



Special guests:



Mammals in
a Sustainable
Environment

Content Strand: Living things, Environmental awareness & care.

Cross-curricular Relevance:

SESE - Living things, environmental awareness & care, questioning, observing, analysing, sorting and classifying, investigating, recording and communicating.

Maths - Counting, estimating, recording, active learning.

Geography - Maps, globes and graphical skills, recording and communicating.

Literacy - Writing, spelling.

Art - Drawing, construction.

Title: Make a Mammal Footprint Tunnel

Class: 4th, 5th, 6th

<p>Background Information</p>	<p>Mammals evolved 200 million years ago and are the most highly evolved of all animal groups. Mammals have certain features which allow us to identify them. They are warm blooded and they feed their young with milk. They are also vertebrates, which means they have a backbone (unlike insects) and a highly developed brain. It is often mentioned that mammals give birth to live young but there are exceptions to this rule! The platypus and spiny ant-eater both lay eggs, but they are still mammals. Of course don't forget about the aquatic mammals such as whales, dolphins and seals.</p> <p>There are 4,680 mammal species in the world. To date Ireland has recorded 26 aquatic (water living) mammals and 25 terrestrial (land living) mammals. These are mammals that have been living here since the year 1500. These are our native or naturalised mammals. The Irish wolf went extinct in the 18th century. Today, Ireland's most endangered mammal is the black rat! Other mammals under threat in Ireland are Leisler's bat, the otter, the red squirrel and Brandt's bat.</p> <p>It can be very hard to see wild mammals, as many of them are very secretive or come out at night. Instead, a lot can be learned about them from what they leave behind. Tracks, scat (poo!), feeding signs, scent marking and trails can reveal what animals passed by, what they did, where they went, and much more. Historically, animal tracking skills helped people find food and avoid dangerous predators. Wildlife tracking skills are still very important today and are often used by scientists and rangers.</p> <p>Identifying animal tracks and signs can open up an unseen world, a window into the lives of shy and elusive animals. Seemingly barren ground becomes alive with a diversity of fascinating information! Trigger questions are available at the end of the activity sheet.</p> <p>References: Marnell, F., Kingston, N. & Looney, D. (2009) <i>Ireland Red List No. 3: Terrestrial Mammals</i>, National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.</p> <p>Paddy Madden, INTO 2011, Zoom in on Mammals (http://www.schoolearthead.ie/pdf/intouch/SESE_ZoomMammals_Nov2011.pdf)</p>	
<p>Equipment</p>	<ul style="list-style-type: none"> - Correx poster board - Black poster paint - Cable ties x3 - Scissors - Dog food and tin opener - Spoon - Sharp knife 	<ul style="list-style-type: none"> - White A4 paper - Washing up liquid - Paint brush - Small bowl - Sellotape - Clingfilm (optional, see note at very end) - J-cloth / old cloth

Activity

Begin by folding the poster board (60 cm X 80 cm) into three even sized panels. Follow the steps A to I below...

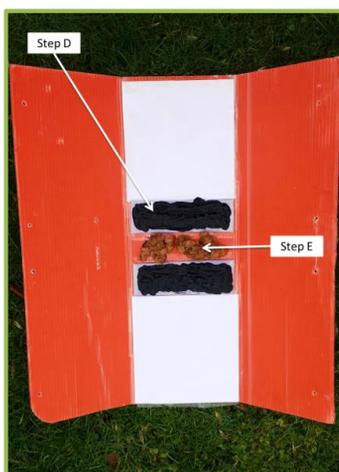
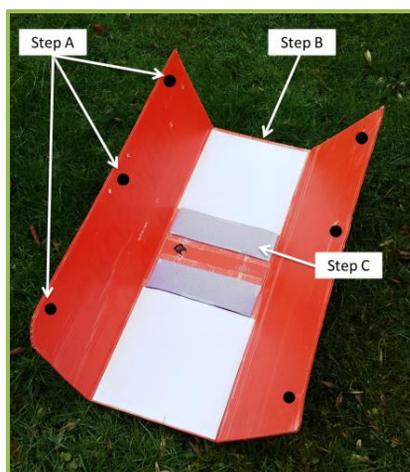
Step A. Using the sharp knife (adult only!) pierce holes in each side of the tunnel. These are shown as black dots on the picture. At the very end these holes will be threaded together with the cable ties (to hold the tunnel together) and so they should be opposite each other. Don't attach the cable ties or string yet.

