

SCIENCE

PRIMARY LEVEL

STRAND: BIOLOGICAL ASPECT

UNIT I: OTHER ANIMALS AND US

APPROACH TO TEACHING AND LEARNING OF SCIENCE

Investigation is an important aspect and is to be maintained throughout the teaching and learning of all units taught in the Science Syllabus

MAINSTREAM OBJECTIVE

To know that there is a variety of living things

LESSON OBJECTIVES

Through this unit pupils will:

1. experience the different living things in the world
2. observe different characteristics of animals and plants
3. recognise that there are living things and non living things
4. group living things by classifying them according to similar characteristics

DIFFERENTIATED LEARNING OUTCOMES

All pupils will experience people, materials and other living things and respond to sensory experiences

Most pupils will learn about a wider range of living things and materials

A few pupils will have learned that plants and animals including humans can be sorted into groups thus recognising relevant data and evidence to draw conclusions from it.

VOCABULARY

Animal names	Scissors
Plant names	Camera
Afraid	Photos of different animals and their habitat.
Like	
Patting	
Body parts of animals	
Boxes	
Magnifying lens	

Attainment Level	Teaching Activities	Range of differentiated responses	Resources
Objective 1: Pupils should experience, explore and investigate the different living things in the world			
A1 to A4	<p>'Animal day' is organised in school and students are asked to bring pets with them. This can be done in conjunction with other classes to have variety of pets. Alternatively a visit to a nearby pet shop could be organised.</p> <p>Students use senses to experience similar type of animals e.g. birds that all have wings, fish that are all found in water.</p> <p>Students respond in the presence of an animal through facial features e.g. happy, afraid thus showing if the like or dislike a particular pet.</p> <p>A Power point presentation can be prepared with animated animal pictures commonly found in Malta and sounds made by these animals can be downloaded and recorded onto a CD. This is particularly effective if photos of own pet is used.</p> <p>Pupils are encouraged to look at and feel eyes, mouth, ears and tails of animals when appropriate.</p> <p>Students may be guided to smell fur or different smells that are in different animal houses.</p> <p>Students can feel different skins such as animal fur, shells of snails and tortoise, insects that can be placed on pupils' bodies.</p> <p>Teacher may use brightly coloured and noisy birds such as parrot and myna which can evoke a strong response from the students.</p>	<p>Pupils will:</p> <p>A1 : encounter experiences and activities to various animals and plants</p> <p>A1 : be aware of and focus their attention on certain range of plants and animals which they like.</p> <p>A2 : respond and purposefully explore animals and plants in more complex ways</p> <p>A3 : respond to options or choices with actions or gestures when presented with a living organism.</p> <p>A4 :show interest in a wide range of living things, handling and observing them</p>	<p>Insects and domestic animals found in school gardens.</p> <p>Magnifying glass</p> <p>Cloth such as fur or feathers</p> <p>Photos of flora and fauna commonly found on the Maltese Islands.</p> <p>www.maltawildplants.com</p> <p>http://www.shadowservices.com/nature/Maltese/table.htm</p> <p>Animal Soundtracks - www.a1freesoundeffects.com</p> <p>CDs Computer/ DVD</p>
A4 to A7	<p>After fieldwork or on presentation of the organisms in class, insects can be collected in one box and different types of plants and flowers are collected in another box. Thus the teacher can work on the task of sorting or categorisation of plants and animals</p> <p>Using real organisms instead of photos might be more beneficial as the students have more time to handle and observe them.</p> <p>Students can also be taken to a nearby local farm in order to see different kinds of animals such as sheep, horses, chickens, cows etc.</p> <p>Teacher uses vocabulary words to name animals being observed in order to encourage the use of words /gestures that are related to organisms.</p> <p>Rhyme 'Old Mc Donalds had a farm' can be sung in class and students can act it out also by using Maltese Sign Language Symbols when animals are mentioned especially</p>	<p>Pupils will:</p> <p>A4: show interest in a wide range of living things, handling and observing them</p> <p>A5: anticipate and join in activities focused on enquiry into specific environments when looking for living organisms</p> <p>A6: recognise features and characteristics of organisms and can sort</p>	<p>Animal signs can be accessed through the Maltese Sign Language Manual.</p> <p>Spotting living things in picture.</p> <p>http://www.bbc.co.uk/schools/ks2bitesize/science/activities/plants_animals.shtml</p>

