Illinois Wild Mammals

K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

BACKGROUND: See the Background Information, especially the Signs, Feeding and Mobility sections.

OBJECTIVE: Students will use Illinois-specific mammal resources to observe, discuss, draw conclusions and support their reasoning.

MATERIALS: *Illinois Wild Mammals* resources trunk, *Illinois Wild Mammals Homes* video podcast, photograph of the exterior of a human home

PLEASE NOTE: The *Biodiversity of Illinois* CD-ROMs are included in the *Illinois Wild Mammals Resources Trunk*. However, the information in the CDs has been updated, expanded and converted into a Web page at https://www2.illinois.gov/dnr/education/Pages/Biodiversity-of-Illinois.aspx. You may find the information easier to access at this Web page.

Suggested Activities

Activity 1

- Show the students the video podcast, *Illinois Wild Mammals Homes*. The podcast contains images of a beaver lodge, muskrat lodge, tree squirrel nest, coyote den and skunk den. Don't tell them what the items are

or what made them. Just say that each item was made by a mammal that is represented in the trunk and that they are used by that same mammal. Now ask them to look at the skulls, tracks and pelts of the mammals that are represented in the trunk. Tell the students that the items in the podcast were made by some of the mammals represented in the trunk. Ask them, either individually or in small groups, to make a decision as to which mammal made each of the items. You may need to show the podcast again. The students must support their choices with reasons. Now ask them how the animal changed its environment to make these items and what they might be used for. Again, they need to support their choices with reasons.

Activity 2

- Show the students a photo of a human house. Ask them what it is and what it is used for. Then ask them how it got there. What was needed to build it? Did one person do all of the work alone, or were many people involved in the project? Ask students if those people used their own body, like the mammals did, or if they used other items to build the house? If they used other items, what were they, and where did they come from? How was the environment changed to meet human needs? Was the environment changed in more ways than in activity one or in fewer ways? How does this example differ from what the students learned in activity one? Students should explain all of their reasoning.

STEM Connections: Evaluations

Science: All of the activities shown above are science-based and can be used for evaluations.

Technology: Students can participate in Project Squirrel to collect and report data about squirrels in their neighborhood. They can also photograph in their neighborhood or schoolyard ways that mammals have changed their environment such as those in the activities from this lesson and other examples.

Engineering: Talk about tools. What are they? What are they for? What tools do the students use every day? Let them select one human-made tool that they think is the most beneficial to humans. Have them design a human with this tool as a natural part of the body. What would it do for us? How would it let us change our environment? Now do the activity again but select a natural tool from another animal that would benefit humans. If we could add it to our body, what would it look like? How would it help us? Tell the students to design a different human with this new natural part added. Discuss the varied results of the class. Each student should explain the rationale for what he/she developed.

Mathematics: Take the students for a walk and have them count the number of squirrel nests that they see in the trees on the block or some other defined space. Squirrel nests are made of leaves. Squirrels may also use tree cavities or other structures for raising young or getting out of inclement weather, but for this activity just count leaf nests. Keep track of the number of squirrel nests per tree. You can also ask the students to record the number of other types of nests in each tree with that has a squirrel nest. When you return to the classroom, graph the number of squirrel nests per tree. On the same graph, chart the number of nests of other species per tree. Does there appear to be a maximum number of squirrel nests per tree? Do squirrels and other animals share the same tree for nests? Have the students ask questions about what else they could measure in regard to the nests, and what that information would tell us about the squirrels.

Training

Additional training about Illinois mammals and on imple-menting this topic to support performance expectation K-ESS2-2 can be obtained through ENTICE (Environment and Nature Training Institute for Conservation Education) workshops from the IDNR. *Tracks, Scats and Habitats*, *Reading the Signs* and *Illinois Wild Mammals* are examples of related workshops. See the "Resources" page for more information. The IDNR Division of Education also pro-vides training sessions at teacher conferences throughout the state.

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