SCHOOLS FOR A HEALTHY ENVIRONMENT

RESOURCES FROM THE ENVIRONMENT

Module 4

Educational Development Centre

unicef

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3 MANAGING WASTE

Grades: 1 to 3
Number of lessons: 3 to 4

Purpose

The generation and management of waste is a concern for countries around the world. Solid waste disposal is now one of the most critical environmental issues in the Maldives. Developing waste minimisation strategies to reduce the amount of waste going to landfill or transfer stations is the way forward. Modelling preferred sustainable lifestyle options as part of daily school life has the potential for positive and long-term impacts on student attitudes towards sustainability.

In this unit students have the opportunity to develop deep understandings and skills in relation to the principles of sustainability by analysing and questioning current waste management at home and school. Students will actively plan waste management strategies, participate in actions and reflect on the impacts of the actions.

Key questions

Key focus questions for this section are:

- How do our decisions affect the environment?
- What choices do we have when disposing of waste/rubbish?
- How do you decide on actions to reduce waste/rubbish?
- How can managing our waste help the environment?

Links with other Modules

Ourselves

Toolbox

Physical materials

Thick gloves, Safety spectacles, long handled tongs, Washing facilities with soap and towels, large plastic bags or bins.

Flip Charts

Weather, Water, Waste and Energy Flip Chart

Preparation

Become familiar with:

- Using the *Student Resource Sheet 3.1*. See example procedure and equipment required for the Waste audit, use *Teacher Information Sheet 3.3*
- Teaching strategies outlined in *Teacher Information Sheet 3.1*
- Information about waste management in the Maldives, *Teacher Information Sheet 3.2*.
- Weather, Water, Waste & Energy Flip Chart: Pages on waste

3.1 TUNING IN

The following activities help to engage and focus students' interest on the topic.

ACTIVITY 1: WHAT'S THE STATE OF WASTE MANAGEMENT AT HOME AND AT SCHOOL?

Purpose: To develop ideas on the state of waste management at home and at school.

Time: 2 hours

Materials Required: Environment and Biodiversity Flip Chart

Resource / Information Sheets: 3.1 Student Resource Sheet –Ideas wheel on waste management and Example of how to fill Student Resource Sheet

Procedure

Ask students to visualise what happens to waste/rubbish at home and at school.

Encourage students to expand their visual images by asking questions such as:

- What types of things do you dispose of regularly in your rubbish?
- How do you dispose of waste?
- Are there similarities between home and school (refer to Flip Chart pages on waste)
- Where does our waste end up?

Invite students to share some of what they visualised.

Show students the Environment and Biodiversity Flip Chart page on 'Bad Environment Practices'. Discuss what they see in the Flip Chart that indicate bad environment management and suggest impacts on the environment and community. Ask students to suggest ideas for improvement.

Show students the Environment and Biodiversity Flip Chart page on 'Good Environment Practices'. Compare and contrast the features of the two illustrations. Discuss the advantages for the community and environment when good waste management practices are in place.

Organise students into pairs and provide them with *Student Resource Sheet 3.1*. Explain to students that the first level of circles is for ideas relating to Waste Management. The next level of circles is for anything that relates to that specific idea, which could include impacts, issues, actions, systems, people involved etc. You may refer to the *Example of how to fill Student Resource Sheet 3.1.* Encourage students to develop the diagram further if they have more ideas.

Allow time for students to discuss and enter responses on to the Ideas Wheel.

On a chart or on the board replicate the centre circle of the ideas circle and list student ideas from the second level. If an idea has been noted already tick it to acknowledge any additional response. Using this approach helps in prioritising the most important for the class.

As a class develop a priority list of ideas which may focus on categories such as community waste management, school waste management or home waste management.