	<p>if students use a communication aid or uses sign language to communicate.</p> <p>To reinforce fieldwork experience an interactive activity could be carried out by accessing the BBC website, Key stage 1 Science activities. Link provided.</p>	<p>organisms to given criteria when these are obvious e.g. plants and animals.</p> <p>A7: join in scientific investigation using some vocabulary to name animals.</p>	
A7 to LD2	<p>Teacher provides students with pictures or photos of different organisms and students have to contrast simple characteristics of the two groups such as feathers, fur, legs, leaves, noises they make.</p> <p>Teacher joins children together and discusses or brainstorms how the environment is suitable for different species. E.g. snails are found underneath rocks or in rubble walls and fish are found in water such as sea or aquarium. Teacher encourages students who perform at these levels to name the organisms verbally.</p>	<p>Pupils will:</p> <p>A7: join in scientific investigation using some vocabulary to name animals.</p> <p>A8: explore and observe similarities and differences between different animals and plants.</p> <p>LD1: become familiar with a variety of living things but they know they have some common characteristics.</p> <p>LD2: be able to identify that living things have specific adaptations to their environment.</p>	

Attainment Level	Teaching Activities	Range of differentiated responses	Resources
Objective 2: Pupils should explore and investigate the basic characteristics of plants and animals			
A1 to A4	<p>A contrasting sensory experience can be simulated where students brush fur of a dog and hear sound effects of dog barking. Successively they dip hands in aquarium with goldfish whilst hearing sea sounds such as dolphins, water splashing etc.</p> <p>Students may focus their attention or tolerate handling of a particular organism which he/she likes.</p> <p>Some students might explore organisms in a more purposeful way by feeding fish in aquarium or tapping on the glass.</p>	<p>Pupils will:</p> <p>A1 : encounter experiences and activities to various animals and plants</p> <p>A1 : be aware of and focus their attention on certain range of plants and animals which they like.</p>	

	<p>Students can explore a range of plants through their senses e.g. smelling Aromatic flowers and plants e.g. onions, lavender, wild thyme, mint, basil, bay leaf (rand). Fruits and vegetables can also be used and students can smell fruit jam, herb scented bubble bath, hand creams and toiletries which all have a smell of the various kinds of plants. Students can taste raw fruit and vegetables where suitable and can help in peeling and chop fruits and vegetables.</p> <p>Students can touch parts of plants with interesting textures such as bark of tree, leaves which are furry or smooth, leaves which are spiky, twigs etc.</p> <p>Students can experience various plants by visiting the botanical garden, Argotti in Floriana or the Botanical park in Gozo.</p> <p>Students together with teacher go out on a fieldwork to search for plants and animals or insects they find in school grounds. Photos of the plants, flowers, and insects are collected and duplicated to use for picture to picture matching.</p> <p>Comparison of different plants could also be carried out e.g. smelling and non-smelling plants, plants with flowers and plants without flowers</p>	<p>A2 : respond and purposefully explore animals and plants in more complex ways</p> <p>A3 : respond to options or choices with actions or gestures when presented with a living organism.</p> <p>A4 :show interest in a wide range of living things, handling and observing them</p>	
A4 to A7	<p>Students might go with the teacher on a fieldwork to search for plants, animals or insects in the school grounds. Photos of plants, flowers and insects are collected and duplicated to use for pictures to picture matching or object to picture matching according to the symbolic level of the student.</p> <p>Teacher prepares photos of commonly found insects and plants in Malta.</p> <p>Examples of commonly found insects in Malta would include:</p> <p>Spider – brimba Housefly – dubbiena Ladybird – nannakola Silverfish – dudu tal-kamla Centipede- centipied Woodlouse – hanzir ta' l-art</p> <p>Teacher can also prepare examples of plants and flowers commonly found in Malta:</p> <p>Poppy- pepprin Cape sorrel –qares Wild thyme – saghtar Snapdragon – papocci Crowndaisy –lellux Cypress – cypress Ivy- Liedna English oak – Balluta Ingliza Olive- Zebbuga Pine – Zhuber / Prinjola</p>	<p>Pupils will:</p> <p>A4: show interest in a wide range of living things, handling and observing them</p> <p>A5: anticipate and join in activities focused on enquiry into specific environments when looking for living organisms</p> <p>A6: recognise features and characteristics of organisms and can sort organisms to given criteria when these are obvious e.g. plants and animals.</p> <p>A7: join in scientific investigation using some vocabulary to name animals.</p>	

