

Catching Tracks

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Overall aims:

- Engage with nature;
- Emphasize with nature;
- Respect others, animals and nature;
- Respect the environment of animals.

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Vocabulary - keywords

Animals, Footprints, Tracks

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Sustainable abilities developed

- Systematic thinking competency;
- Critical thinking competency;
- Collaboration competency

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Pillars of sustainability included

- Environmental

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STEAM domains

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Teaching methodologies/activity outline

The science behind the fun:

Researchers use track stations to document the presence and activity of animals in a given area. The track station is covered with a substance, such as chalk, sand, or ash, that allows animals to leave behind prominent footprints. Researchers can identify species and sometimes even gender and age through tracks. To attract animals to the station, researchers also sometimes use bait, such as food or scents. In some interesting cases, scientists have successfully attracted large mammals, such as leopards and jaguars, with popular perfumes! In this lab activity, you'll deploy a track station to see who's passing through your area.



Pupils could try to work out how their rate of finding woollen caterpillars compares to a blue tit by working out roughly how many caterpillars a real blue tit would find per hour/half hour.

Safety Tips & Helpful Hints:

- Select a spot for your track station where people aren't likely to pass through so you won't constantly be recording shoeprints!
- Check the forecast before you set your grid so you know if the weather will cooperate. Even a little rain can ruin your data collection.
- You may want to make the area for your track station flat and flush with the surrounding ground, as long as the change doesn't deter visiting animals.

Procedure:

1. Pitfall traps helped you examine arthropods and your trail cam helped you document species that are large enough to trigger the camera. Now, use this information to decide where to set up your track station. You'll be studying animals that move on the ground and are heavy enough to leave prints, so choose a location that you think experiences a lot of animal foot traffic. The spot must be flat and even, so avoid things such as grass and gravel.
2. Blend your fine-grained sand with mineral oil in a bucket or mixing bowl, adding oil until the sand is shapeable but not too wet or saturated.
3. Spread the oiled sand into a rectangular grid in your location of choice. The grid doesn't need to be huge, but the larger it is, the higher the probability that something will walk through it. Consider using a grid that is about 2 feet wide and 3 feet long (0,6 m by 0,9 m). The sand should be at least a ½ inch (1,3 cm) deep in order to capture tracks adequately. Leave the track station untouched for a whole day (24 hours).
4. Once you have tracks in the sand, carefully record their length and width and sketch them in your field notebook, through teacher's guide and assistance.
5. Many guidebooks and online resources can help you identify the tracks, especially if you're just keying them to animal group (mammal, bird, reptile, etc.) rather than particular species.

Creative Enrichment:

Researchers sometimes use bait, such as food or scents, when studying animals through a track station. After re-smoothing your track station sand, try putting out different types of bait. Do you get more animals? Different animals? Some good things to try are cat food, canned tuna fish, dog kibble, and fish flakes. Or, you can try perfume or other household



	<p>scents. If you're lucky enough to get a deep, well-defined track at your station, consider using plaster of Paris to create a keepsake track from your study that you can even paint and decorate!</p>
7	<p>Expected learning outcomes</p> <p>The child will be able to:</p> <ul style="list-style-type: none"> • follow instructions; • engage with nature; • develop senses.
8	<p>Assessment</p> <p>The evaluation is implemented through observation of the activity by the teacher who assesses pupils' commitment and participation.</p>
9	<p>Equipment and materials to be used in learning unit (tools, ingredients etc)</p> <ul style="list-style-type: none"> • Fine-grained sand • Mineral oil • Handheld magnifying glass • Ruler
10	<p>Kind of setting - lab, kitchen, outdoor etc.</p> <p>Outdoor</p>
11	<p>References - source:</p> <p>M. Reinbold, <i>Animal Exploration Lab for Kids</i>, Quarto Knows, San Diego (USA) 2020, pp. 22-23</p>

