



THE OFAH | MARIO CORTELLUCCI
HUNTING & FISHING
Heritage Centre

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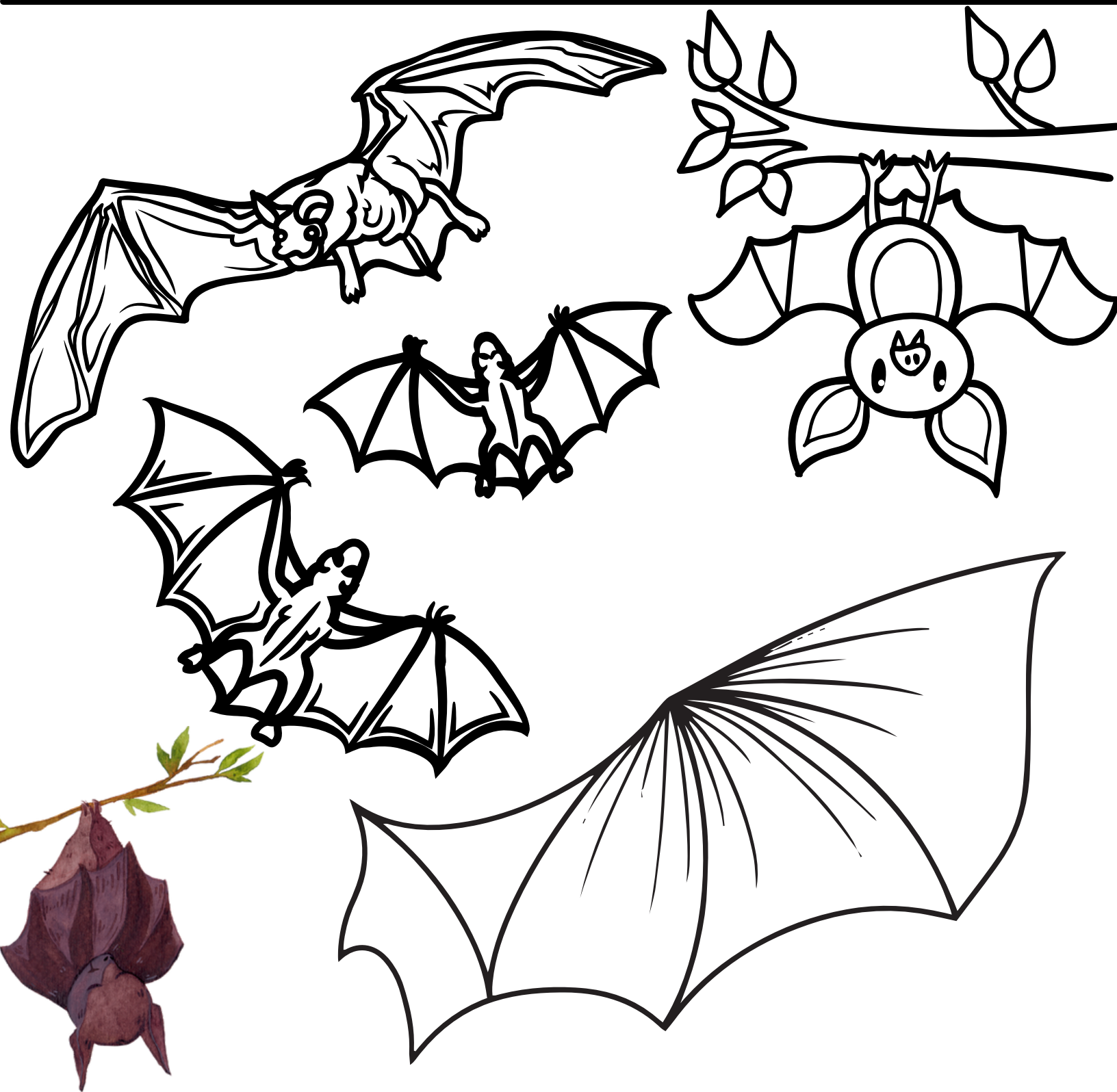
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Bats!

JK to Grade 3

Bats come in many sizes and colours, Let's see how you decide to colour in these bats and this bat wing!





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Grade 4 to Grade 8

Bats - Word Scramble

Unscramble the words.

- | | |
|-----------------------|------------------------|
| 1. yoarh _____ | 11. mmalsam _____ |
| 2. tresae n der _____ | 12. lgiynf _____ |
| 3. vries ahidre _____ | 13. oltheaoicnco _____ |
| 4. big owrbn _____ | 14. uoularstd _____ |
| 5. irt coeolrdu _____ | 15. ropairhct _____ |
| 6. etllil nborw _____ | 16. oereinsvitsc _____ |
| 7. lgnoc aeder _____ | 17. hewit onse _____ |
| 8. asmllo etodf _____ | 18. blhaaerunic _____ |
| 9. ymisto _____ | 19. aeehnrbti _____ |
| 10. abt _____ | 20. itegamr _____ |



Word Box

- | | | | |
|------------|---------------|--------------|-------------|
| mammals | tri coloured | ultrasound | hibernacula |
| hoary | silver haired | eastern red | white nose |
| bat | echolocation | little brown | migrate |
| long eared | hibernate | insectivores | flying |
| big brown | chiroptera | small footed | myotis |



CHALLENGE! (40 min.)



