

# Bat Habitats: What Makes a Good Home?

## Objective

Students will identify different bat species located in their region. After learning about what bats need to survive, they will brainstorm and categorize the ideal bat habitats based on urban or rural areas. As an extension, students can build a bat habitat.

## Background

All plants and animals need three basic things to survive: water, food, and shelter. Shelter protects against predators as well as the environment (like sun, rain, snow, etc.). If a location does not have all three of these, it will not make the best **habitat**. Bats use different types of habitat depending on the bat species, the time of year, and what kind of activity they are doing (hunting food, raising babies, or hibernating in winter).

**WATER** Most bats need to drink clean water daily, and can often get this from ponds, streams, lakes, water on cave walls, irrigation canals, and cattle troughs. Many bats skim the surface of a water source to drink, while still flying. Imagine running by a water fountain with your mouth open to get a drink of water!

**FOOD** Food availability is a key factor in where a bat lives, and how long it can stay in that area. For instance, if bats eat insects, when the insects disappear in the winter, they may hibernate or migrate to a new area. Bats hunt insects in areas called "foraging habitats", and these areas might be different from where they sleep and raise their young, "roosting habitats." All bat species in the United States and Canada are *insectivorous*, meaning they eat insects, like cotton boll worm moths, army cut-worm moths, and mosquitoes. They locate the insects with echolocation. Bats that live further south may also eat fruit and nectar. These bats help pollinate plants, just like bees and butterflies. Some bats are *pesceviores* or *carnivores*, meaning they eat fish or small animals (frogs, mice, lizards, small birds, other bats).

**SHELTER** Bats find shelter in interesting places--some natural, and some made by humans. They like areas that are enclosed, not easily disturbed, safe from predators, and dark. Bats may live (upside down) from cave ceilings, in trees, in buildings, barns, and under bridges. If natural shelters aren't easy to find, sometimes they will turn to areas like abandoned mines, attics, roofs, tunnels, or cellars. Bats may have **rural** (being in the countryside or the wild, often away from people) or **urban** (being in a city, often near people) habitats.

## Materials:

- TxDOT Texas Bat Poster
  - Print yourself: <https://ftp.txdot.gov/pub/txdot-info/library/pubs/kids/bats.pdf>
  - Order copies from TxDOT: [https://www.dot.state.tx.us/apps-cg/contact\\_us/form/env-publication.htm](https://www.dot.state.tx.us/apps-cg/contact_us/form/env-publication.htm)
- Bats in the Classroom Article
- Bats in My Town Student Worksheet
- Bat Habitats: Urban vs. Rural Student Worksheets
- Writing implement
- Scissors
- Tape or glue
- **Extension:** Build a wooden bat habitat. *Tip:* pre-cut the lumber and pre-drill the holes before the students arrive, so that they will assist with the assembly. Use the National Wildlife Federation's instructions on pages 23-26. <https://www.nwf.org/~media/PDFs/Be%20Out%20There/Schoolyard%20Habitats/Night-Friends.pdf>

Information sources:

<https://www.nps.gov/labe/learn/education/loader.cfm?csModule=security/getfile&PageID=421757>  
and [https://batslive.pwnet.org/Dreamweaver/pdf/little\\_brown\\_bat\\_habitat.pdf](https://batslive.pwnet.org/Dreamweaver/pdf/little_brown_bat_habitat.pdf)



