

**From:** IMGreen@renewplc.com  
**To:** research@greengrp.co.uk  
**Subject:** Sorting and Recycling

Dear Research Group,

We are a recycling facility who separate and sort household and industrial waste materials before crushing them and sending them to treatment plants to be processed and recycled. The materials we sort are: aluminium, steel, glass, plastic, paper and card and mixed materials (e.g. some vehicle parts or circuit boards).

We have problems sorting so much waste by hand. We would like your help to improve the following recycling processes:

- Separating aluminium and steel cans. These are sorted using magnets, but we need to find a more efficient way to use the magnets.
- Crushing cans for transport.
- Efficient movement of materials from one area of the site to another.

We need you to:

1. Find out how to separate the different materials, in particular steel and aluminium.
2. Explain the most efficient way to crush the cans/containers (taking their shape into account).
3. Investigate suitable material for our conveyor belt to move waste from one process to the next.
4. Find out more about what happens to materials when they go from us to the treatment site to be recycled (e.g. paper).
5. Design a poster to make the public aware of the benefits of recycling or disadvantages of not recycling.

We look forward to hearing from you with your results.

Isla Green  
Research manager – Renew plc

\*\*\*\*\*

Disclaimer

This email transmission is confidential and intended solely for the organisation to whom it is addressed.

# Activity Sheet 10: Crushing the can



## Investigation planning sheet

Our question is:

### Plan

We will change

because

We will measure

using

### Fair Test

We will keep these things the same:

### Prediction

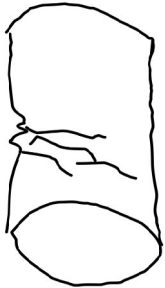
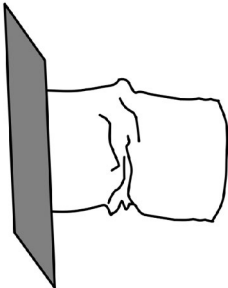
I think

because ...

# Activity Sheet 11: Crushing the can



## Results table

Where the force was applied	Force needed to crush the can Choose the correct units (Newtons or grams)	Mean/Average Force
To the sides 		
To the top 		
To both 