Bat, Bat, Moth

You'll need: An outdoor space, or space where the class can form a circle around two students, a blindfold and a pool noodle. There must be enough room for the two students in the center of the circle to move around.

Set Up: Set students up in a circle. These students will form the "cave" that a "bat" and "moth" will occupy.

Explanation:

- Explain that while bats are NOT blind, their sense of sight isn't as strong as their sense of hearing – they have an excellent sense of hearing – can you tell just by looking at their ears? They use echolocation by sending out a short, high pitched sound, that bounces off what's in front of them, and then returns to tell them what it is. Sound travels in waves and the bats can use these waves to determine, distance and composition of objects and other creatures around them.

Explain that the game they will be playing is similar to Marco polo but it will allow them to see what it is like being a bat hunting a meal in the dark.

Taking turns, one student will be the "bat" and will be blindfolded. Choose another student to be the "moth."

The rest of the students join hands to form a circle, and then step back so that the circle is larger – this will be the "cave"... remind students that the cave walls can't talk and must be quiet during the game!

The bat will be given a pool noodle. While blindfolded, the bat will move about the cave. Every few seconds bat will call out "bat" and the moth must reply with "moth".

When the bat hears that they are close to the moth, they may gently swing the pool noodle in the direction of the

- sound. If the moth is "swatted" they are out and must leave the cave. Switch it up to choose another bat and another moth.

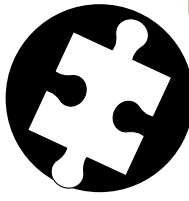
If the bat is having a touch time catching the moth, feel free to make the playing area smaller, by having the cave

- walls take one or two steps in. If the bat bumps in to the wall of students, the cave walls can just gently guide them back in the right direction.

If you choose to, you may introduce more moths, and ask the bat if it was easier or harder to catch a moth with more in the cave.

After the game you may want to begin a discussion with students regarding the challenges and positives about using echolocation. Do students think this would be a helpful adaptation? If so, in what circumstances? Would they need echolocation in a bright environment? Dark environment? Have them discuss what other circumstances they could see this being helpful? You could also tie in to information about Dolphins and Whales and mention that they use this adaptation to be able to communicate and to gather information underwater about fish, objects, etc.





CHALLENGE! (40 min.)

Grade 4 to 8

Echolocation In Action!

You'll need: Copies of the attached Echolocation Worksheet and Echolocation Bar graph printed for each student. One blindfold and a chair for each pair of students, and a space big enough for students to move around one another.

Set Up: In this activity, students will try to determine the location of nine sounds made from various locations in front of, behind or to the side of them. Try to spread students out as much as possible so that each team can focus on their own clapping or snapping noises without being distracted by other teams. Conducting this activity outside or in the school gym is an excellent idea.

Explanation:

Explain that while bats are NOT blind, their sense of sight isn't as strong as their sense of hearing – they have an excellent sense of hearing. They use echolocation by sending out a short, high pitched sound, that bounces off what's in front of them, and then returns to tell them what it is. Sound travels in waves and the bats can use these waves to determine, distance and composition of objects and other creatures around them.

- Break the students into groups of two. For each team, have one student sit in a chair and the other stand nearby with the Echolocation Worksheet.

Have students gently blindfold their partner so that they are unable to see. Remind them not to peek!

- Have the non-blindfolded student snap or clap their fingers while the other student guesses the location from where the snap came.

Students should record their partner's response on the Echolocation Worksheet after each snap/clap.

- Have students follow the Echolocation Worksheet for all nine snaps or claps, and record all responses on the sheet.

Students should put a check mark if their partner guessed correctly and an X if they guessed incorrectly.

Ask students to write down the number of times they guessed correctly for each location (side, behind or in front).

Have students switch places and repeat the procedures. Once both students have guessed, have them give each other their worksheets, so they can use them to create their own bar graphs.

Have students color in their Echolocation Bar Graph Worksheet with the number of times that they guessed correctly for each location.

Talk as a class about the results! Discuss why some locations may be harder to guess than others. (Be aware that noise from other teams will likely be a contributing factor to erroneous guesses.)

- Have several students share their bar graphs (if you have time, you can make one giant bar graph for the entire class). Talk about the results, and discuss why some locations were perhaps harder to guess than others.

Encourage students to think about why noise from other teams may have made it harder to guess the location of the snaps or claps.

*Lesson adapted from teachingengineering.org





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Echolocation Worksheet

Recorder (team partner): _____

Location	Actual Guess	Right? Wrong?	
Front			
Behind			
Side			
Side			
Behind			
Front			
Front			
Behind			
Side			

Number of times the "front" guess was right: _____

Number of times the "side" guess was right: _____

Number of times the "behind" guess was right: _____



Echolocation Bar Graph

Number of times the “front” guess was right: _____

Number of times the “side” guess was right: _____

Number of times the “behind” guess was right: _____

Color in the bar graph below with the number of times each guess was right. If the answer is 0, leave that group blank.

3			
2			
1			
	Front	Side	Behind

Which location had the most correct guesses? (If it was a tie, you can write both locations). _____

Which location had the least correct guesses? _____

What are your ideas about why some locations were easier or harder to guess?
