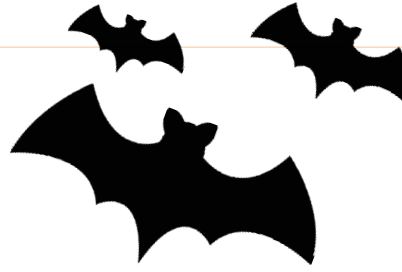


BATS Need a Cave



**NATURAL BRIDGE
CAVERNS®**

SUBJECTS: Science and English, Language Arts & Reading

GRADES: K-2

DURATION: approximately 45 minutes

ACTIVITY SUMMARY: Students will play a game to simulate how human impact can affect the habitat of bats.

OBJECTIVES:

The students will be able to:

1. Observe and identify how humans can impact an animal's population and environment.

VOCABULARY: home, habitat, bats, "Bat Friendly Gate"

BACKGROUND:

This game teaches the concept that animals need a place to live. It also illustrates the importance of people making appropriate choices when wildlife habitat is involved. This activity develops the concepts that bats need a cave to live in and when the cave entrance is boarded up, bats can be left homeless.

Sometimes people need to protect their cave from trespassers. The cave could be vandalized, and people could also be injured. Many times, people board up the entrance ways to keep people out. The only problem is it also keeps bats out. The other alternative is using a "Bat Friendly Gate" over the entrance. This keeps people out, but the squares of the gate are large enough to allow bats to fly in and out freely.

PROCEDURE:

1. Have students list all the basic needs of living organisms. Explain that one of their needs is a place to live— called a habitat. Ask students, "Where do bats live?" The students should answer, "Caves." Discuss with the students why caves are a good habitat for bats. Explain that some of the students will be caves and some of the students will be bats and each bat will need a cave to live in.
2. Count the children into groups of three, making two students join hands facing each other, and then put the third child in the middle to be the bat. After all the children are arranged into groups of three, the game is ready to begin. If you have one extra student, they can be a bat looking for a home or if you have two you can have an extra cave or two bats that need homes.
3. Explain that it is time for the bats to look for a new home. When it is time to move say, "Bats need a new home." The caves will raise their arms to let the bats fly to find a new cave. The caves will keep their arms raised until a new bat moves in. Then they will lower their arms to protect the new bat. Remember, only one bat per cave.
4. Several rounds (at least 3) are played trading off the bats with half of a cave until all have had a turn. The next round, the instructor can bring up the idea that people want to move into the area. Some of the caves are now private property and the owners want to keep trespassers out. The instructor "boards up" a cave and now the bat needs a new home. The "cave" becomes two new baby bats who also need new homes. Announce, "Bats need a new home." At the end of the round there should be several bats without a home. Ask how these bats will live and how they are to survive.
5. The instructor can continue to board up cave entrances and build houses. Explain that new landowners have moved in. These owners understand that bats need homes too, so they un-board the entrance and put up "bat friendly" gates. Trespassers are still kept out, but the bats can get in. Take two bats and turn them into a cave. Five to seven rounds (total) are usually the maximum for this game depending on the students and their age.
6. At the end of the game, talk with the students about how important it is for people to think about animals and their homes when they build in an area.

EVALUATION: Have students write a dialogue between a landowner who wants to close up a cave and a bat who lives there. The students will be the bat trying to convince the developer that saving your home is important.

EXTENSIONS:

- 1.The students could make posters telling people to think about animals before they make any decisions that might affect the animals' homes.
- 2.The students may want to draw a picture of another animal that might be affected by changing the natural landscape.
3. The students could write to an organization like Bat Conservation International, and request posters dealing with bats and their habitats.

Bat Conservation International contact information:

Bat Conservation International

PO Box 162603

Austin, TX 78716 batinfo@batcon.org Batcon.org

TEKS ADDRESSED:

Science

Kindergarten

12(A) observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow

1st Grade

1(A) ask questions and define problems based on observations or information from text, phenomena, models, or investigations

3(B) communicate explanations and solutions individually and collaboratively in a variety of settings and formats

5(B) investigate and predict cause-and-effect relationships in science

12(C) identify and illustrate how living organisms depend on each other through food chains

13(A) identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd Grade

12(A) describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem

12(B) create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things

ELA

Kindergarten

10(A) plan by generating ideas for writing through class discussions and drawings;

10(B) develop drafts in oral, pictorial, or written form by organizing ideas

10(C) revise drafts by adding details in pictures or words

10(D) edit drafts with adult assistance using standard English conventions, including:

- (i) complete sentences
- (ii) verbs
- (iii) singular and plural nouns
- (iv) adjectives, including articles
- (v) prepositions
- (vi) pronouns, including subjective, objective, and possessive cases
- (vii) capitalization of the first letter in a sentence and name
- (viii) punctuation marks at the end of declarative sentences
- (ix) correct spelling of words with grade-appropriate orthographic patterns and rules and high-frequency words

10(E) share writing

1st Grade

11(A) plan a first draft by generating ideas for writing such as by drawing and brainstorming

11(B) develop drafts in oral, pictorial, or written form by:

- (i) organizing with structure
 - (ii) developing an idea with specific and relevant details
- 11(C)** revise drafts by adding details in pictures or words
- 11(D)** edit drafts using standard English conventions, including:
- (i) complete sentences with subject-verb agreement
 - (ii) past and present verb tense
 - (iii) singular, plural, common, and proper nouns
 - (iv) adjectives, including articles
 - (v) adverbs that convey time
 - (vi) prepositions
 - (vii) pronouns, including subjective, objective, and possessive cases;
 - (viii) capitalization for the beginning of sentences and the pronoun "I"
 - (ix) punctuation marks at the end of declarative, exclamatory, and interrogative sentences
 - (x) correct spelling of words with grade-appropriate orthographic patterns and rules and high-frequency words with adult assistance

11(E) publish and share writing.

2nd Grade

11(A) plan a first draft by generating ideas for writing such as drawing and brainstorming

11(B) develop drafts into a focused piece of writing by:

- (i) organizing with structure; and
 - (ii) developing an idea with specific and relevant details
- 11(C)** revise drafts by adding, deleting, or rearranging words, phrases, or sentences

11(D) edit drafts using standard English conventions, including:

- (i) complete sentences with subject-verb agreement
- (ii) past, present, and future verb tense
- (iii) singular, plural, common, and proper nouns
- (iv) adjectives, including articles
- (v) adverbs that convey time and adverbs that convey place
- (vi) prepositions and prepositional phrases
- (vii) pronouns, including subjective, objective, and possessive cases
- (viii) coordinating conjunctions to form compound subjects and predicates
- (ix) capitalization of months, days of the week, and the salutation and conclusion of a letter
- (x) end punctuation, apostrophes in contractions, and commas with items in a series and in dates
- (xi) correct spelling of words with grade-appropriate orthographic patterns and rules and high-frequency words

11(E) publish and share writing