

WHAT HAPPENS TO NOTTINGHAM'S WASTE?



Nottingham
City Council



 Nottingham recycles


Carbon Neutral Nottingham 2028



Nottingham
City Council

LEARNING OBJECTIVE

To know how and why Nottingham City uses energy-from-waste to dispose of waste.

1. I can sort items that belong in the green household waste bin.
2. I can explain the good and bad points of using energy-from-waste plants.
3. I can give my opinion about whether energy-from-waste is a sustainable option.



KEY VOCABULARY

**household
waste**



Things we throw
away.

incinerator



A giant oven used
to burn household
waste.

**energy-from-
waste**

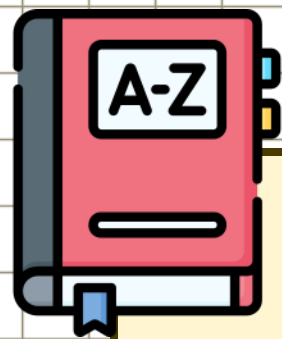


Burning waste to
make heat and
electricity.

sustainable



Using Earth's resources
responsibly so they last
for the future.



CORRECT THE MISTAKES



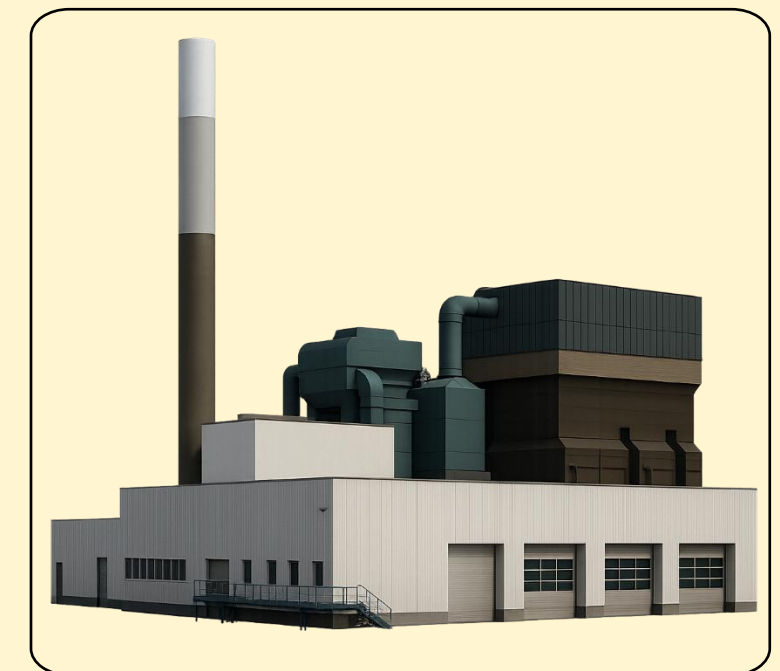
sustainable



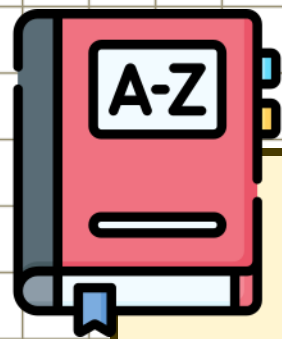
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CORRECT THE MISTAKES



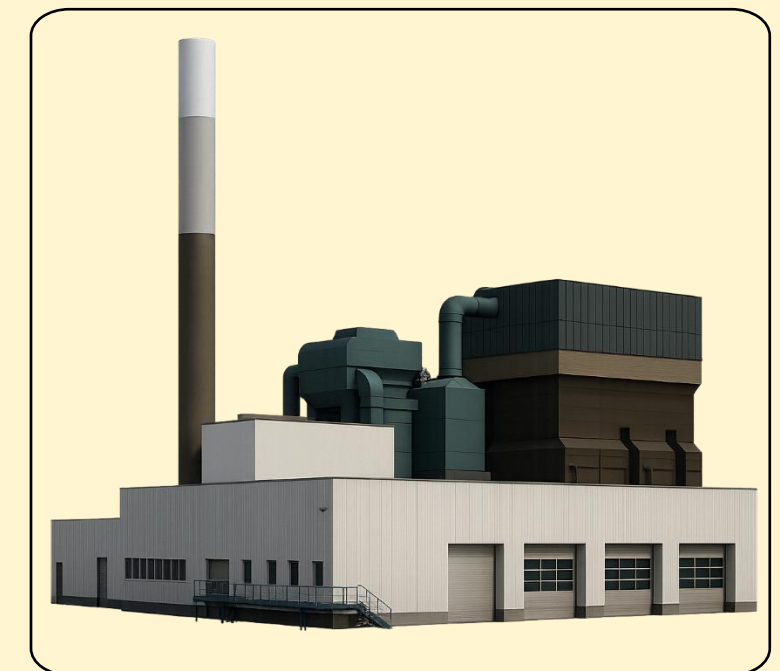
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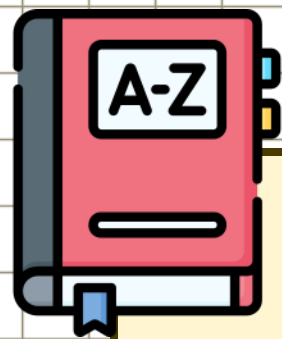
**household
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ANSWERS



