



Lesson 6 – Composting Teacher Overview

This lesson uses a video, a poster, PowerPoint presentation and has activities.

Activity 1: The Rubbish Rebels Compost Commitment Poster

Use the poster (Resource 6.1) to assess your current strengths and areas for development in terms of composting at school. You can fill this in while discussing the answers with the class. You can then plan your next steps to increase your composting curriculum into school life.

Activity 2: Compost bin visit and sample collection

Aim for the activity:

- To give students an insight into how compost is made and what it is made from
- To introduce the range of organisms that live in compost and their role in producing it
- To show students the benefits of composting

Curriculum links for this activity:

PSHE core theme 3 – Living in the wider world:

The importance of respecting and protecting the environment

Science year 5 and 6 – Living things and their habitats

Maths year 5 programme of study – Statistics

- Complete, read and interpret information in tables
- Solve comparison, sum and difference problems using information presented in a line graph

Maths year 6 programme of study – Statistics

- Interpret and construct pie charts and line graphs and use these to solve problems
- Calculate and interpret the mean as an average

Resources:

- Soil samples from different compost bins, if possible, and at different depths, to show the waste broken down at different stages
- Plastic tubs or trays to put soil samples in while looking at the soil
- Rubbish Rebels Compost Critters Spotters Sheet (Resource 6.2) – if you work outside, you may want to put the spotter guides in plastic wallets or laminate them
- Recording sheets and pencils
- Clipboard or something hard to lean on for recording information
- Plastic mats or sheets to sit on if working outside
- Rulers
- Latex gloves or similar
- Graph or squared paper

Activity outline:

This activity is likely to work best in groups of 4 or 5 students, with each group having a soil sample to work on. If you have a compost bin on site, take the class out and collect samples from the base of the compost bin if possible. Find somewhere suitable to work, according to the weather.



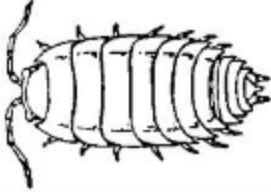


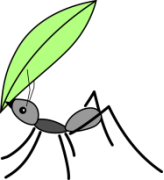



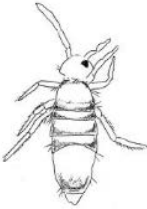

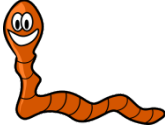

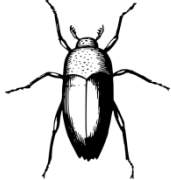

Using Resource 6.2 - Compost Critters Recording Sheet, and the Spotters' Sheet below, record their findings. After looking through the samples, clean up and have a look at your findings. Using the recording sheet, talk through what they have found and turn the results in to a pie chart / bar graph or line graph to help show the results clearly. This can then be stuck in the students' Rubbish Rebels Action Pack.

The Information Sheet below gives you lots more interesting details about the critters to share with the students.

Talk with the class about their findings and ask why they think certain creatures were detected but others weren't. They can put down their answers and reasons for what they found in the Rubbish Rebels Action Pack.



