

The Caucus Race



After swimming in a pool of her own tears, Alice and her new animal friends run a Caucus Race to get dry. During this race, Alice has the chance to see many different birds and other creatures as they run around. In this activity, children will create a zoetrope, a type of movie picture wheel, which shows different creatures walking around. As they draw individual frames of animals, children will gain an understanding of how different animals move.

Did You Know?

- ♣ *Gait* is a word used to describe the way a person or an animal walks, steps, or runs.
- ♦ The word *zoetrope* comes from the Greek word *zoe*, meaning "living things," and *trope*, meaning "spinning;" together they mean "a wheel of life."

To Get Ready:

The only advanced preparation needed for this activity is to make copies of the zoetrope pattern found on page 21.



To Start, Ask:

Think about a dog and a cat. How are their movements the same? How are they different?

Now think about a frog and a fish. How are their movements the same? How are they different? What do you think makes these different animals move so differently?

What you'll need:

- ♣ Copies of the zoetrope pattern found on page 21
- ♦ Scissors
- ♠ Markers or colored pencils
- ♥ Flexible straws
- ♣ Tape
- ♦ Pencil or hole punch
- ♠ Books of different animals

Try It!:

- ♣ Have you ever seen the film strip that makes a movie? Movies are actually many single pictures shown together quickly to look like they are moving. This activity features a zoetrope, which is like a mini-movie. Start to make the zoetrope by cutting out the pattern found on page 21 of this booklet.
- ♦ Think about which animal you would like to draw and then imagine how that animal moves. How many legs or fins does the animal have...two or four? What is the shape of the animal's legs or fins? Do all the legs move at the same time? If the animal has two legs, how do its arms move? Do the legs move together or do they move opposite each other? How about the back legs...how do they move in comparison with the front legs? Does the animal's back move as it walks, runs, or swims?
- ♠ Make a sequence of pictures on the zoetrope cutout that shows your animal moving. Draw a different picture on each of the tabs—in the first picture, the frog might be crouching down on all four legs; in the second picture, its front legs might be stretched out while the back legs crouch; and the third picture might feature full stretch of all four legs. The bottom of each picture should be where the tab is connected to the center of the zoetrope.
- ♥ After you've finished your drawings, use a hole punch or sharpened pencil to make a hole in the center of the zoetrope.
- ♣ Fold each of the tabs inward toward the center so that the pictures are inside of the circle.
- ♦ To help the tabs stay up, use a small piece of tape to attach each of the tabs at the top. Be sure to leave a gap between the tabs so that you can see through.
- ♠ Insert the flexible straw into the hole at the center of the zoetrope.
- ♥ Roll the straw between your palms to make the zoetrope spin, and look through the small slits.
- ♣ What do you see as you spin the zoetrope? Does it look like a movie? What happens if you spin it the other way?



Questions to think about and ask:

- Which way do your knees bend? Which way does a horse's knee bend? How does that affect the way you or a horse walk?
- Do you want to make any changes to your drawings now that you see how it looks as a movie?
- If you were to make another zoetrope, how might you make your drawings different?



Assess What Happened (Students reflect):

If the different animals that your class drew had a race, which animal do you think would win and why? Encourage students to explain why the animal they drew might move the way it does. Students might think about the number of legs it walks on, and how its back and arms move.



Connect it to Standards:

Students "develop an understanding of the characteristics of organisms." One such characteristic is "each plant or animal has different structures that serve different functions in growth, survival, and reproduction."
(National Research Council Science Education Standard)

Connect it to the Story!

After swimming in the Pool of Tears, Alice and her new animal friends, "the birds with draggled feathers, the animals with their fur clinging close to them, and all dripping, wet, cross and uncomfortable" had to figure out a way to dry themselves. After much discussion and some experimentation, they finally settle on holding a Caucus Race to dry off. Basically, a Caucus Race, in this story, is when all the animals run around in a circular racecourse until the end of the race is called at random – at which point, they hope they are all dry. Which animal will race the fastest in your animation?



Career Corner:

A **psychobiologist** studies the behaviors of animals, including the way they walk. Wouldn't you like to know where an animal has been, what it was doing, and why?

zoetrope pattern