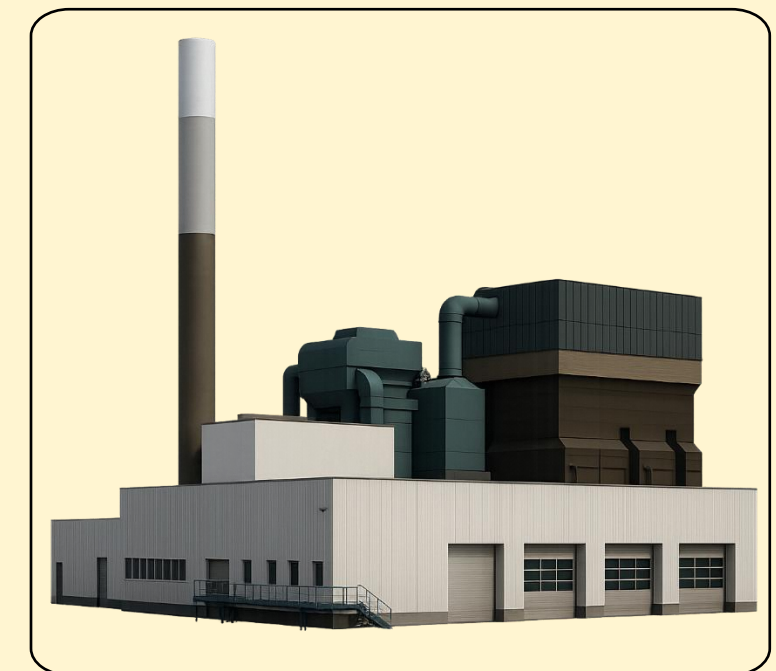
**energy-from-
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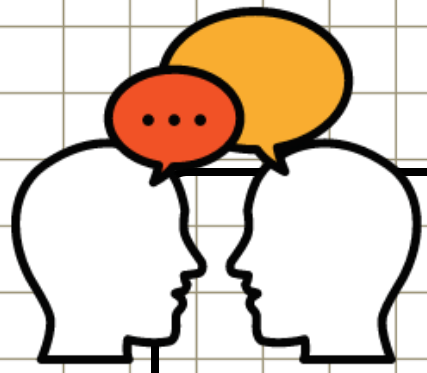
sustainable



**household
waste**



incinerator



Talk to your partner.

**WHAT DO WE
USE THE GREEN
BIN FOR?**



The green bin is where we put our household waste, including:





ODD ONE OUT

Explain which item goes in the green bin.



drinks pouch



plastic bottle



crisp packet

The _____ goes in the green bin because...



ODD ONE OUT

Explain which item goes in the green bin.



drinks pouch



plastic bottle



crisp packet

The _____ goes in the green bin because...



ODD ONE OUT

Explain which item goes in the green bin.



dirty takeaway
container



clean plastic
yoghurt pot



used paper

The _____ goes in the green bin because...



ODD ONE OUT

Explain which item goes in the green bin.



dirty takeaway
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The _____ goes in the green bin because...



HOW DOES NOTTINGHAM GET ENERGY FROM WASTE?



First, the waste collection crew empty the green bin waste into the truck and transport it to be burned at the Eastcroft incinerator.



HOW DOES NOTTINGHAM GET ENERGY FROM WASTE?



Next, the heat from burning waste turns water into steam.

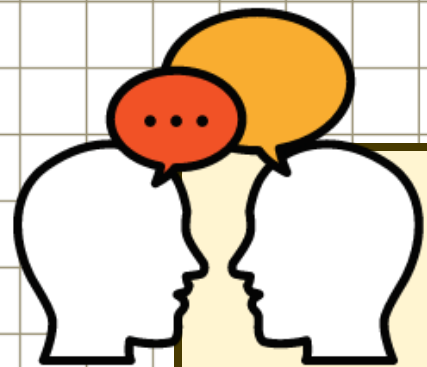
Then, the steam makes a turbine spin to generate electricity.