# Activity

1. Before students arrive, gather supplies and set up an area for them to work on the activity
  - Print or order enough copies of the TxDOT Texas Bats poster so everyone will have one.
  - Print the student worksheets, enough copies for everyone.
2. Through informal conversation, direct presentation, or by having participants read the information, discuss bats, their needs, and their different habitat options. Use the Background information above, as well as the Bats in the Classroom article:  
[https://www.educationworld.com/a\\_lesson/lesson/lesson031.shtml](https://www.educationworld.com/a_lesson/lesson/lesson031.shtml)
3. Have students use the TxDOT posters to identify the bat species in their region, identifying the distinguishing characteristics of that species.
4. Using the knowledge gathered through conversation, have students complete the Bat Habitats Venn diagram activity. For each Habitat Card, students will categorize if a habitat is: Urban, Rural, Both, or Not Applicable (meaning it is not a good bat habitat, which they will discard). They will glue or tape their choices in the correct sphere of the Venn diagram. Many of these locations could have multiple correct answers; talk it out with the student, see what their justification is. Be sure to discuss the characteristics of the location. Even if it provides good structure, is it near a water and food source? Is it too near people or predators?
5. In wrapping up the activity, encourage students to be observant of bats in their neighborhood and also to try to identify parts of their neighborhood that would make good bat habitats.
6. **Build a Bat Habitat: Extension Activity:** Build a wooden bat habitat to set up at home. This will help provide a safe haven for bats in your region. *Tip:* pre-cut the lumber and pre-drill the holes before the students arrive, so that they will assist with the assembly. Use the National Wildlife Federation's instructions on pages 23-26.  
<https://www.nwf.org/~media/PDFs/Be%20Out%20There/Schoolyard%20Habitats/Night-Friends.pdf>

# Bats in My Town

## Student Worksheet

**Draw** a star where your town is located in Texas.

Using the TxDOT Texas Bats poster, **identify** which bat species live in your area:

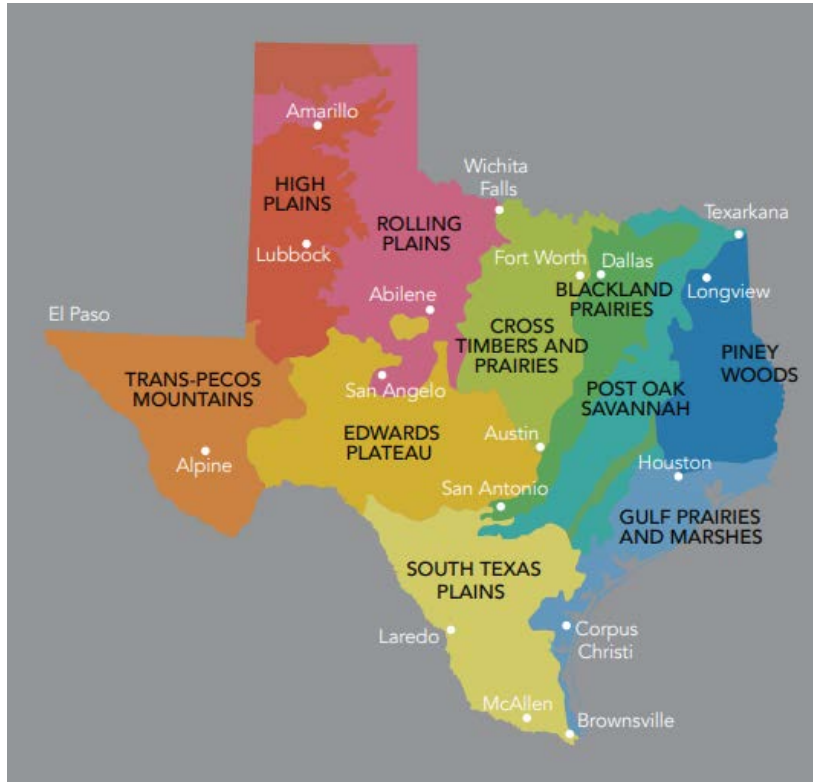
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### Why are they special?

