

Outdoor Learning, STEM 2

Learning experience	
Make and use a string telephone, context of spring being when many baby animals are born.	
CfE Level - Second	
Experiences and Outcomes and associated benchmarks/skills	
<p>E&Os Through research on how animals communicate, I can explain how sound vibrations are carried by waves through air, water and other media. SCN 2-11a</p>	<p>BMs/Skills Discusses and demonstrates through experiments how sound travels differently through air, water and solids. Explains how hearing is limited by a range of factors, for example age, position and flexibility (direction of ears).</p>
Overview of learning experience	
Many animals have their young in spring. To discuss how animals communicate we need to investigate how sound travels. Make a cup telephone to find out.	
Outline of learning	
<p>LI/SC I can make a cup telephone. I can use a cup telephone to transfer sound. I can investigate how the transfer of sound changes over distance and with external factors. I can consider how the transfer of sound may effect how young animals behave.</p>	<p>Resources Paper cups. String of various lengths. May want to include a bucket of water. Camera to photograph and record pupils work.</p>
<p>Description of learning experience and assessment opportunities</p> <p>Discuss that spring is when many animals have their babies. What do these animals need or do when they are young? How do they communicate? (noise, staying close, pawing) Why is this? Let's investigate how sound travels so we can find out.</p> <p>Make paper cup telephones by making a hole in the bottom of 2 cups and pushing the string through, tie a knot to secure the string. Try to communicate using the cups, keep the string taut. (Sound is a vibration in the air. This vibration travels down the string and then the cup at the end amplifies the sound). Have a discussion on how this went and what was happening during this experiment to explain how sound travels. You may wish to dip the string in water and see what difference this makes. (It will be less effective as the water will make it more difficult for the vibrations to travel through the string.)</p> <p>Without the telephones assign each group an animal and ask them to try to communicate across the playground as that animal. Can they hear each other? What do they have to do to be heard? Move closer, baa louder? Use signs instead of voice? What effected the sound travelling? Other noises, the windy,</p>	

were they round a corner? How would this relate to the behaviour of young animals?

Consideration of risk

With lots of groups of children with long strings these could become tangled or tripped over, ask pupils to find a space.

Some pupils may be sound sensitive.

Your class may be noisy during this task so perhaps consider if you are outside another classroom and may be disrupting their lesson.

Taking it further – what else could you do?

Pupils could research how the animal they were actually communicates, were they right? Was there any aspects of communication they had not considered? Do a sound investigating on communicating in water, make a hydrophone.