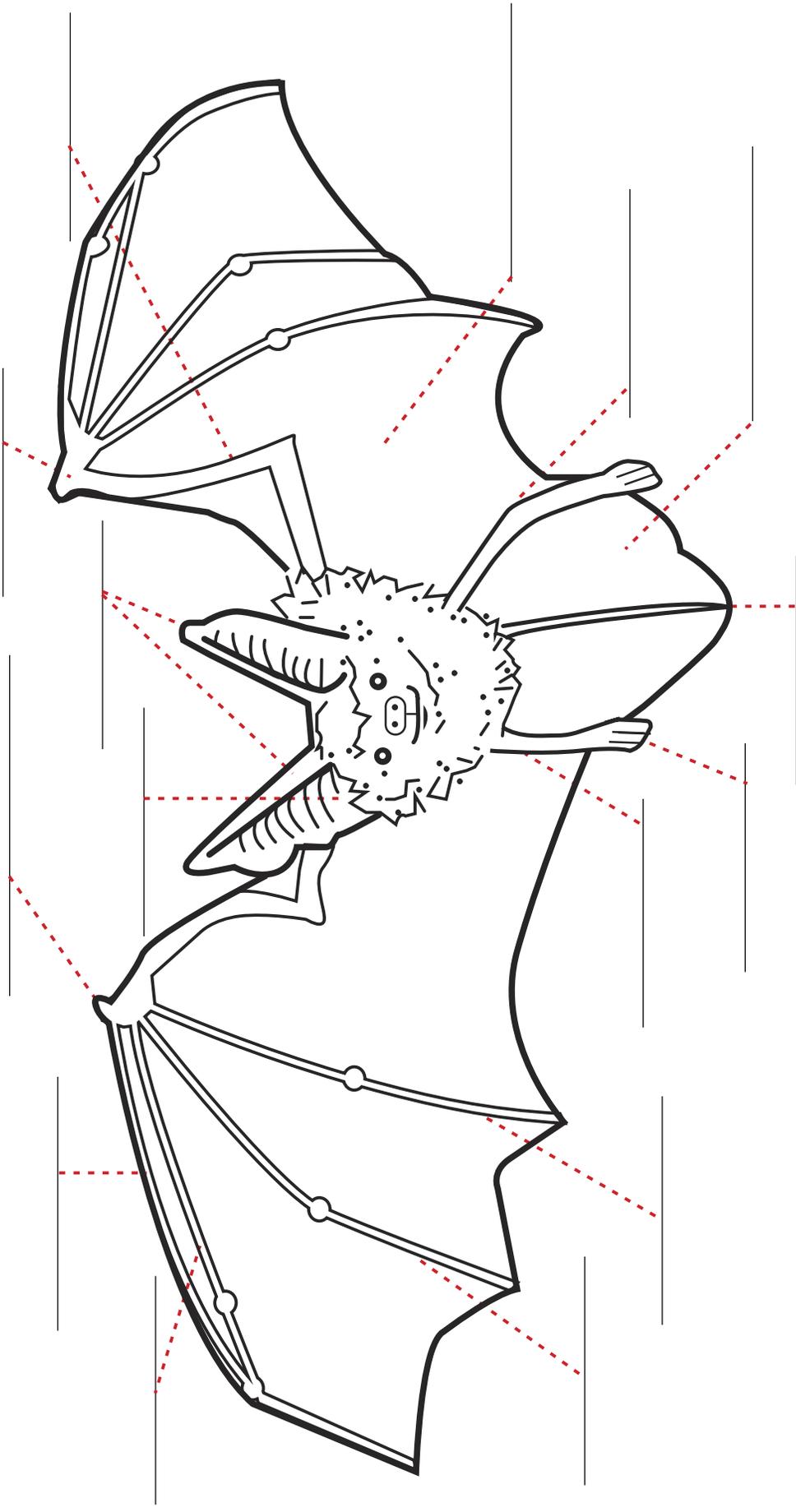
www.batcon.org

Bat Anatomy

Label the body parts.