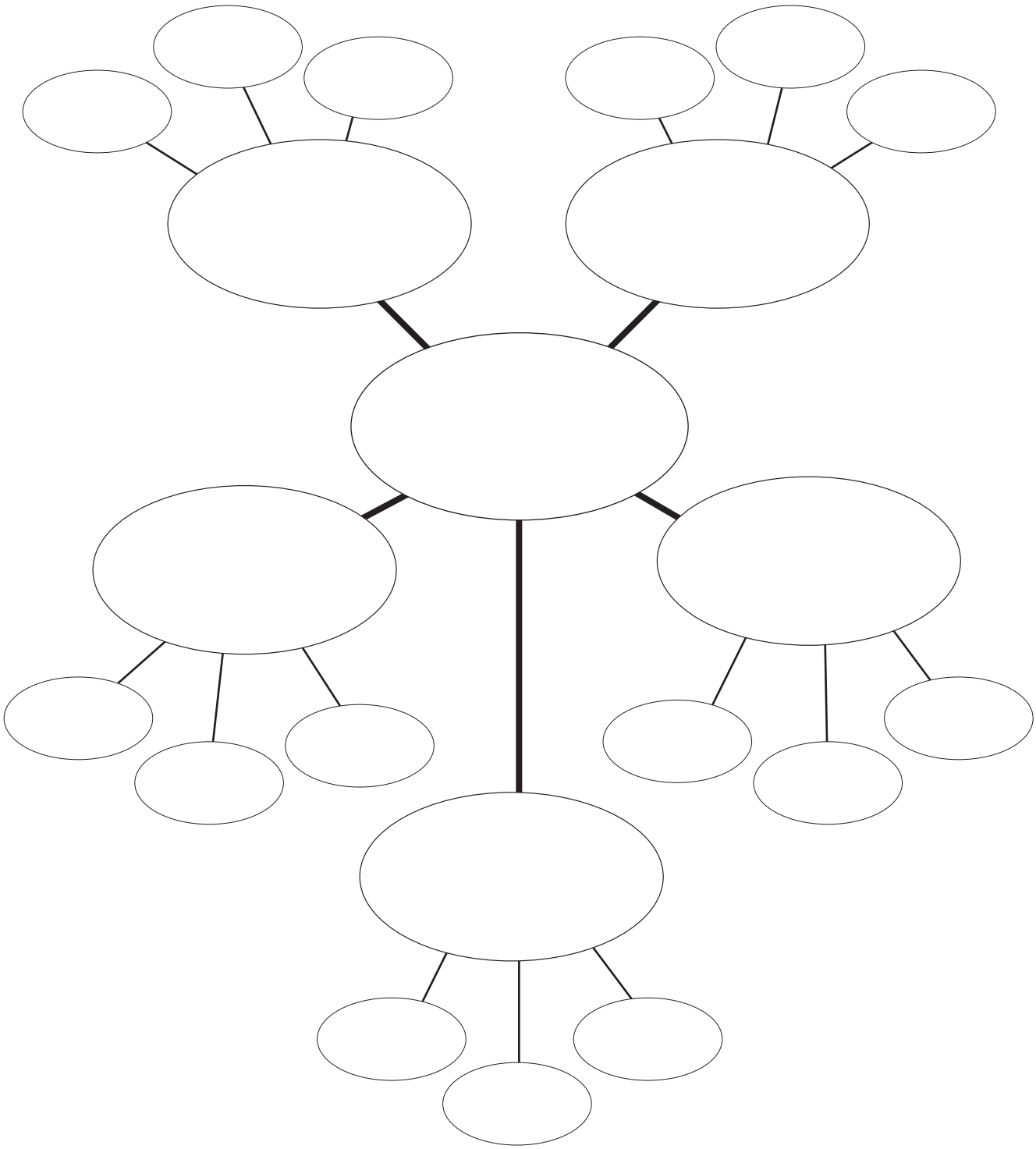
Ask any students monitoring their waste at home to share their approaches with the class.

Waste often ends up on our beaches.