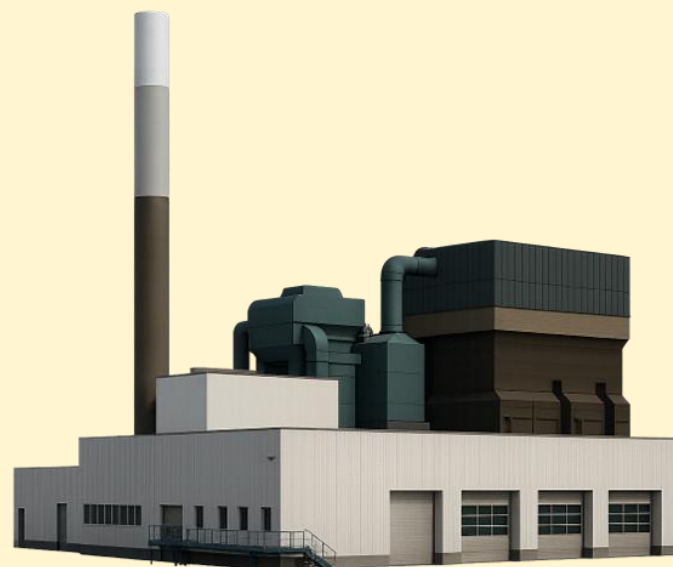
HOW DOES NOTTINGHAM GET ENERGY FROM WASTE?



The electricity helps to power buildings like the National Ice Centre while the hot water is used to heat all the homes in St. Ann's. This is called energy-from-waste.