girl scouts
of nassau county



WORD BANK:

Thumb (first finger)
Second finger
Third finger

Fourth finger
Fifth finger
Wrist

Forearm
Ear
Tragus

Wing membrane
Tail membrane
Tail

Knee
Foot
Leg

Bat Anatomy

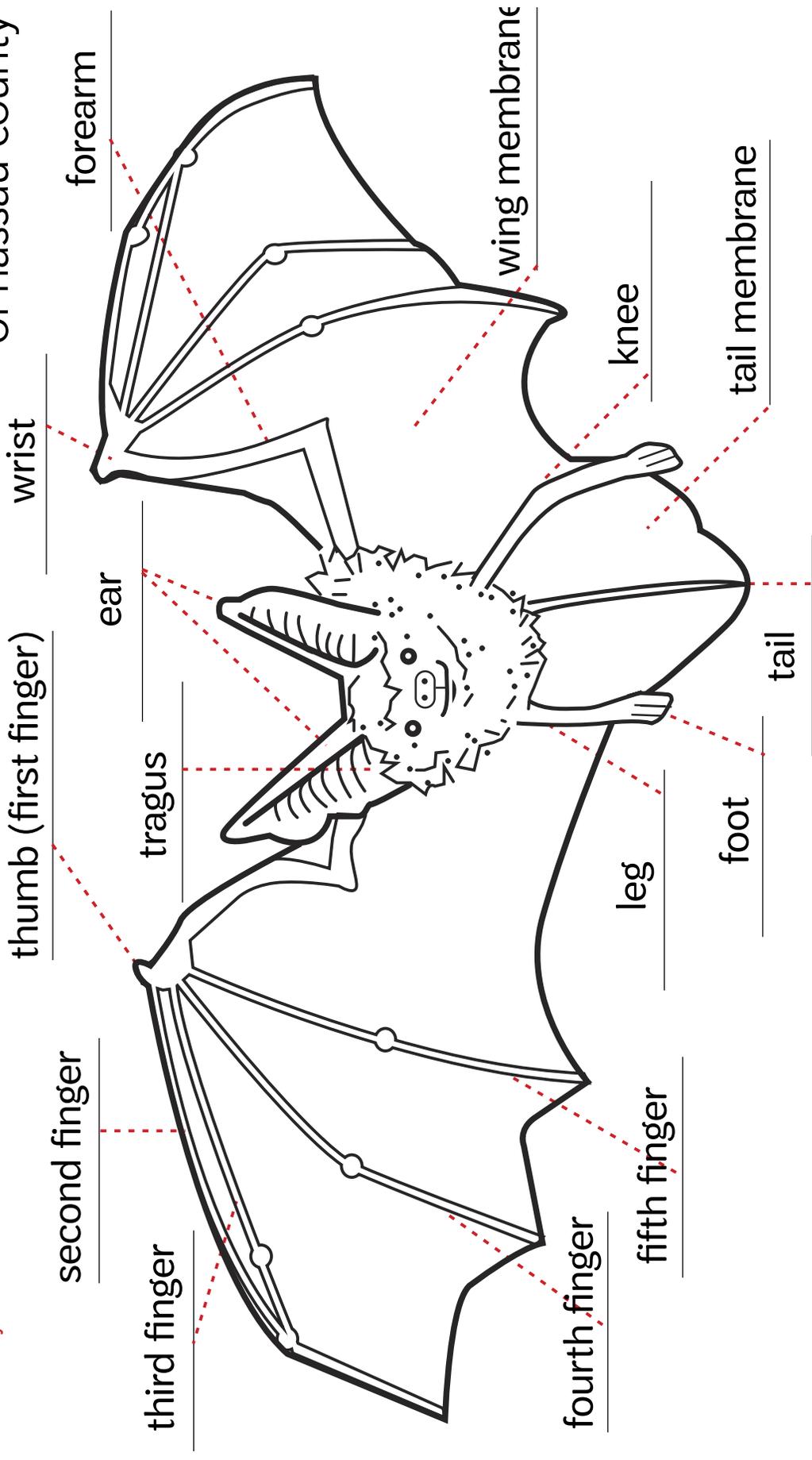
Label the body parts.



