



Whose Track is That?

Purpose:

- In this activity students will relate adaptations of mammal tracks to different mammals found in the Rogue Valley area. They will use critical thinking and teamwork in order to do so.

Objectives:

- Students will work in groups of 5 to match 3 track descriptions to the mammal and track it belongs to of 5 different mammals.
- Students will work in groups of 5 to create categories of the 5 tracks they are looking at by identifying similarities and differences.

Materials:

- Track indicator cards (15 per group)
- 5 mammal name cards and 5 mammal track pictures
- 5 *Pocket Naturalist: Animal Tracks* booklet (1 per group)
- Teacher answer key
- Track replicas
- Skulls (optional)
- Pelts (optional)
- Scat replicas (optional)
- Rulers (not provided, optional)

Time Required: 30-45 minutes

Appropriate grades: 4-8

NGSS and Common Core Standards:

4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

MS-LS1-4: Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

MS-LS4-2: Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.

Activity:

| Introduction |
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| In five groups have students create a definition for adaptation. As each group shares their definition, write key words on the board from each definition. Create a class definition for adaptation including the key words students provided. Ask each group to discuss how adaptations might relate to animal tracks. Have each group share with the class. |



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| <p>Body</p> | <p>Distribute materials to five preassigned groups.</p> <p>Instruct students to work together to determine which three track clues belong with each track and then which mammal they believe that describes.</p> <p>To create more of a challenge, do not distribute the <i>pocket Naturalist: Animal Tracks</i> booklet.</p> <p>Each group will receive either a coyote, mountain lion, or bear track replica to determine with the track clues.</p> <p>Skulls, pelts, and scat can also be displayed in a central location for students to also make inferences about the mammal in which they belong to.</p> <p>Distribute rules for measuring tracks. They are all true to the size of each mammal.</p> <p>Groupings can be verified by the teacher to the class, shared by each group, or verified with each individual group.</p> <p>Once groups are finished with their groupings of 3 track indicators, track, and mammal, ask them to sort the 5 groupings into categories (examples: claws vs. no claws, shapes, uses)</p> <p>Each group will then share out to the class what grouping they choose and why.</p> |
| <p>Closure</p> | <p>If using skulls and pelts, have students write down one question about adaptations they have pertaining to the skulls and pelts.</p> <p>Ask students to write down one adaptation they believe one of the mammals discussed has that was not already mentioned (these do not have to relate specifically to tracks)</p> |

Modifications:

- **Lower Elementary:**
 - Use a think, pair, share technique as students make observations about the photos of the tracks. Have each group discuss what mammal this track could belong to and why they think so.
- **Upper Middle School/High School:**
 - Instead of creating categories from the groupings, groups will use computers or tablets to research the most ancestral foot for each mammal and justify with reason why they believe they foot evolved to what it is today.
 - Students can conduct research to determine which tracks/mammals are evolutionarily connected and what factors were selected for throughout generations.



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