

1st Grade Activity: Leaping Lions

Animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Using your own body, investigate how different animals jump. .
(NGSS Disciplinary Core Ideas 1-LS1 From Molecules to Organisms: Structures and Processes)

Pre-Activity Questions

- Why do animals jump?
- Do larger animals jump longer distances than smaller animals?
- Do all animals have the ability to jump?

Activity

- **Mountain Lions**, also known as cougars, or pumas, are North America's largest, small cat, weighing up to 200 pounds. Their average body length is 3-5 feet, and their tail is 2-2.7 feet long. Their tail, measuring nearly one-third of their total length, gives them excellent balance. When stalking and attacking prey, mountain lions utilize extraordinary leaping abilities. They are capable of jumping at heights exceeding 40 feet from a running start and vertical leaps of up to 15- 20 feet standing still. Can you jump as far as a Mountain Lion?
 - **Rabbits** can jump vertically about 2 feet, but they can also leap 9 feet horizontally due to their robust back legs. Rabbits can balance on those powerful legs to scout their surroundings for predators, and they thump the ground vigorously to alert other rabbits of danger.
 - How far can a **Frog** jump? How far a frog can jump is different for every species. Every species has other structures to make it easier or harder to jump far. But in general, we can say that many frogs jump at least 30 times their body length and some smaller tree frogs can jump up to 50 times their body length. That's incredible!! A tree frog can jump up to 7 feet in one leap.

Let's Get Leaping!!!

Materials

- Measuring Tape or yard stick
- Place markers (small cones, water bottles, plastic bowls, ect.)
- Tape
- Scratch paper
- Markers or pencils
- A safe jumping space clear of obstacles

Steps

1. On a piece of **scratch paper**, write or draw a picture with your **markers** or **pencil** of a **Mountain Lion**, a **Rabbit** and a **Frog**. **Tape** the scratch paper to your **place markers**.
2. With the **measuring tape** or **yard stick**, measure out the leaping distances of the Mountain Lion (15 feet), Rabbit(9 feet) and Frog (7 feet). Place each animal marker at the appropriate distance.
3. Choose your starting spot.
4. Now you're ready to leap - try to leap as far as each animal. If you can't make it in one jump (don't worry, it takes lots of practice) count how many leaps it takes to reach each animal marker.
5. Try leaping backwards or sideways or even with a running start.

Post-Activity Questions and Activities

- How many leaps did it take to reach each animal marker?
- Did jumping sideways or backwards make it easier or harder?
- Were you able to jump further with a running start?
- Did you use other body parts, like your arms to help you leap further?
- Does your favorite animal leap?If so, how far?