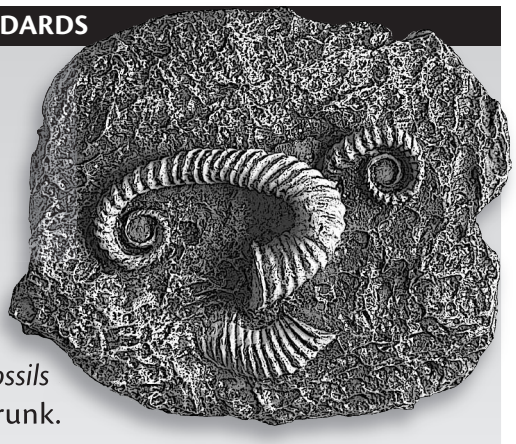


Fossils

3-LS4-1. Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.

BACKGROUND: See the Background Information provided in the *Illinois Fossils* activity book and other publications within the *Illinois Fossils* resources trunk.

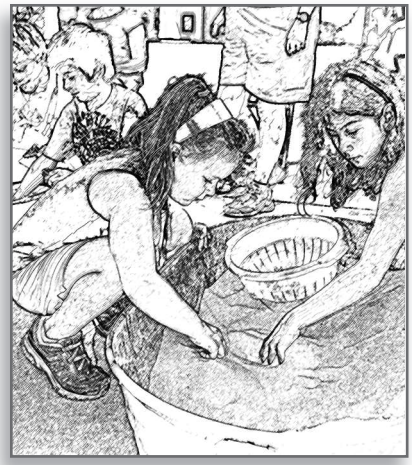
OBJECTIVE: Students will use fossil specimens and other resources to observe, analyze and interpret data.

MATERIALS: *Illinois Fossils* resources trunk contents

Suggested Activities

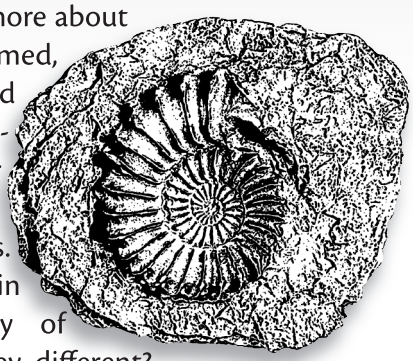
Activity 1

- Set up the *Fossil Hunt Kit* before class starts. Mix the small fossils and gravel filler. Don't tell the students what they are studying. Give a small amount of the mixture to each student or pair of students. You can provide them with a magnifying glass, if needed. Tell them that you have given them a mixture of materials and that you want them to look carefully at it. Have them sort the materials and develop some categories to describe them. Talk about their findings. What are some obvious differences in the materials? Do any of these items appear to have been alive at one time? If so, how do you know? If not, what would you need to see to tell you that they might have been alive? Discuss what fossils are. Did anyone find a fossil? Let everyone look at the fossils. Ask students what type of organisms are represented by the fossils. Where do they think these organisms might have lived? Why?



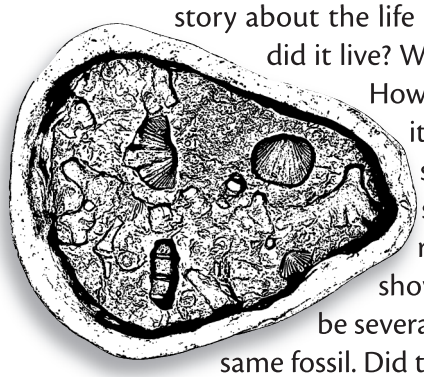
Activity 2

- Let the students use the *Illinois Fossils* trunk resources to observe additional fossil specimens, replica fossils, fossil illustrations and fossil photographs. Talk about what they are seeing. Have them use the materials in the trunk to learn more about how fossils are formed, where they are found and what they represent. Discuss their findings. Have them analyze the fossils. What do they see in common in many of them? How are they different? What can they tell us? Can fossils still be found? Are fossils still being formed?



Activity 3

- Let each student use a fossil mold to make a fossil replica. Ask the students to paint or color the replica to represent the way he or she thinks this organism would have looked in life. Have each of them write a story about the life of this organism. Where did it live? What was its food source? How long did it live? How did it reproduce? Did it make sounds? Each student should present his or her report to the class and show the replica. There will be several students who have the same fossil. Did they present reports that



included identical information? If not, why not? How do scientists determine information about fossils? Do they always have the entire organism to work with?

STEM Connections: Evaluations

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

Technology: Have the students communicate with a fossil scientist at the Illinois State Geological Survey. https://isgs.illinois.edu/about-isgs/staff-directory

Engineering: Have each student design a fossil. It can be for a real organism or one that is imaginary. The student must prepare a list of characteristics for this animal that can be observed in the fossil. Each student will present their design and the other students must delineate the characteristics of the organism that the fossil represents.

Mathematics: Photocopy the activity book, *Illinois Fossils*, and provide each student with a copy or download the PDF version from https://dnr2.illinois.gov/teachkids/. Have students complete the time line activity.

Training

Additional training about Illinois' natural resources can be obtained through ENTICE (Environment and Nature Training Institute for Conservation Education) workshops from the IDNR. Visit https://www.enticeworkshops.com for more information. The IDNR Division of Education also provides training sessions at teacher conferences throughout the state.

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

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