

Teaching Science to Little Ones – Grade 2

Teacher Resource for:

- Life Science:** Animal Growth and Changes
- Earth and Space Science:** Air and Water in the Environment
- Physical Science:** Liquids and Solids
- Physical Science:** Relative Position and Motion

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Lesson Six *Man-Made and Natural Habitats*

Outcomes

Students will be expected to:

- make predictions about the stages in a life cycle of an organism, based on an observed pattern of stages in a similar organism
- Describe the features of natural and human-made environments that meet the needs of some familiar animals
- Compare human-made environments with natural environments in terms of food, water, shelter, and space they provide

Materials: Pictures of similar organisms

Pictures of animals in zoos, aquariums and nature parks

Show the students pictures of organisms, two of which are similar, such as frog, spider, moose, and dog. Ask the students which two of these animals would have similar life cycles. Ask them to explain why.

Ask students to list other organisms that would have a similar life cycle to these two animals.

Repeat the same procedure with pictures of other organisms.

Students can then complete the sheet on the following page.

Ask students to list the features of the environment that meet the needs of different organisms. Ask how man-made environments try to do the same thing. Have them tell how animals in the wild get shelter, food and water and what kind of space they have for roaming around. Ask how this would be different in a man-made environment.

Have students draw and color an illustration of an organism in its natural environment and in a man-made environment.

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Name _____

Date _____

Circle the names of the organisms in each list that have a similar life cycle to the organism on the left.

1. Moose Deer Butterfly Spider

2. Frog Butterfly Rabbit Crocodile

3. Cat Frog Snail Human

4. Ant Dog Chicken Spider

5. Chicken Duck Spider Cat

6. Salmon Guppy Deer Human

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Lesson Three *Observing Changes in Temperature*

Outcomes

Students will be expected to:

- Observe changes in air conditions in indoor and outdoor environments and describe and interpret these changes in terms of temperature, air movement and moisture

Ask students how they know that the temperature changes. What do they usually do when this happens? They will most likely think and answer in terms of the seasonal changes in the weather, so it may be necessary to guide them in terms of thinking of indoor changes in temperature. What do they do when they find it too warm or too cold?

Ask the students to identify places in the classroom or the school that are warmer or colder than others. Ask them to suggest reasons for these changes.

Take the students outdoors. Ask them if there is a difference in temperature in a shaded area versus an open area.

They can also use their wind measurement instruments to find if there is a difference in wind speed or direction in different areas outdoors. They can use words such as warm and cold to record the temperature.

Observation Chart

Area	Wind Speed	Wind Direction	Temperature	Clouds

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Lesson Seven *Which Material is Waterproof?*

Outcomes

Students will be expected to

- Investigate how various materials interact with moisture
- Predict which materials are more waterproof
- Select and use materials and tools to test their predictions
- Communicate the procedures and results of their tests of materials, using drawings, notes and/or oral descriptions

Explain what the word waterproof means. Present students with several different types of material and ask which ones they think are more absorbent than others. Test their suggestions with the material and water.

To test for waterproofing, drop water on the materials and watch to see whether the water just stays on top of the material, is absorbed by the material or soaks through.

Let the students choose materials on their own to test for waterproofing.

Use this chart for them to record their results.

Material	Is it waterproof?

Ask students to offer a general conclusion about what type of material more waterproof than the others.

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Lesson Seven: *Cleaning Up Solids and Liquids*

Outcomes:

Students will be expected to:

- Describe and demonstrate ways we use our knowledge of solids and liquids to maintain a clean and healthy environment
- Describe two ways to clean up table salt from a table top
- Describe two ways to clean vegetable oil from a table top

Read a book about littering and recycling to the students. One suggestion is The Gift: A Magical Story About Caring for The Earth by Isia Osuchowska.

Ask students why it is important to recycle. Have them list ways they recycle at home and at school. Ask then why it is important not to litter and to always clean up any mess they make, whether it is outside or inside.

Pour some water on the top of a table and ask the students what is the best way to clean up the liquid. Suggest some ways you know will not work, such as using plastic or trying to scoop up the liquid in a container. Have students explain why these methods don't work.

Then use paper towels or a cloth to clean up the water. Ask them to explain why these materials work better.

Next pour a drop of vegetable oil on the table and ask students if they think the same materials will clean up this liquid. Try them and ask why the students think they don't work as well as with water.

Show the students two methods of cleaning up the oil, such as sprinkling sawdust over it and then cleaning up the mess.

Then spill some salt on the table. Ask the students what they think would be the best way to clean the table. They can try wiping it off, but grains of the salt will still stay on the table. Show them that when you add a small drop of water, the grains clump together and this makes it easier to clean the table.

Students can complete the sheet on the following page.