	Students can also be supported to compare different plants e.g. by smelling plants and categorising them into smelling and non smelling plants; flowering and non flowering plant; simple leaves and non simple leaves.		
A7 to LD2	<p>Students are taken to an insect hunt near school grounds and when students have collected some insects they show them to the rest of the class. Teacher encourages that they name and identify where they found the insects e.g. on a tree, under a log etc. It would be ideal if teacher prepare photos of different locations that students might have found insects e.g. rubble wall.</p> <p>Students can be taken outside to listen to nature sounds and discuss that plants do not make sound. They are more likely to hear cricket sound, birds singing, cats purring and dog barking.</p>	<p>Pupils will:</p> <p>A7: join in scientific investigation using some vocabulary to name animals.</p> <p>A8: explore and observe similarities and differences between different animals and plants.</p> <p>LD1: become familiar with a variety of living things but they know they have some common characteristics.</p> <p>LD2: be able to identify that living things have specific adaptations to their environment.</p>	<p>Photos of :</p> <p>Soil</p> <p>Rubble wall</p> <p>Crack in wall</p> <p>Twigs</p> <p>Stones.</p>

Attainment Level	Teaching Activities	Range of differentiated responses	Resources
Objective 3: Pupils recognise that there are living things and non living things			
A1 to A4	<p>Teacher needs to find a spot in the school grounds where it could be ideal for fieldwork. The aim is to identify living and non living things.</p> <p>A long rope is put around a tree and students are assisted to remain in the confined area inside the border shown by the rope.</p> <p>Student will have experience to the different organisms and things present such as they touch soil, bark of tree, dried leaves, insects, animals that might be present.</p> <p>Teacher can stimulate student by putting a crawling insect such as ant, centipede or snail on the student's hand or foot. Students feel the difference between a living organisms which moves and crawls as opposed to a stone which remains stationary.</p> <p>Teacher should observe reaction through facial features and body gestures to any likes</p>	<p>Pupils will:</p> <p>A1 : encounter experiences and activities to various animals and plants</p> <p>A1 : be aware of and focus their attention on certain range of plants and animals which they like.</p> <p>A2 : respond and purposefully explore animals and plants in</p>	

	<p>or dislikes when insects are placed on the children's hands. Students can also experience the sensory properties of contrasting plants e.g. velvety touch and rough edged leaves.</p>	<p>more complex ways A3 : respond to options or choices with actions or gestures when presented with a living organism. A4 :show interest in a wide range of living things, handling and observing them</p>	
A4 to A7		<p>Pupils will: A4: show interest in a wide range of living things, handling and observing them A5: anticipate and join in activities focused on enquiry into specific environments when looking for living organisms A6: recognise features and characteristics of organisms and can sort organisms to given criteria when these are obvious e.g. plants and animals. A7: join in scientific investigation using some vocabulary to name animals.</p>	
A7 to LD2		<p>Pupils will: A7: join in scientific investigation using some vocabulary to name animals. A8: explore and observe similarities and differences between different animals and plants.</p>	

		LD1: become familiar with a variety of living things but they know they have some common characteristics. LD2: be able to identify that living things have specific adaptations to their environment.	
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Attainment Level	Teaching Activities	Range of differentiated responses	Resources
Objective 4: Pupils group living things by classifying them according to similar characteristics			
A1 to A4		Pupils will: A1 : encounter experiences and activities to various animals and plants A1 : be aware of and focus their attention on certain range of plants and animals which they like. A2 : respond and purposefully explore animals and plants in more complex ways A3 : respond to options or choices with actions or gestures when presented with a living organism. A4 :show interest in a wide range of living things, handling and observing them	
A4 to A7		Pupils will: A4: show interest in a wide range of living things, handling and observing them A5: anticipate and join in activities focused on enquiry into specific environments when looking for living organisms A6: recognise features and characteristics of organisms and can sort organisms to given	

		<p>criteria when these are obvious e.g. plants and animals.</p> <p>A7: join in scientific investigation using some vocabulary to name animals.</p>	
<p>A7 to LD2</p>		<p>Pupils will:</p> <p>A7: join in scientific investigation using some vocabulary to name animals.</p> <p>A8: explore and observe similarities and differences between different animals and plants.</p> <p>LD1: become familiar with a variety of living things but they know they have some common characteristics.</p> <p>LD2: be able to identify that living things have specific adaptations to their environment.</p>	

