

OCM BOCES Science Center

Bats Incredible

Information, Tips and Hints

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Bats Incredible Kit#6

In looking through the “Bats Incredible” teacher guide two items caught my attention. One involves the selection of activities that would be best to adapt for second grade. The other involves the second activity in the book titled “Mammals On My Mind”.

First item – Which activities are appropriate for second graders? – I created a table which lists the suggested activities, the teacher guide page number, the focus, any suggestions to adapt the activity and a reference to related core curriculum items by number. This table can be found on p. 2.

Second item - “Mammals on my Mind” p.10 - I have some thoughts to share. Rather than students trying to take it all in about animal groups and, specifically, what a mammal is and how a bat fits into all of this (especially since they have not studied bats as of yet) – I would suggest the following:

After sharing the first activity (“Bat Feelers”) with your students, I would suggest a discussion of the question “Are bats living things? Why or why not”. This would allow you to pre-assess your students understanding of the characteristics and needs of living things. (Your students should have experienced the “Organisms” kit last year which addresses the question of “What is a living thing?”.)

Next, discuss that we group living things by their shared characteristics. Use pp. 12 – 13 from the “Bats Incredible” book for sorting and discussion. Some groupings are: fish, amphibians, reptiles, birds and mammals. Discuss the characteristics of each of these groups. (I provided an overview chart titled, “Animals on My Mind – Animal Characteristics” on p. 3 in this document.)

Lastly, tell students that by the end of the unit “we” are going to decide to which of these groups of animal bats belong.

The rest of the activities are fairly straight forward. You will notice that for #8 on the list I suggest a “Marco-Polo”-like substitution for the activity (directions on p. 4). You are welcome to add any of the omitted items.

NOTE: On the Grade 2 Teacher Resource page of our web site, under “Bats Incredible”, there are links to the PDF files of the copy masters included in the AIMS “Bats Incredible” book. These are provided with permission from the publisher.

Animals on My Mind – Animal Characteristics

Order	Activity	Page	Focus	Suggestions	Core Curr.
1	Bat Feelers	P 1	An opening activity (pre-assess)	Pre-assessment II, see p 3 in book.	
2	Are Bats Living Things?	not in book	All living things grow, take in nutrients, breathe, reproduce, eliminate wastes, react to environ.	Have a discussion about living things and that they are “grouped” (fish, reptile, amphibian, bird, mammal)	1,2,7
2	Mammals	P 10	Classifying living things (SAVE classifying bats for end of unit?)	Sorting (Picture pages: 12,13), use the “Animals On My Mind – Animal Characteristics” handout , p. 5	1,2,7
3	Just between Bats	P 18	Similarity/differences in “species”	Venn diagrams (Picture Pages: 20-22)	1,3,4
4	Micro or Mega	P 24	External features for survival	Sorting (Picture Pages: 27 – 30)	3,4
	Bat Masks	P 32			3
5	Noses for Nectar	P 33	Structures for survival, senses	Day 1: Make flower Day 2: Pollinate Picture pages: 36, 40	3,8,9
6	Spread your Wings	P 44	Compare/contrast	Picture pages 45 – 49. Math integration, Pages: 48, 49	3,8
7	Inside a Bat	P 50	Compare/contrast	Picture pages 52, 53, 55	3,8
-	Wings ‘n Things				
-	What’s the Flap				
-	Make Believe Bats	P 68			
-	Sensational Ears	P 76	Senses (Echolocation)	Play a game like “Marco-Polo” only call it “Bat-Moth”, a good time to discuss (revisit?) “senses”. See handout p. 6.	3,8,12
8	Hide and Seek				
9	Family Sense	P 80	Senses (Echolocation, Life Cycle)	Modify, Just do Procedure I (smell)	5,6,8
10	Wash and Wear	P 86	Erosion, Habitats	A teacher demo.	10, 11
11	Drip on a String	P 88	Habitats, Environ. Adaptation	p 88: Demo cave, p 96: class cave	10, 11
	Logic problems	P 97			
12	Bat Feelers	p 113	Closing Activity	Post-assessment	
	Poetry		P 118 -119		

NYS Science Elementary Core Curriculum:

(LE=Living Environment (Standard 4))

Kit: 6 Bats Incredible

(1) **Core Item Code:** LE2.1a

Some traits of living things have been inherited (come from their parents) e.g., color of flowers and number of limbs of animals.

(2) **Core Item Code:** LE2.2a

Plants and animals closely resemble their parents and other individuals in their species. (bats have bat-like characteristics)

(3) **Core Item Code:** LE3.1a

Each animal has different structures that serve different functions in growth, survival, and reproduction.

- Wings enable bats to find prey, to seek shelter and to escape predators.

- The mouth, including teeth, jaws, and tongue, enables bats to eat and drink.

- Eyes, nose, ears, tongue, and skin of bats enable them to sense their surroundings.

- Fur and fur color enable bats to protect themselves from predators and environmental conditions.

- Bats have parts that are used to produce sounds and smells to help the animal find its food, shelter or other bats (and pups).

- The characteristics of bats change as seasonal conditions change (e.g., fur grows and is shed to help regulate body heat; body fat is a form of stored energy and it changes as the seasons change especially as bats prepare to hibernate over the winter).

(4) **Core Item Code:** LE3.1c

In order to survive in their environment, plants and animals must be adapted to that environment.

- Bat adaptations include fur covering for warmth, color to blend into the surroundings, the defense mechanism of taking flight, hibernation and migration to survive winter.

(5) **Core Item Code:** LE3.2b

All individuals have variations, and because of these variations individuals of a species may have an advantage in surviving. (not all bats are exactly alike, just as people are different – some are faster, have thicker fur, have a better sense of smell, can echolocate more accurately which may help that bat to survive in adverse conditions)

(6) **Core Item Code:** LE4.1a

Plants and animals have life cycles. These may include beginning of a life, development into an adult, reproduction as adults, and eventually death.

(7) **Core Item Code:** LE5.1a

All living things grow, take in nutrients, breathe, reproduce, and eliminate waste.

(8) **Core Item Code:** LE5.1b

An organism's external physical features can enable it to carry out life functions in its particular environment.

(9) **Core Item Code:** LE5.2c

Senses can provide essential information (regarding danger, food, mates, etc.) to animals about their environment.

(10) **Core Item Code:** LE5.2f

Some animal behaviors are influenced by environmental conditions. These behaviors may include: nest building, hibernating, hunting, migrating, and communicating.

(11) **Core Item Code:** LE5.2g

The health, growth, and development of organisms are affected by environmental conditions such as the availability of food, air, water, space, shelter, heat, and sunlight.

(12) **Core Item Code:** LE6.1c

Animals that eat plants for food may in turn become food for other animals. This sequence is called a food chain.

Animals On My Mind – Animal Characteristics

Fish	Amphibians	Birds	Mammals	Bats
scales	wet or dry smooth skin	feathers	fur	?
lays eggs	lays eggs	lays eggs	has live young	?
has gills to breathe	gills, lungs, or skin to breathe	has lungs, breathes air	has lungs, breathes air	?
young find food	young find food	young eat food, fed by parents	young get milk from mother	?

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Marco Polo → Bat Moth

This is a game of tag where the person whom is the seeker (the bat) must use their sense of hearing to find the players (the moths).

As in the game of Marco Polo, the players can move about the defined game area until the seeker calls out a special word (in this case “Bat”). The players must freeze in place and answer with a special word (in this case “Moth”). The seeker continues to call out the “Bat” with the players answering with “Moth” until he/she locates and tags a player. The player then becomes the seeker and closes his/her eyes while the players once again move about the game area.