girl scouts

of nassau county

Answer key



WORD BANK:

Thumb (first finger)
Second finger
Third finger

Fourth finger
Fifth finger
Wrist

Forearm
Ear
Tragus

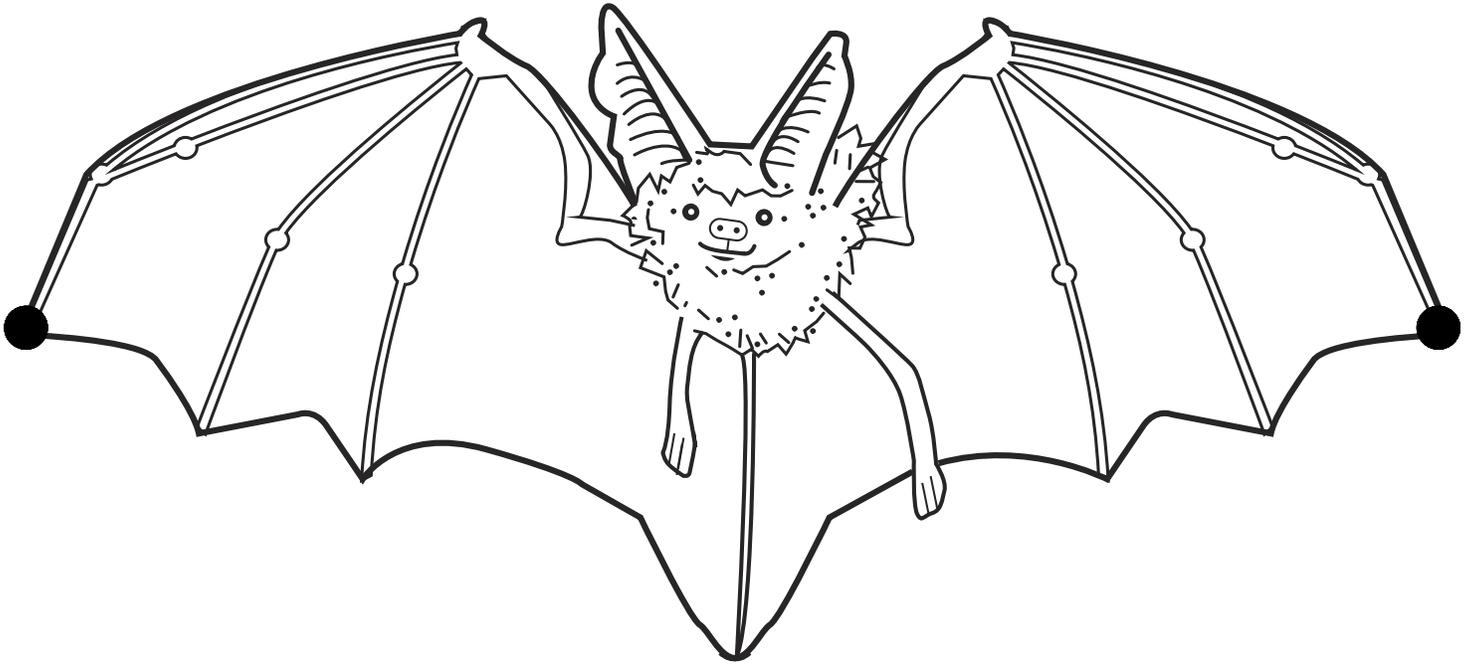
Wing membrane
Tail membrane
Tail

Knee
Foot
Leg

Thumb (first finger)	Tragus	Knee
Second Finger	Ear	Tail Membrane
Third Finger	Wrist	Tail
Fourth Finger	Forearm	Foot
Fifth Finger	Wing Membrane	Leg

BAT MEASUREMENT

A bat's wingspan is from 1 to 60 inches!
Let's measure bats with other things.



