

Investigating the maths inside:

Cleaner coasts

Activity 2

When does it decay?



How long does rubbish take to decay?

Could your school turn into a rubbish tip?

# Introduction

Every day, we produce mountains of rubbish from our normal daily activities. Some rubbish is biodegradable, and some can be recycled, but the rest ends up in rubbish dumps or the environment.

# What’s in the bin?

Find a full rubbish bin and tip the contents out onto a large plastic sheet. Using tongs and rubber gloves, separate the rubbish into different categories, such as food scraps, containers, paper, glass, stationery items. Be aware that there are different types of plastic (e.g. ‘soft’ plastic such as cling wrap, and ‘hard’ plastic such a drink bottles).

Count and record the number of pieces of rubbish in each category.

## What kind of rubbish?

How many types of rubbish did you find? What sort of rubbish was most common? Least common? Was there anything in the bin that was unusual? Or hard to categorise?

Find out how rubbish is disposed of at your school.

# The rubbish timeline

Rubbish can take varying times to decay (break down completely). If it does not decay, then it can enter the environment.

## How long?

Consider the types of rubbish that you found in your bin. Research the times that these items would take to decay. Depending on the source of the information, there may well be differences in the times cited.

Using the information from your research, organise the items from the bin into groups with different decay times. You may choose times in weeks, months and/or years.

### Websites

Some websites to get you started:

<https://www.thebalance.com/how-long-does-it-take-garbage-to-decompose-2878033>

<http://www.kabc.wa.gov.au/library/file/Fact%20sheets/How%20long%20Fact%20sheet%20KAB.pdf>

<http://www.down2earthmaterials.ie/2013/02/14/decompose/>

<https://www.sciencelearn.org.nz/resources/1543-measuring-biodegradability>

## Create a timeline

Graph your data on decay times. You will need to consider the scale carefully.

If the rubbish was never collected what would be left in one year, five years, twenty years?

You might like to think about this in terms of your lifetime and add in some personal milestones such as your next birthday, when you plan to leave school, the age of your parents and grandparents.

# Are rubbish tips forever?

Based on the information you have gathered, develop a poster/report/video that shows the school community what would happen if rubbish was never collected or disposed of properly. In other words, how long before the school would become a ‘rubbish dump’?

Make your own recommendations on what you believe are the best long-term solutions to all of the rubbish that is generated at school.