Cat food and Recycling Teacher notes

Donna has several cats. She feeds them soft food every morning and evening. Her family believes in recycling and they try to recycle as much as possible. But they also worry that the sharp edges of the cat food can will cut a worker sorting recyclable items at the plant, so they throw away the lid of the cat food can. Lately Donna has been curious about amount of metal in the lid and it got her to thinking…

1. Donna wants to compare the lids that are thrown in the trash. The cat food comes in two different size cans, shown below. She measured the diameter and height of each can. For each lid, determine what percent it is of the entire surface area of the can.

6.5 cm

8.5 cm

3.7 cm

4 cm

Small can Large can

Small can lid Large can lid

Percent Percent

or 23.4% or 25.8%

1. Based on your results in #1, what size cat food can should Donna buy for her cats? Explain your answer.

Students answers will vary. Most will choose the small can since the percentage of non-recycled metal is smaller.

1. Donna feeds her cats one small can of cat food each day. She also knows that it takes both cats two days to eat a large can. Determine the total amount of metal in the cat food lids that would be thrown away in one year for each size of can.

Small can Large can

1. Based on all your results, what size cat food can should Donna buy for her cats? Explain your answer.

Students will most likely choose the large can since the lids from this can will contribute less metal in landfills than the small can lids.