3.1 STUDENT RESOURCE SHEET

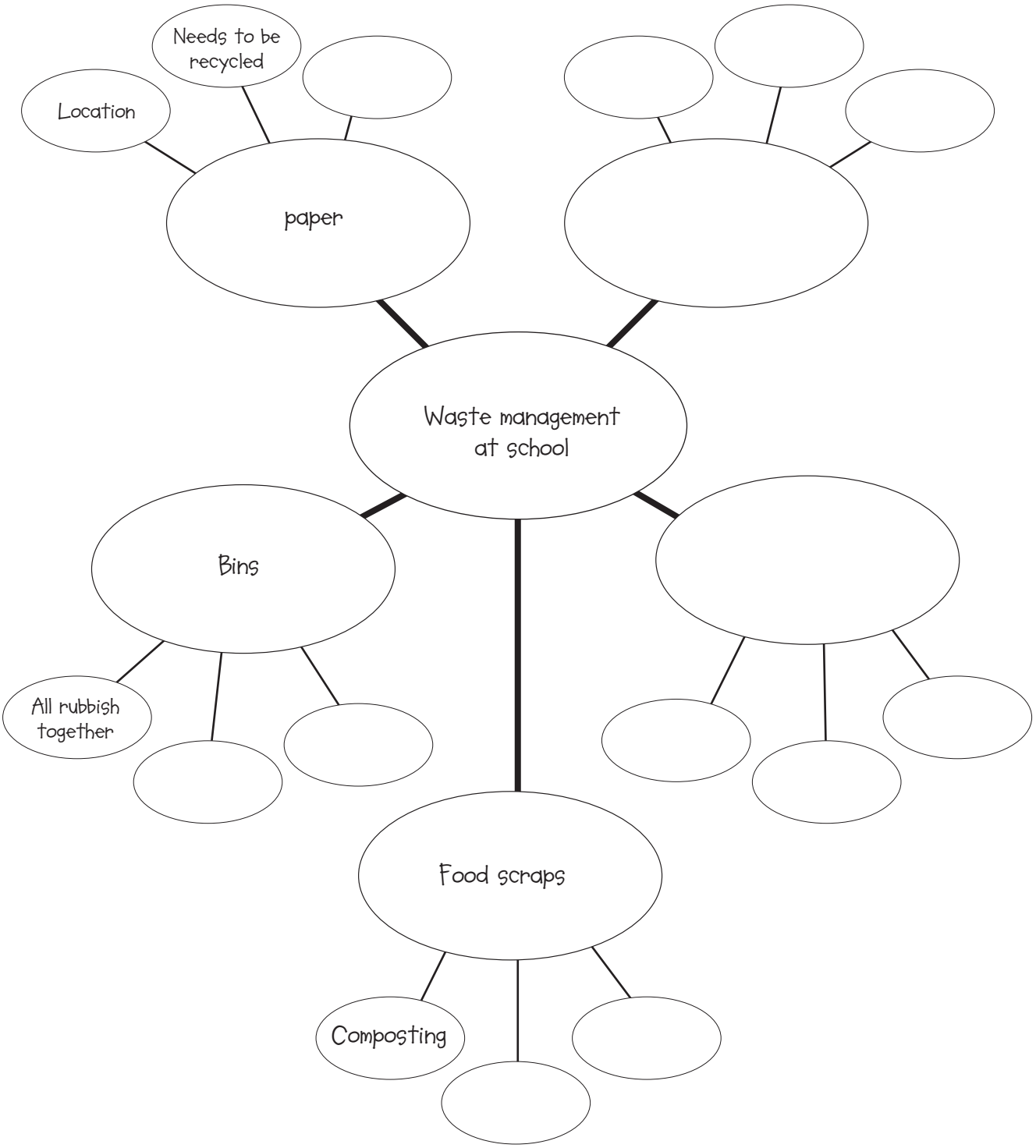
IDEAS WHEEL FOR WASTE MANAGEMENT

Fill in the concept map by writing ideas relating to waste and things which relate to the ideas.



3.1 EXAMPLE OF HOW TO FILL STUDENT RESOURCE SHEET

IDEAS WHEEL FOR WASTE MANAGEMENT



3.2 TEACHER INFORMATION SHEET

WASTE MANAGEMENT IN THE MALDIVES

Solid waste management is now one of the most critical environmental issues in the Maldives. The amount and the rate of solid waste generated vary throughout the country and there is a significant difference between the amount of waste generated in Male' and that of the atolls.

According to the State of the Environment Report 2004, on average 1.1 kg of waste are generated per capita per day in Male' while in the atolls this value is between 0.70 - 0.79kg of waste per capita per day. Average waste generation in the resorts stands at 3.5 kg per guest per day. The amount of waste being generated is increasing at an alarming rate.

Presently, solid waste generated in Male' is collected and taken to a transfer station. From the transfer station, the waste is transported by barge to Thilafushi, a municipal landfill, located 5 km away from Male'. The Thilafushi landfill site has now become a landfill for the central region of the country. In addition to waste from Male', it now receives waste from islands in Male' atoll, the resorts and the Male' International Airport.

Solid wastes generated in the atolls are disposed using various methods. Organic wastes are composted at home backyards in most of the islands. Non-biodegradable waste such as plastics is dumped near the beach in many islands and buried in a few islands. Burning of combustible waste at designated areas in the islands is also widely practised in many islands.

Current waste disposal practices adversely affect the environment through habitat destruction and pollution. Often, wetland areas such as swamps and mangroves are considered as disposal areas and reclamation of such areas to increase land space often takes place. Dumping of solid waste near beaches also has adverse effects on the reefs and lagoons of the islands.

In 2008 the Ministry of Environment, Energy and Water has released a National Solid Waste Management Policy (refer to www.erc.gov.mv). Some of the options of managing waste provided by the Environment Research Centre are as follows:

1. The biodegradable waste to be composted or burned.
2. Burning to be done safely.
3. Not to burn plastics and hazardous waste.
4. When burning biodegradable waste to leave it in the sun for a while for the moisture to evaporate before burning.
5. When burning waste to mount the waste on a platform so that it does not touch the ground and air can circulate in-between.
6. When the air circulates the burning pit would not emit black fuel instead it would emit gases which are not harmful to the health of living things.

Barge with waste trucks leaving for Thilafushi

Burning waste

Waste on lagoon edge at Thilafushi.