



DISCOVERING WASTE EQUALS FOOD IN NATURE

Choose one of the following tasks (A or B) or do both if you have more time available.

OBJECTIVE

Discover that in nature, “waste is food”. The waste from one organism becomes food for something else. Everything is cycled.

KEY COMPETENCIES

- Enquiry and coping with uncertainty
- Using initiative
- Communicating ideas
- Using imagination
- Reflecting & Evaluating

CLOSED LOOP SYSTEM

In a closed loop system the output from one part of the system becomes the input for another part.

A. WHERE IS THE WASTE IN NATURE? (10 mins)*

Using a soil auger take a soil core and examine how the soil content changes with depth.

Examine the leaf litter and consider:

- What happens to the waste (leaves, twigs, poo, dead animals and plants)?
- How might this happen?
- What benefits does this bring to the woodland and the plants and animals here?



OR

B. MAKE A BIOME (15 - 20 mins)

Work as a team to create a biome

- What is happening to the waste?
- What are the limitations of the biome?
- What would you have to introduce to your biome to grow flowering plants?
- Is it a closed loop system? Why?



WM1 Biome instructions



*Activities will be covered during the Introductory Module at Epping Forest Field Centre



DISCOVER

Choose one of the following tasks (A or B) or do both if you have more time available.

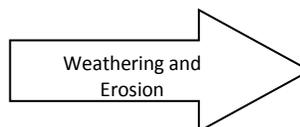
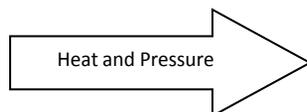
A. INTERACT WITH MODELS AND DIAGRAMS (10- 15 mins)*

- Arrange the picture cards and arrows into flows to construct closed loop systems.
- Think about how natural systems are cycles unlike most human production systems.

CURRICULUM LINKS

Geography and Biology

- Waste materials such as oxygen, carbon dioxide and dead organic matter are cycled in nature.
- Nutrient cycles in nature include the carbon cycle, water cycle and nitrogen cycle.



IM6, IM7 and IM8 Card sorts

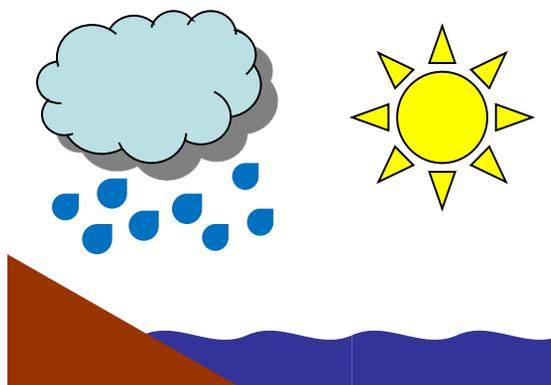


OR

B. BUILD A WATER CYCLE (10 mins)

Work as a team to create a biome using a transparent tub with a lid, an ice pack, some sand and a lamp. Once the equipment is set up, leave it for 15mins whilst doing another activity and then consider the following questions:

- Describe the processes that are happening to the water
- Describe the processes that are happening to the water
- Is it a closed loop system? Why?





DISCOVER

Choose one of the following tasks (A or B) or do both if you have more time available.

A. WOODLAND CYCLE (15 mins)*

- Work together to arrange the set of cards into an appropriate order. Explain to the other group(s) in your class the order you have put them in.
- Talk in groups to analyse and challenge the order the other groups have put their cards in.
- What does this activity show?
- Where does the energy to drive these cycles come from? How does this differ to the energy source of man-made products?
- Discuss how a circular system can be better than a linear chain.



OR

IM9 Woodland card sort



B. PLANT DIAGRAMS (10 mins)

Many plants produce lots of seeds, fruits and flowers but very few of them will grow into a new plant.

- Is this sustainable?
- Draw a flow diagram of one of these plants to show what happens to the seeds, fruits or flowers including those that don't make new plants
 - Sunflowers produce an abundance of seeds
 - Cherry trees produce an abundance of blossoms
 - Bramble bushes produce an abundance of blackberries

WM2 Flow diagram example



REFLECTION (5 mins)*

You have discovered that waste is cycled in nature to become food for another part of the system.

Add notes to the Reflection sheet and chart your progress on the Learning wall. Visit the Share page of www.lessonsfromnature.org to comment on the activities you have taken part in.

The Waste equals Food insight can also be found in the human world. Explore the insight further by taking part in Understanding Waste equals Food activities.

