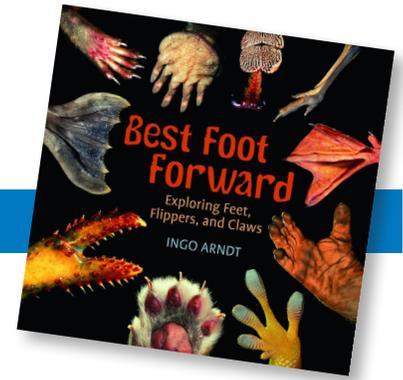


# Best Foot Forward

## EXPLORING FEET, FLIPPERS, AND CLAWS

### RIF EXTENSION ACTIVITIES FOR EDUCATORS

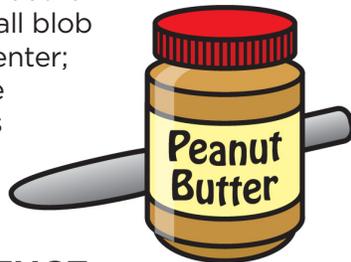
STEAM-THEMED: SCIENCE, TECHNOLOGY, ENGINEERING, ART, MATH



#### SCIENCE, ENGINEERING FOOTPRINT FINDER

Materials: large piece of cardboard, flour, peanut butter or another thick spread

Place the cardboard in an area outside away from the school building where you think an animal is likely to be. Dust the cardboard with flour and drop a small blob of peanut butter in the center; leave out overnight. Have students check for tracks the next morning; try to identify the animal.



#### TECHNOLOGY, SCIENCE, ENGINEERING, ART, MATH WEB "FOOT"AGE

Share with students the story of Buttercup the duck. The article can be found at [www.usatoday.com/story/tech/2013/06/28/3-d-printing-duck-foot/2473703](http://www.usatoday.com/story/tech/2013/06/28/3-d-printing-duck-foot/2473703). After reading the article, let students brainstorm how they think 3D printing works. List their ideas on the board. Then, watch this short explanation of 3D printing: [www.youtube.com/watch?v=H1m-fMsBNNg](http://www.youtube.com/watch?v=H1m-fMsBNNg). Ask these questions: If you could design any object and 3D print it, what would it be? What would its purpose be? How might it help others? Have students sketch a design of their object and share with the class.

#### ENGINEERING, SCIENCE HAREBRAINED IDEA

Materials: paper, pencils, markers or crayons

Many animals that live in snowy regions, like the snowshoe hare, have adapted to have big, flat feet. This helps spread their weight out so they can walk on ice and snow without sinking. Snowshoes use this idea to help people walk across snow by making their feet big and flat, like an animal's paw. Pick an animal from the book. Design an invention inspired by that animal's feet. Sketch, label, and name your invention. What does it do?

How does it work?  
What is it made of? Why would people want to use it?

#### ART, SCIENCE ARTFUL ADAPTATIONS

Materials: paper, pencil, markers, internet access

Give each student an animal and a habitat that don't match (e.g., a duck and the desert). Students must design new adaptations that animal would need to survive in its new habitat. Students should illustrate and provide detailed descriptions of the changes they made to help their animal survive.

#### MATH

##### PAW PRINT PATTERNS

Materials: sponges, scissors, paint, paper

Cut sponges into different animal print shapes. Let students dip the sponges into paint and create paw print patterns on the paper. When dry, have students label their patterns.



##### WHICH ONE IS BIGFOOT?

Pose this problem to students: You and a friend are walking in the woods. You find several animal tracks: an opossum, raccoon, deer, and fox. Which paw print has the largest area? Come up with a method to determine which print is largest and which is smallest. Justify your findings and discuss with a partner. Animal Track cards can be downloaded at: [www.hobbyfarms.com/crafts-and-nature/animal-track-id-cards.aspx](http://www.hobbyfarms.com/crafts-and-nature/animal-track-id-cards.aspx).



Reading Is Fundamental