Step B. Fold the A4 paper to fit inside the tunnel and tape each edge down securely. Make sure not to tape across the middle of the sheets as the animal will be walking here.

Step C. Cut the sponge cloth or j-cloth into two rectangular lengths and tape into position. Again do not tape across these.

Step D. Squeeze some of the black paint onto the j-cloths and spread around using the paintbrush. This needs to stay damp for a number of days, so be generous!

Step E. Place some dog food in the middle of the tunnel using the spoon.



Step F. Thread the cable ties or string through the holes made earlier. Pull or tie these tightly. It should look like the triangular tunnel seen in the photo.

Step G. Place in a sheltered area of the school grounds, preferably lengthways along a hedgerow or under bushes for up to one week to monitor for hedgehogs and small mammals

Step H. When checking the tunnel, remove the cable ties using the scissors. Check if there are any footprints on the paper. If there are then carefully remove the paper. If not, maybe try a new location but check that the paint is still wet (if not add more) and put in more dog food.





	 <p>Step 1. Allow the footprints on the A4 sheet to dry out if wet. A good idea is to laminate the sheet once the footprints are dry. Then carefully examine the various prints and try to identify them.</p> <p>If you need help identifying footprints, the staff at MISE are more than happy to help you. Denise O' Meara, MISE Project Officer at Waterford Institute of Technology can be contacted at domeara@wit.ie. You can check out their website at www.miseproject.ie.</p> <p>Note: During very wet weather clingfilm or plastic can be taped across the top of the tunnel. This prevents water entering through the top of the tunnel and soaking the paper.</p> <p>Photo: Footprints (www.mammal.org.uk)</p>
<p>Safety</p>	<ul style="list-style-type: none"> - All poster paint used should be non-toxic. This is important for the children and also the animals. - Only an adult should use the knife. - Hands should be thoroughly washed after collecting the tunnel. This is best done by a teacher.
<p>Follow-up Activities</p>	<p>Complete a project on the mammals that are found nearby. What do they eat, what do they look like, is there any folklore associated with them, are they endangered?</p> <p>Turn it into a science experiment by creating a fair test. Make a few mammal footprint traps. Try putting the trap in different locations or maybe use different types of food, for example peanut butter or a hot dog.</p> <p>Become a nature detective! Go outside and see what animals live nearby. What clues have they left behind? For example, dog footprints in mud, an apple core dropped by a human, scratches in a fence left by a cat, bird dropping on a car window...</p>
<p>Trigger Questions</p>	<p>Q. Ireland has 25 species of mammal whereas Britain has 43. Why are there so few mammals found in Ireland?</p> <p>A. As the Ice Age ended, approximately 12,000 years ago, Ireland was joined to the rest of Europe by land bridges. While some mammals were brought by humans, many moved to Ireland across these land bridges but unlike Britain our land bridges only lasted a relatively short amount of time. Therefore most mammals didn't have a chance to cross the land bridges.</p>



Q. Why do we not see wild Irish mammals very often?

A. Many of our Irish mammals, including badgers, hedgehogs, foxes and bats are nocturnal (they come out at night) or are shy.

There are many reasons why animals (not just mammals) are nocturnal. It could be because their predators don't come out at night (so they are a little safer) or that their food only comes during darkness. It also could be that they aren't competing with other animals for the same food. Although they are not mammals, think of a kestrel hunting mice during the day and an owl hunting mice at night.

Q. What could we do to find out what mammals live in our area?

A. There are many different methods of discovering what animals live nearby. A mammal tracking tunnel like this could be set up and the animal identified by its tracks.

Also, mammal traps capture animals (unharmful!) which can then be recorded or tagged and released the next day.

Sensor cameras with night vision are great for photographing and videoing.

Finally, clues can be left by the animals. Squirrels are messy eaters and leave half-eaten pinecones under trees. Badgers defecate in specific spots called latrines while otters use locations called sprainting sites. These areas are specifically used for communication with other otters.

For more information see www.miseproject.ie.

Massive thank you to:

MISE



**Mammals in
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The MISE project is part funded by the European Regional Development Fund (ERDF) through the Ireland Wales Programme (INTERREG 4A) and sets out to foster involvement of communities in Ireland and Wales in mammal conservation (www.miseproject.ie).

For more information about exploring biodiversity in your school check out www.BiodiversityInSchools.com.