**Select** 3 bat species in your region. **Record** their unique characteristics.

**Species:**

**Species:**

**Species:**

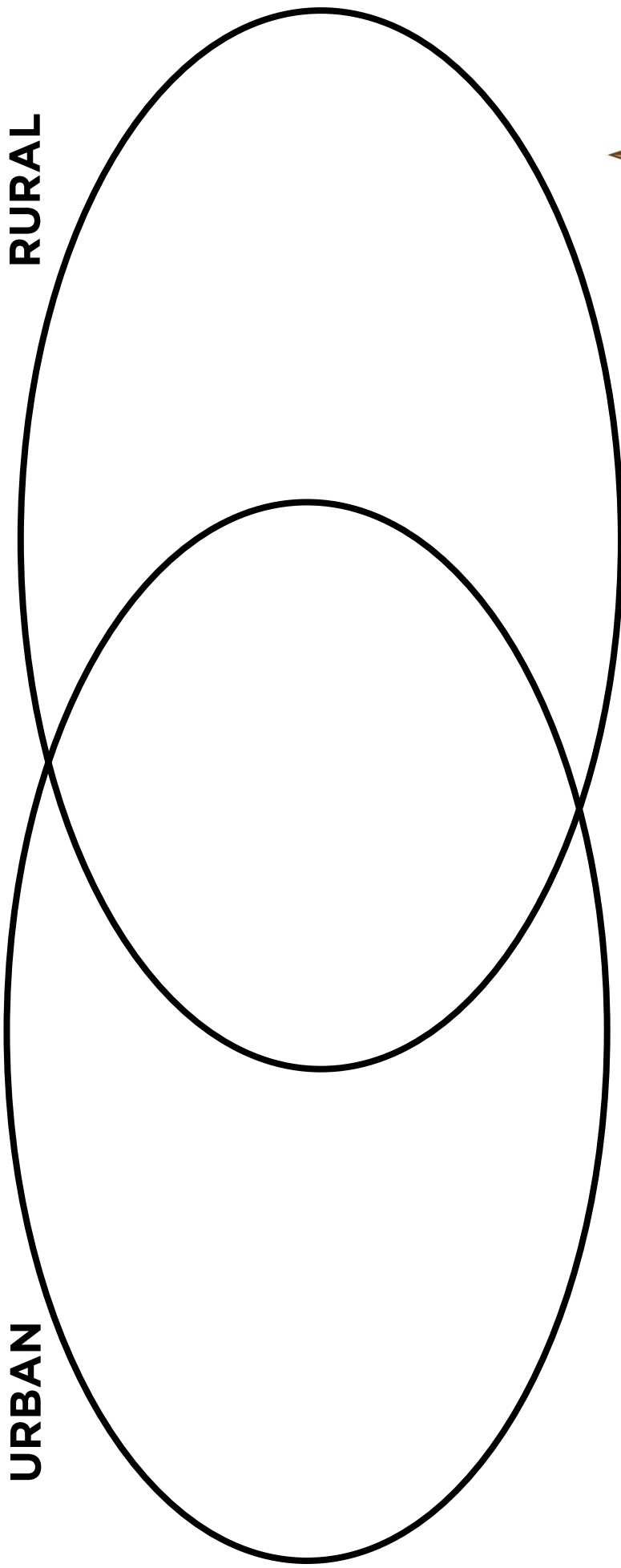
# Bat Habitats: Urban vs. Rural

## Student Worksheet

Which of these locations will make good bat habitats? Will you find them in urban areas, rural areas, or both? Which of these locations will NOT make good bat habitats?

**URBAN**

**RURAL**



# Bat Habitats: Urban vs. Rural

## Student Worksheet

### Habitat Cards



On a rock	Bridge	House	Tunnel
Skyscraper	Cactus	Garage	Attic
Under a car	In the snow	Tall tree	Underwater
Barn	Cave	In an office	Classroom
Airplane wing	Chicken coop	Underground	Dog house

### Learn More about Bats in Texas

- Texas Department of Transportation (TxDOT) Beyond the Road: Bats and Bridges: <https://arcg.is/HyObW>
- TxDOT Texas Bats and Bridges; A Mutually Beneficial Relationship video: [https://www.youtube.com/watch?v=NbDbvshHpvU&ab\\_channel=TxDOT](https://www.youtube.com/watch?v=NbDbvshHpvU&ab_channel=TxDOT)
- TxDOT Texas Bats poster: <https://ftp.txdot.gov/pub/txdot-info/library/pubs/kids/bats.pdf>
- TxDOT Endangered Species poster <https://ftp.txdot.gov/pub/txdot-info/library/pubs/kids/endangr.pdf>