BABY BAT CUPS ACTIVITY

Mammal: Free-tailed bats

Concepts addressed: Sensory Perception; Infant Identification; Habitats; Life Cycles

Materials: Sounds and scents in covered cups

Shopping List: Opaque cups with lids
Various distinct sounds (e.g. popcorn, rice, lentils, etc)
Various distinct scents (e.g. cinnamon, coffee, mint, etc)
Black and red markers

Background Information:

Mammal moms have a number of strategies for feeding themselves while they take care of their young. Some mammal moms, primarily the herbivores such as hippos, elephants, etc, keep their babies with them while they feed. Other mammal moms, like cougars, eat fast while the cubs are young, because it is not safe to leave the cubs too long. Additionally, the mom can't hunt effectively with them tagging along. Some mammal moms, the social carnivores like lions, share the duties, where some females will care for all the young while others do the hunting for the community. Most mammal moms hide their young while they seek food. Bats are among this group. Hiding your young seems simple enough -- but is it?

Free-tailed bat mothers leave their babies ("pups") in a bat nursery (a cave) while they go out at night and hunt mosquitos. At dawn, with their bellies full, they return to the nursery to feed their young. What's the catch? There are three million baby bats in the nursery! The cave is dark (no natural light), cold, and the bats are huddled tightly together to stay warm. how does one mom locate her own baby (she won't nurse any other pup)? By memorizing their smell and the sound of the pup's voice!

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Instructions:

Prepare 5-20 pairs of cups (depending on age and ability of students) as follows. Preparing them can seem unduly complicated the first time, but once you get the hang of it it gets easier.

1. Using a pin, open paper clip, or other sharp object, poke holes in the tops of all the cups so you can smell through them.
2. Using a marker, put a red circle on the top of half the cups and a black circle on the tops of the other half.
3. On the bottoms of each red cup, write a number staring with 1 and continuing through all the red cups (1, 2, 3, 4, 5, etc).
4. Put the cups into pairs, with red #1 paired with black #41, red #2 paired with black #42, etc.
5. Each pair of cups needs to have the same sound and scent combination added. One scent should go into multiple pairs and one scent should go into multiple pairs -- however, only one pair of cups should have the same combination of sound/scent. For example, put popcorn in four different pairs of cups. Put mint into four different pairs of cups, but only put popcorn and mint in one pair of cups. You will end up with pairs like this: popcorn/mint (#1, #41), popcorn/cinnamon (#2, #42), popcorn/curry (#3, #43), noodles/mint (#4, #44), noodles/cinnamon (#5, #45), noodles/curry (#6, #46), etc.
6. Put all the red cups together in one area, place all the black cups together in a different area. Ask each participant to select one cup, shake and smell it, make note of the number on the bottom, then place it back on the table. Then, they should walk to the other set of cups and try to find the one cup with the identical scent and sound.
7. Verify that they have paired the cups correctly with the numeric codes on the bottom.

Discussion: Every living thing is adapted for its environment. Humans rely primarily on their hearing and sense of smell. This exercise is difficult for humans because our sense of hearing and smell are not well developed. It helps us realize how much the senses we use are the ones necessary for survival in our environment.

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