My bat is _____ paper clips long.

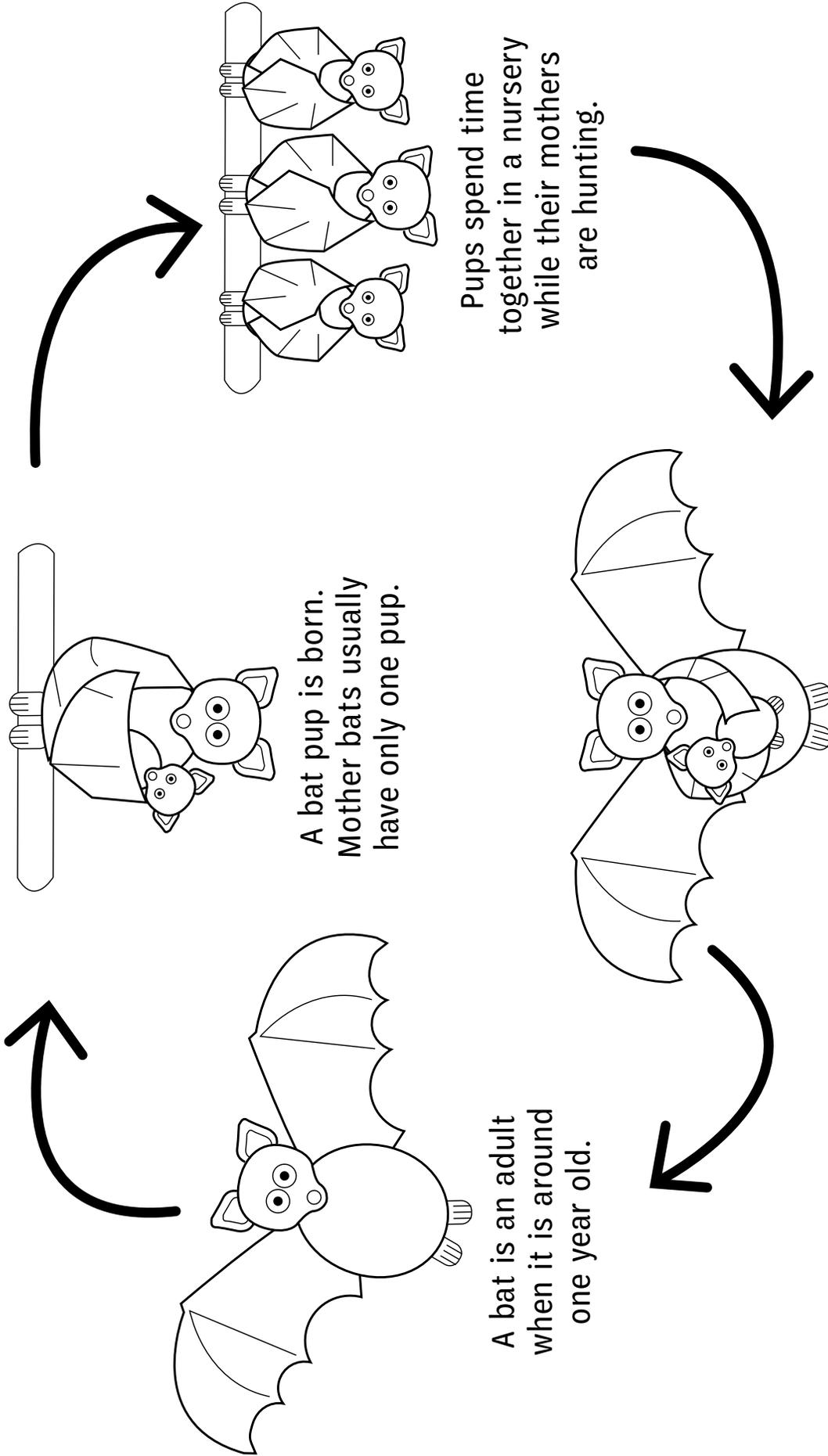
My bat is _____ rubber bands long.

