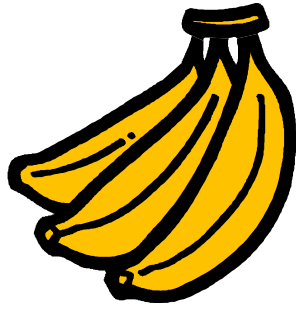


Banana breakdown



Science Unit 6C

The Banana Breakdown activity

Teachers' notes

Background Information

The aim of the Banana Breakdown is for children to witness the decomposition of an easily composted material.

Decomposition is performed mostly by bacteria. This activity will help the children to understand the conditions bacteria need to do their work. Like us, bacteria are living organisms that need food, air and water to live.

Banana peel is readily compostable. Uncooked food scraps such as banana peel represent about 7% of our rubbish. In general such food scraps decompose readily as they contain high nitrogen levels. When disposed of in a landfill, food scraps are among the first materials to decompose anaerobically, generating methane, which then contributes to global warming.

If you have an existing compost bin, use this as a resource. Look inside and make observations. Fork through to see how different it looks underneath the top layer.

Teaching Activity

1. Set up the five trials
 - **Trial 1 – Water** - place the peel in a container, cover with water
 - **Trial 2 – Soil** – place the peel in a container, cover with moist garden soil
 - **Trial 3 – Sun** - place the peel in a container and put in a sunny spot
 - **Trial 4 – without air** - wrap the peel with cling film and tape closed, place in a container and seal.
 - **Trial 5 – in the dark** - place the peel in a container and put in a dark cupboard

QCA links

Unit 6B Micro-organisms

Section 4

Learning objectives. Children should learn -

- that micro-organisms bring about decay.
- that decay can be beneficial.
- that micro-organisms which cause decay are living creatures.

Equipment

- 5 equal pieces of banana peel (each about one-inch square)
- 5 small see through containers
- Cling film
- Sellotape
- Water
- Moist garden soil
- Banana breakdown record sheets

Banana breakdown



2. At the end of one week, observe all the jars.
 - Has the colour changed?
 - Has the texture changed?
 - What else has changed?
3. Record your observations on the Banana Breakdown Records Chart.
4. At the end of the second week, repeat the observations.
5. Record your observations.
 - Decide with the students which, if any, trials to continue.
 - What conclusions can you draw about the needs of bacteria?
6. **Questions / Discussion**
 - Did the peels change in the same way?
 - Which changed the most?
 - What do you think caused it to decay the most?
 - Is the school compost bin in the best place?

Follow up Activities

Look at the decomposing banana skin through a microscope and see if you can identify the fungi or bacteria. Make observations.

Alternative Activity – Can everything be turned into compost?

Aim – To observe how different materials decay over a period of 2 weeks.

Materials – banana peel, apple core, newspaper, leaves, crisp packet and other items chosen by the group.

1. Place each item in a different container cover with soil and put a lid on the container.
2. Water the soil in each container every day, (just enough to keep the soil damp). Don't let it dry out or freeze.
3. Record your observations in the same way as the banana breakdown activity.

You will soon notice changes in some of the material as they start to decompose. Some change faster than others, and the piece of plastic should not change at all. Anything that was once living is called organic and will breakdown. Organic things can be used to make compost.

The Banana Breakdown Record Sheet

Pupils work sheet

Group/NameClass

Week number	COLOUR	TEXTURE	DESCRIPTION
TRIAL 1 - water			
TRIAL 2 - soil			
TRIAL 3 - sun			
TRIAL 4 – without air			
TRIAL 5 – in the dark			

