

## Guardians of the Future Programme

### Curriculum Booster – Importance of Wetlands

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| Grade:                                       | 6   |
| Subject:                                     | Natural Science and Technology  |
| Subject area:                                | Matter and Materials  |
| Topic:                                       | Mixtures and Water Resources  |
| Term:  | 3   |
| Time allocation:                             | 1.5 hours   |
| Content and concepts:                        | To teach learners to recognise and appreciate the importance of natural wetlands: <ul style="list-style-type: none"> <li>• Removing soluble and insoluble substances from water</li> <li>• Acting like sponges and regulating the flow of water</li> <li>• Providing habitat for animals</li> </ul> |
| Major processes and design skills practiced: | <ul style="list-style-type: none"> <li>• Accessing and recalling information</li> <li>• Observing</li> <li>• Identifying problems and issues</li> <li>• Doing investigations</li> <li>• Interpreting information</li> </ul>   |
| Methods of teaching used:                    | <ul style="list-style-type: none"> <li>• Reflection</li> <li>• Presentation</li> <li>• Demonstrations</li> <li>• Practical work (action learning)</li> </ul>  |
| Methods of assessment:                       | <ul style="list-style-type: none"> <li>• Pre-evaluation exercise – prior to any engagement</li> <li>• Post-evaluation worksheet after all activities</li> </ul>   |
| Pre evaluation:                              | Ask learners to draw what they think a wetland is and the types of animals live there ( <i>use scrap paper where possible</i> )   |

**Reflection** (Time prescribed: 15 mins)

**Review relevant content first (The Wetland Ecosystems material provided on the website)**

**Discuss**

What is an ecosystem?

Example topics:

What is a wetland?

What animals rely on wetlands?

What threats are there to wetlands?

**Activity** (Time prescribed: 45 mins)

**Making a model wetland**

**Materials required:**

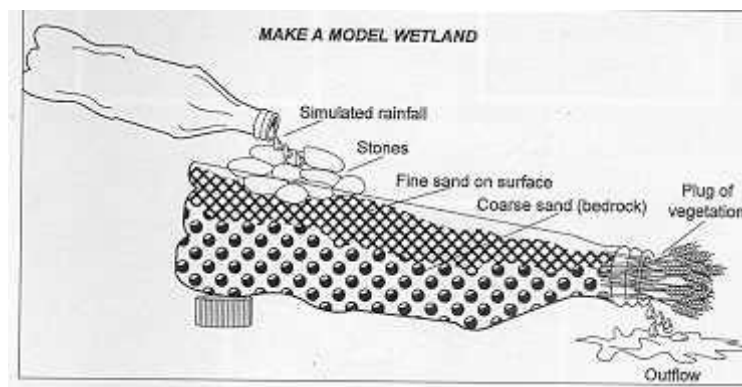
- Empty 2 litre bottle cut along the length (with lid still on)
- Coarse sand, fine sand, and a few small rocks
- A few grass clippings

1. Cut the 2 litre bottle in half along the length without damaging the neck of the bottle.
2. Plug the neck of the bottle with grass clippings.
3. Fill bottom of the bottle with the coarse sand.
4. Put a layer of fine sand on top of the coarse sand.
5. Pack the stones in a little heap near to the fat end of the bottle.

6. Now put the fat end of the bottle on top of the lid of the bottle and rest the neck of the bottle in a little bowl in such a way that the bottle is at an angle going down towards the neck. The bottle has to be at an angle so that the water will run down from the fat end towards the neck of the bottle and into the bowl.

**Now your wetland model is ready to use!**

7. Slowly pour water over the rocks in the wetland. Watch through the see-through sides of the bottle to see what happens. See how the water level in the sand rises. This can be compared to groundwater in a real wetland.
8. Measure the time from when the water is poured over the rocks until it flows out of the bottle into the little bowl. Can you see that this takes much longer than it would have taken if the water just ran along the surface of the sand to the bowl. This demonstrates how wetlands can help ease floods.
9. Now mix water in a see-through container with dirt until the water is murky and muddy. Slowly pour the murky water over the stones in the "wetland". Keep a little bit behind in the container. Wait until the water has moved through the soil and flowed into the little bowl underneath the neck of the bottle. What is the colour of the water? Compare it to the colour of the murky, muddy water left behind in the see-through container.



*Figure 1: What your model wetland should look like*

**Reflection** (Time prescribed:  
30 mins)

**Review and reflect on concepts covered, and why wetlands are important**

**Post-evaluation:**

Give learners worksheets to complete, and on the back of the worksheet they can draw and label all the things that make up a natural wetland.

## Grade 6 – Importance of wetlands Worksheet

List some of the dangers that wetlands face.

(7)

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Search the word search puzzle for the types of animals found in wetlands.

(13)

See if you can find:

1. Clam
2. Crayfish
3. Mosquito
4. Heron
5. Frog
6. Egret
7. Dragonfly
8. Turtle
9. Fish
10. Shrimp
11. Crab
12. Salamander
13. Duck

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| B | E | L | R | A | C | C | S | T | C | R | A | B | T | F | O | R |
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Total marks

(20)