My bat is _____ inches long.

My bat is _____ crayons long.

My bat is _____ pennies long.

Bat Life Cycle



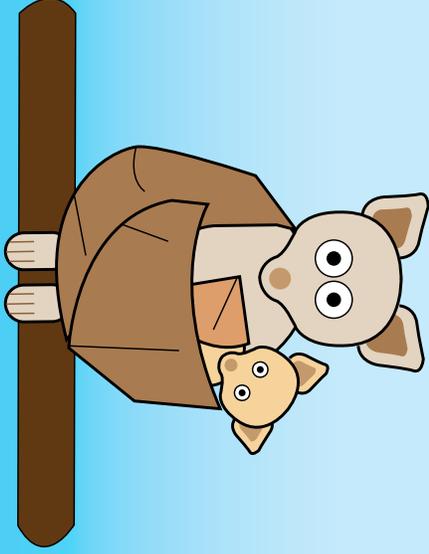
A bat pup is born.
Mother bats usually
have only one pup.

A bat is an adult
when it is around
one year old.

Pups spend time
together in a nursery
while their mothers
are hunting.

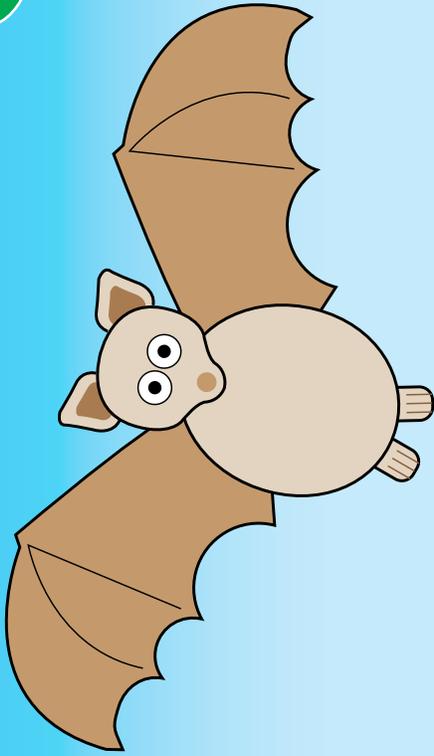
Pups cling to their mothers while she flies
to roost. The pup cannot fly on its own
until it is two to three months old.

BAT LIFE CYCLE



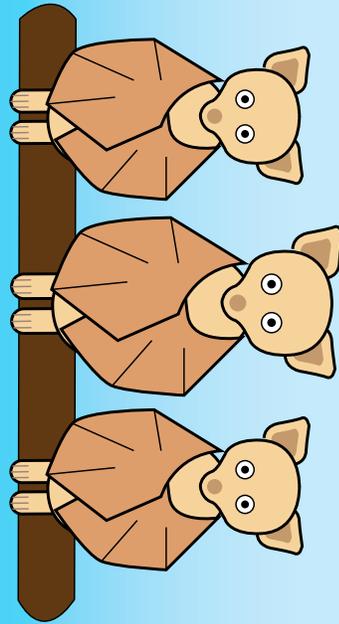
A bat pup is born. Mother bats usually have only one pup.

BAT LIFE CYCLE



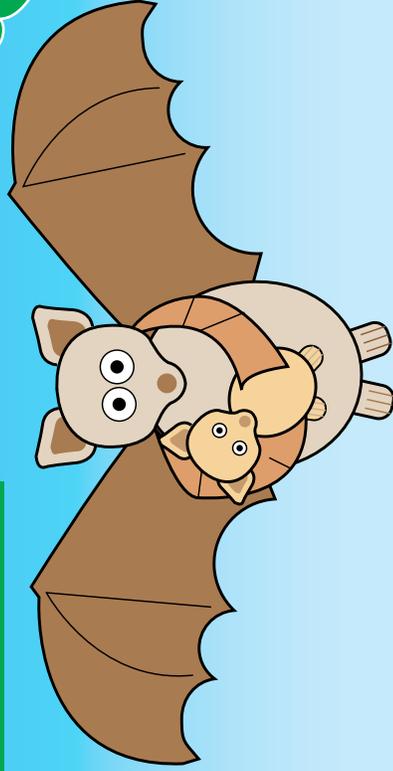
A bat is an adult when it is around one year old.

