

Fossil Shapes Extension Activity

Fossils are the remains of ancient life. Often, fossils represent only part of the ancient organism, usually the hard parts. To complicate matters, only some of the hard parts may be exposed along a bedding surface, making it difficult to determine the true shape of the fossil, let alone the organism the fossil represents. In this activity, you will see the effect cutting recognizable objects has on your ability to identify them. It is a lesson in perspective, geometry, and fossils all in one.

Discovery: Look at the fossils in the floor of the William T. Young Library (or other cut stones containing fossils). This can be done during an actual visit, or you can [take a virtual trip](#) . How many different shapes can you see? Some are different types of fossils. Many, however, belong to one type of fossil. Many of the circular, U-, and V-shaped fossils represent two-dimensional slices through the same type of fossils. Can you imagine what type of shape the fossil might have in three dimensions? That will help you determine what the fossil is. Try to draw what you imagine the organisms looked like when they were alive, then do the extension activity.

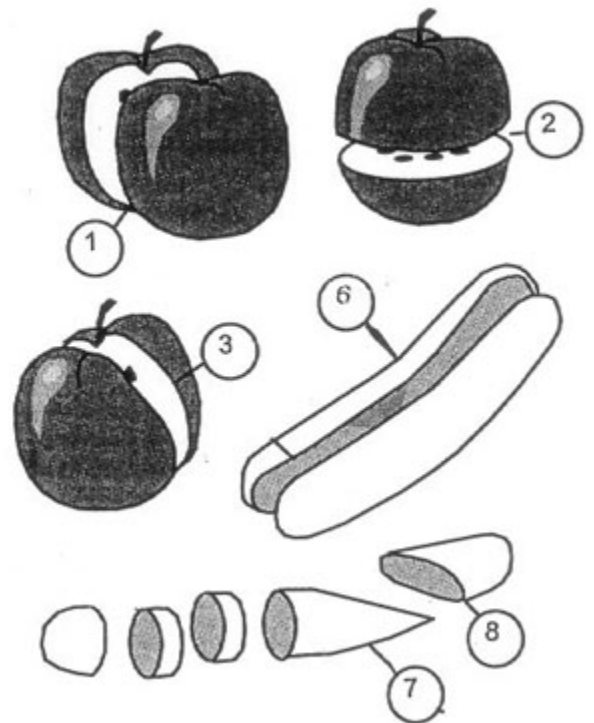
Materials: Four apples, four bananas (peeled), cutting board, and knife for cutting fruit

Safety: Using a knife poses the risk of a cut or puncture wound. Handle any sharp object with extreme care. Always cut away from your body. Children should let teachers or parents cut the fruit.

Goal: To show that it can be difficult to determine the three-dimensional appearance of an object from two-dimensional slices through the object.

Procedure:

- Walk outside the library (no food inside, please). Hold an apple on a cutting board. With a knife carefully cut the apple into two pieces, vertically from the stem down (from top to bottom).
- Next, cut a second apple laterally from side to side.
- Next, cut the third apple along a diagonal plane (from top right to bottom left).
- Compare the cut surfaces of all the apple slices. How are they alike? Several slices are probably similar because apples have circular shapes.
- Compare the cut surfaces of the apple to the uncut shape of the fourth apple. Could you guess the actual shape and appearance of an apple from any of the slices?
- Now, cut one banana down its length, from stem to tip.
- Next, cut the second banana into slices, across its width.
- Next, cut the third banana at an angle along its length.
- Compare the cut surfaces of the banana slices. How are they alike? How do they differ?
- Compare the cut surfaces of the bananas to the uncut fourth banana. Could you guess the actual shape and appearance of a banana from any of the slices? Is it easier to determine the shape of the banana from some slices than from others?



- Is it easier to tell the shape of the apple or banana from their slices? Why might one be easier to tell than the other?
- Do any of the library fossils have similar shapes? Would it be easier to tell with some fossil slices what the original fossil organism looked like than with others?
- Do the apples or bananas have hard skeletons (bones or shells)? Are they likely to be preserved as fossils as the fossils in the polished limestone have?
- Eat the fruit pieces! They're good for you. Don't bring them into the library. No food or drinks allowed.

Follow-up: Pick up a copy of the fact sheet, Fossils at the William T. Young Library, to see the true shapes of the ancient animals whose remains are preserved as fossils in the limestone.

Connections to Kentucky Program of Studies and Core Content for Assessment

Grades Primary–4—Earth/Space Science: Properties of earth materials. Grades 5–7—Life science: Diversity and adaptations of organisms, also Earth/Space Science: Earth's history. Grade 8—Earth/Space Science. Grades 9–12—Earth/Space Science: The formation and ongoing changes of the earth system, also Life Science: Biological change.

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[Download fact Sheet about Fossils at the William T.Young Library](#)
