




Learning Scientific Skills Outside the Classroom

Scientific Skills

Observing		Identifying and Classifying Specific skill – comparing animals	
Country of Origin	Suggested Age Range		Suggested Theme
 UK	KS1 specialist unit Activity planned for children with severe learning difficulties		Animals including Humans
Location outside the classroom		Benefits of using this location	
School grounds		A variety of animals can be seen outside and there are areas to find worms	
Learning Objectives – Scientific Skills		Learning Objectives - Knowledge	
To observe features of animals To make careful observations using magnifying glasses and binoculars To compare features of animals To observe worms in a wormery		To know that animals have some features in common To know that animals can be sorted into groups To know what a worm needs to survive	
Key Vocabulary			
Scientific skills vocabulary – observe, observing, see, compare, comparing, same, different Knowledge vocabulary – animal, reptile, mammal, bird, fish, minibeast, legs, wings, tail, water, air, ground, egg, fly, swim, fur, hair, large, small, wormery, survive			
Resources / Equipment			
<ul style="list-style-type: none"> • Equipment to compare animals – clear photographs, animal group labels • Equipment to observe animals in local environment – magnifying glasses, binoculars • Equipment to make a wormery – plastic container, small stones, moist soil, sand, dead and green leaves, spade for digging up worms, black paper, earthworms 			
Teaching Activities			
<p>Explain – They are going to be looking at different animals and comparing features which are the same in different groups of animals.</p> <p>Activity – Show children a photograph of a bird, a fish, a bear, a beetle and a lizard (the photographs will need to be of living things that the children are familiar with). Allow children time to look at the photographs before discussing them.</p> <p>Discuss – What animals are in the photographs? How do you know?</p> <p>Activity – Pupils describe the animals in the photographs. An adult might look at the images with the pupils and ask them questions about the animals in order to help the children describe features of animals accurately.</p> <p>Explain – Show the children some more photographs of different birds, fish, mammals (use mammals which are similar in appearance to bears), invertebrates (use invertebrates which are similar in appearance to beetles) and reptiles (use reptiles which are similar in appearance to lizards). Explain that they are going to look at the photographs and find animals which look the same and put them together in a group.</p> <p>Activity – Children spend some time independently exploring the photographs and try to find some animals which look the same.</p> <p>Activity – With adult support (if needed), children look at features of the animals which are the same and begin to sort the animals into groups which have something in common.</p>			





Explain – These groups of animals have different names. Introduce the labels – birds, reptiles, mammals, fish, amphibians and minibeasts (*invertebrates is too broad a category to introduce to pupils at this stage and they will already be familiar with the term minibeasts*).

Discuss – Which group of animals needs which label? Which of these living things might we find here?

Activity – Children use their eyes, binoculars and magnifying glasses to see what they can find. If they can't find an animal, they might find a clue that suggests one has been there e.g., tracks, webs, nests, faeces.

Explain – They are going to look at an animal which belongs to one of these groups, the minibeast group, and are going to make something called a wormery.

Discuss – What do you think a wormery might be? Where could we find some worms? What would we need to put into a wormery that the worms will need?

Explain – Worms live underground where it is dark so the wormery will need to be dark, it will need lots of soil because they live in the soil under the ground and the worms will need some food and water.

Activity – Set up a wormery with the children by placing small stones in the bottom of a clear pot, this will allow the water to drain. On top of the stones, children will alternate layers of sand and moist soil and, on the top layer, they will put dead and green leaves.

Demonstrate – Show the children how to carefully dig for worms and pick them up so they don't harm any worms.

Activity – Children dig for worms and put them in their wormery. They then wrap the outside of the container with black paper so it is dark. The top of the container is left open so that the wormery has a supply of air.

Explain – They are going to leave the wormery in a cool place for two weeks and during that time they can look at the wormery and observe what they see.

Activity – Over the next two weeks, pupils can freely observe the wormery by carefully unwrapping the black paper and observe what they see.

Discuss – What did you see in the wormery? What were the worms doing? How did you know where they had been moving? What did they eat?



Examples of children's work and teacher comments from country of origin



The children are very interested in living things so they especially loved digging for worms and watching them in the wormery. They were surprised how quickly they could see evidence of movement. They found sorting the photos quite hard – clearer photos and photos of animals they were more familiar with were much easier.

An extension to this activity would be to look at features of the living things in each group e.g., birds lay eggs, have wings. Amphibians can live on land and in the water.