BAT LIFE CYCLE



Pups spend time together in a nursery while their mothers are hunting.

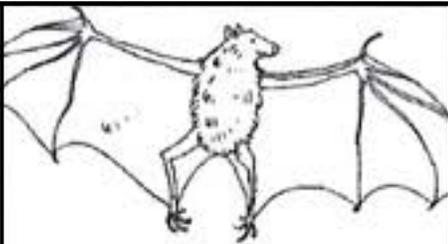
BAT LIFE CYCLE



Pups cling to their mothers while she flies to roost. The pup cannot fly on its own until it is two to three months old.

TYPES OF BATS

Directions: Cut out each black fact square below and paste it on the matching bat card. Bonus: Put two sets together and play "Concentration."



Flying Fox Bat

Paste square here.



Bumblebee Bat

Paste square here.



Vampire Bat

Paste square here.



Bulldog (Fisherman) Bat

Paste square here.



Little Brown Bat

Paste square here.



Big-Eared Bat

Paste square here.

This tiny bat is the smallest kind of bat in the world.

This bat looks like a rabbit with its ears and nose.

This bat uses its fangs to feed on cows, pigs, and mules.

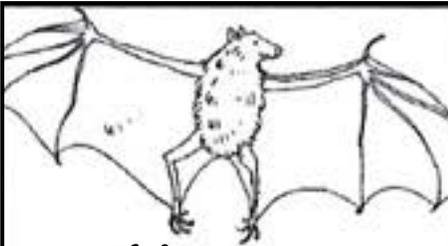
This plain brown bat is the most common bat in the United States.

This giant, fluffy bat has a face that makes it look like a fox.

This bat swoops out of the sky and catches fish for its dinner.

TYPES OF BATS

ANSWER SHEET



Flying Fox Bat

This giant, fluffy bat has a face that makes it look like a fox.



Bumblebee Bat

This tiny bat is the smallest kind of bat in the world.



Vampire Bat

This bat uses its fangs to feed on cows, pigs, and mules.



Bulldog (Fisherman) Bat

This bat swoops out of the sky and catches fish for its dinner.



Little Brown Bat

This plain brown bat is the most common bat in the United States.



Big-Eared Bat

This bat looks like a rabbit with its ears and nose.



ECHOLOCATION GAME

Although BATS do have good vision, this game will illustrate how they use sound to locate an object.



WHAT YOU'LL NEED:

- A few blind folds
- A group of people
- A space to move around in that doesn't have any obstacles.

OBJECT OF THE GAME:

To find the person the sound came from.

HOW TO PLAY:

Put a blind fold on one person (the BAT) and place them in one part of the area you will play in.

Turn them around a few times.

Have the rest of the group (insects to be eaten) pick a spot in the area and stand still. Quietly select a player to be the insect who will echo the BAT's sound.

Start the game by having the BAT make a sound (any sound).

Then the previously selected person (insect) will echo the same sound as best they can.

Have the blind folded person (bat) try to locate where the sound came from and find the person (insect).

The BAT can continue to make the sound. Every time the BAT makes the sound the other player should echo the BAT's sound.

Once located, the person making the sound takes a turn at being blind folded, listening and locating the sound of a new player:

TO MAKE THE GAME MORE CHALLENGING:

Have two or three blind folded people (BATS) make three different sounds one at a time. Three different players will echo an assigned BAT. For example: Bat 1 makes a sound, Insect 1 echoes the sound; Bat 2 makes a sound, Insect 2 echoes sound; Bat 3 makes a sound, Insect 3 echoes sound. After the BATS and insects sounds have been established, they can all make the sounds together as BATS would flying at night. When the BAT has located their insect, the insect can take its' turn being the BAT. You can add as many BATS as you want to continue the insect feeding frenzy.