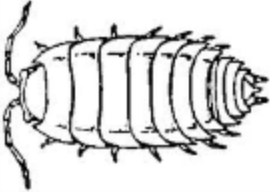


Rubbish Rebels

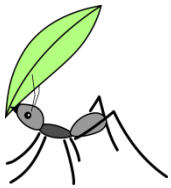

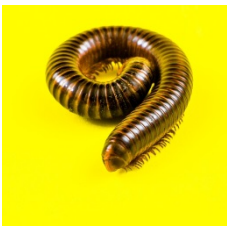

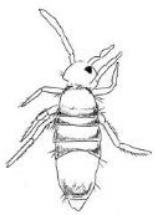
Compost Critters Spotters' Sheet


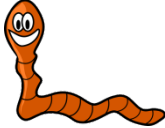

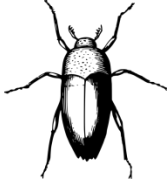

				
Spider	Slug	Sow bug	Mite	Snail
				
Ant	Fruit fly	Millipede	White worm	Collembola
				
Pill bug	Earthworm	Springtail	Beetle	Centipede

Rubbish Rebels

Compost Critters Information Sheet

				
Spider	Slug	Sow bug (woodlouse)	Mite	Snail
<p>I have eight legs and am related to mites.</p> <p>I work hard to help control pests that will hurt a garden and feed on other insects.</p> <p>But I am one of the least appreciated creatures in the garden and in compost.</p>	<p>I will make an appearance from time to time in your compost to eat fresh fruit and garden waste.</p> <p>I have muscular discs on my underside that help me move when I'm creeping and crawling.</p>	<p>I eat old vegetation and old leaves and have 10 pairs of legs.</p> <p>I'm only ½ inch. My body is oval shaped and flat. I have flattened plates but I can't roll up like my cousin the Roly Poly.</p> <p>I am related to the crayfish and lobster and breathe with gills so I must live in a dark moist place.</p>	<p>We are so tiny that it would take 25 of us to cover an inch-long line.</p> <p>I eat plant materials like mould and soft leaves, including the manure (poo) of other organisms.</p> <p>I have eight legs but they are hard to see with my fat round body.</p>	<p>I creep around on my muscular belly like my friend the slug and we are known as molluscs.</p> <p>I carry my spirally curved shell house on my back, which helps to protect me from being eaten by other animals.</p> <p>Although I prefer to eat living material, I will sometimes pop along for lunch in your compost bin.</p>

				
<p>Ant</p>	<p>Fruit fly</p>	<p>Millipede</p>	<p>White worm</p>	<p>Collembola</p>
<p>I am a six-legged insect and help to break down the compost material into smaller pieces.</p> <p>I like making tunnels and move the soil around into clumps.</p> <p>I can be black, red or brown.</p>	<p>I'm a very small fly that is actually very friendly. I don't bite, sting or make a buzzing sound.</p> <p>I don't even hurt earthworms. But I do hang around with them at times in the compost bin when the food doesn't get buried.</p> <p>I like laying my eggs where it is warm and moist.</p>	<p>I'm known as a millipede, which means 'thousand legs'. Bet you can't count them all!</p> <p>I am very shy and will roll up into a ball when danger is near.</p> <p>I will only eat soft, moist, decaying plants, which makes me a vegetarian.</p> <p>I'm a very shiny dark red colour and can be from 1 to 3 inches long.</p>	<p>You may mistake me for a frayed piece of thread as I'm a white skinny worm.</p> <p>I'm only about ½ to 1 inch long and am related to an earthworm.</p> <p>I only like to eat the rotten food after the other bugs have had a go, so I can finish the job off for them.</p>	<p>I'm a tiny white creature less than 1/16 of an inch long.</p> <p>I love eating mould and decaying matter.</p>

				
Pill bug	Earthworm	Springtail	Beetle	Centipede
<p>I like eating the old leaves and veggie scraps and will roll up into a ball if I get disturbed.</p> <p>I'm about ½ inch long and am known as an isopod, which means I have ten pairs of legs that look very similar to each other.</p>	<p>If you look closely you will see there are little segments along my long, thin, soft body.</p> <p>I don't have any legs or eyes and can sense light and breathe through my skin.</p> <p>I love eating bacteria, fungi and other decaying materials, which is why I like dark moist places.</p>	<p>I am a tiny white insect, less than 1/6 inch long.</p> <p>I have a little spring that helps me jump high into the air.</p> <p>I like eating molds and decaying materials.</p>	<p>I'm a tough, winged, shiny, black insect and I'm about ½ inch long.</p> <p>I'm a predator that eats slugs, snails and soft insects like caterpillars.</p> <p>You will find me under stones, boards and other moist places.</p>	<p>My body is made up of 15 to 137 segments, each with a pair of legs on it, so I can move quickly.</p> <p>I am a fierce hunter that loves to eat earthworms and I use my poisonous claws to keep them from getting away.</p> <p>I'm normally reddish brown and around 1 to 2 inches long.</p>

Evaluation

Please submit a selection of the graphs that the students create about compost critters after they've analysed their compost samples. Please submit a selection of copies of the students' homework activities from the Rubbish Rebels Action Pack booklet.

Silver Award

Arrange for Garden Organic to come along to school and give a talk about composting.

www.gardenorganic.org.uk. If they are unavailable, please contact Judith Bradshaw at Cumbria County Council: judith.bradshaw@cumbria.gov.uk.

Gold Award

If you don't compost on site and now plan to, organise building a compost pile or buy one. Set up composting boxes in required places around school and a rota for emptying them. At the time of printing (2018) Cumbria County Council can provide 1 free compost bin to schools.

If you already compost at school, look for a way to use the compost for a community growing space in your local area. Contacting local community gardening groups would be a good place to begin this.



Our thanks to Garden Organic for helping us with this lesson!