Bravo, Bats Fact Sheet

FOR CADETTES, SENIORS AND AMBASSADORS

- **Without bats, we might not be able to enjoy some of our favorite foods** such as peanut butter, chocolate, bananas, bread, French fries, ketchup or orange juice.
- **There are over 1,100 species of bats**, and they live on every continent except Antarctica. Only three species of bats suck blood. Most (70%) eat insects. The other 30% of bats eat fruit, pollen, or nectar, or are carnivores. Most of what we eat comes from plants. Bats help provide us with these foods, and many other products, by eating insects that destroy certain plants, by pollinating plants and dispersing seeds, and even by providing fertilizer.
- **Bats also help keep humans healthy.** We obtain 80 different medicines from plants that rely on bats for their survival. Bats keep us from getting sick by eating disease-carrying insects, such as mosquitoes which carry malaria and West Nile virus.
- **Bats also protect the environment;** if bats were not around to eat so many insects, we would have to use many more harmful pesticides, which can harm animals, including us!
- **Bats eat insects that would damage or destroy a wide variety of agricultural products.** Small bats can easily eat up to 2,000 insects every night. Here are just a few foods that bats save from insects:
 - Vegetables:** asparagus, beans, carrots, celery, corn, cucumbers, eggplant, spinach, lettuce, broccoli, cauliflower, cabbage, olives, peas, potatoes, tomatoes and peppers
 - Fruit:** apples, avocados, cherries, citrus fruit, grapes, peaches, pears, pumpkin, squash, and all sorts of berries such as blackberries, blueberries, strawberries and cranberries

Seasonings: garlic, basil, ginger, honey (Bats eat insects whose larvae destroy bee-hives.)

Seeds and Grains: oats, rice, wheat, and sesame seeds

Nuts: almonds, pecans, peanuts, and pistachios

Other: coffee and mushrooms

- **We usually think of bees and butterflies as pollinators of flowers, but bats are major pollinators as well.** The following items depend on bats for pollination: bananas, dates, coconut, cloves, vanilla, Brazil nuts and avocados.
- **Bats help spread seeds** of many plants over a wide area, making sure that more plants grow and produce food.
- **Bats may carry off a piece of fruit, eat the fruit and drop the seeds** some distance from the original plant, or they might eat the seeds, which then pass through their bodies and are discarded in their feces.

- **Without bats to spread seeds, we might not have these tasty treats:** almonds and cashews, figs, allspice, chocolate (Chocolate is made from the cacao tree. Fruit bats eat the cacao fruit pulp and discard the cocoa bean, which will grow into a new tree. This is especially important because cacao fruit won't fall from the tree by itself, so we depend on bats to provide us with more cacao trees.)
- **Bat guano, or feces, makes a very rich fertilizer.** One particular seasoning is very dependent on bat guano: peppercorns, from which we make black pepper.



“Go Batty!” Discovering Bats on Long Island Patch Program Kit Inventory

- *Stellaluna* book by Janell Cannon
- *Bats* book by Gail Gibbons
- Bat Puppet
- Bat Anatomy Game Pieces and Answer Sheet for Daisies and Brownies
- Bat Anatomy Game Pieces and Answer Sheet for Juniors, Seniors and Ambassadors
- Four sample bat masks
- Types of Bats Matching Game pieces for Brownies
- Bat Measurement Sheet for Daisies and Brownies
- Bat Life Cycle Cards and Answer Sheet for Brownies and Juniors
- Bat Anatomy Game pieces for Brownies, Juniors, Cadettes, Seniors and Amabassadors
- A few rulers for the girls to share, several pennies for the girls to share, and several paper clips for the girls to share
- Bats Fact or Fiction Game for Juniors, Cadettes, Seniors and Amabassadors
- Echolocation Game for Juniors, Cadettes, Seniors and Ambassadors
- Bravo, Bats Fact Sheet for Cadettes, Seniors and Ambassadors