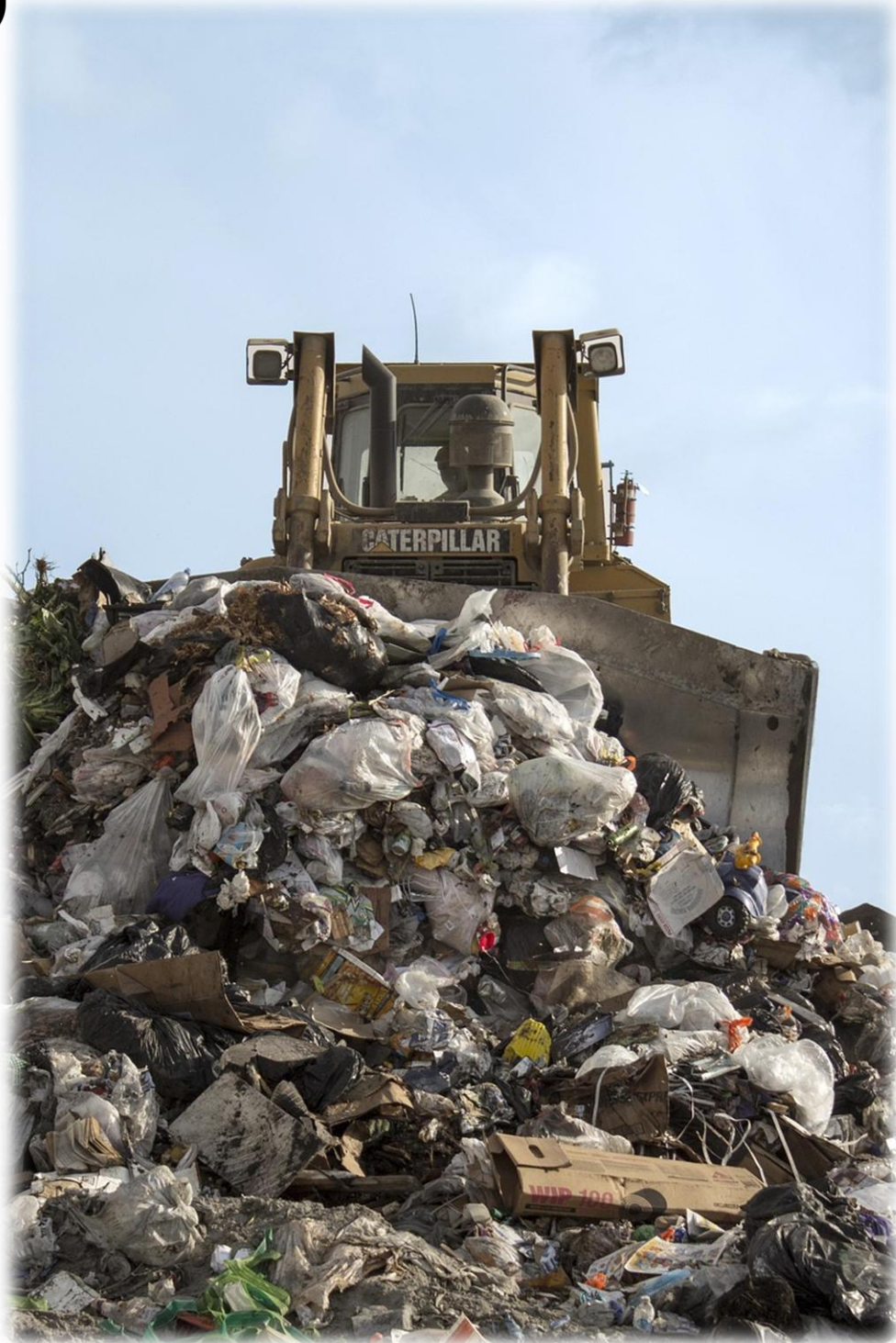


EXPLAIN HOW NOTTINGHAM GETS ENERGY-FROM-WASTE



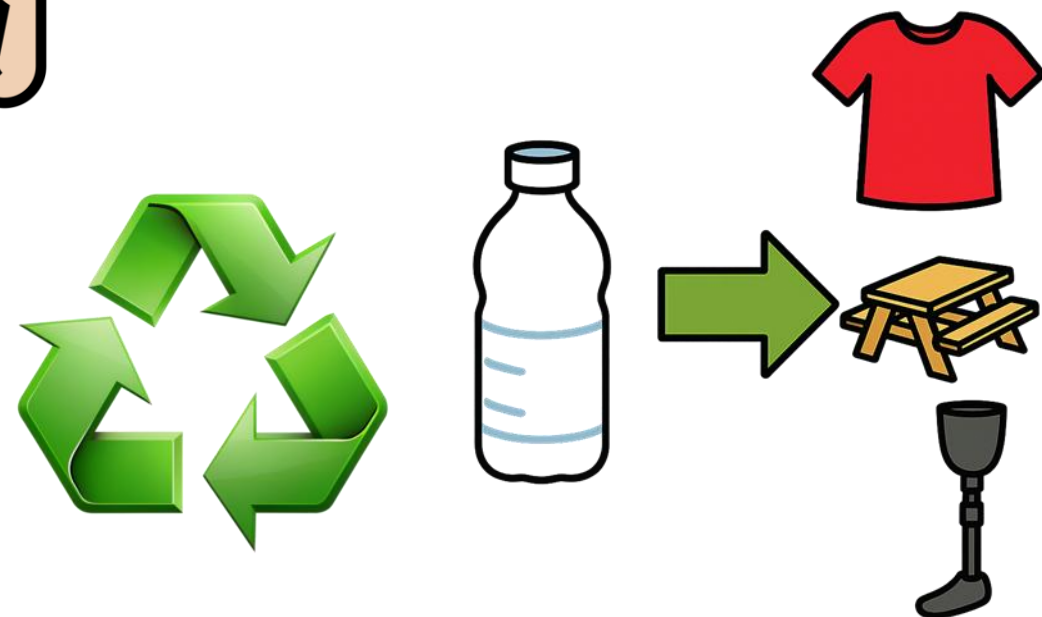
Use these words in your explanation – how many points can you score?

1 point	2 points	3 points
green bin truck waste burned	heat steam homes electricity	Eastcroft incinerator turbine energy-from-waste



ALTERNATIVES - LANDFILL

✓ Positives	✗ Negatives
It's simple – rubbish is buried in the ground.	Takes up lots of space and we have very little room.
Costs less money than special waste-processing plants.	Items can leak chemicals or create methane gas that harms the environment.
Useful for some waste that can't be recycled or safely burned.	Items that could have been reused or recycled are lost forever.



ALTERNATIVES - RECYCLING

✓ Positives

Saves natural resources making new things from old materials.

Creates less pollution than using new materials.

Less waste needs to be buried or burned.

✗ Negatives

Dirty or mixed materials can ruin the process, spoiling clean materials.

Some items are too expensive or hard to recycle.

Uses energy to power machines and transport materials.



ALTERNATIVES – REUSE & REPAIR

✓ Positives

Items last longer so we throw away less.

Repairing or reusing things can be cheaper than buying new ones.

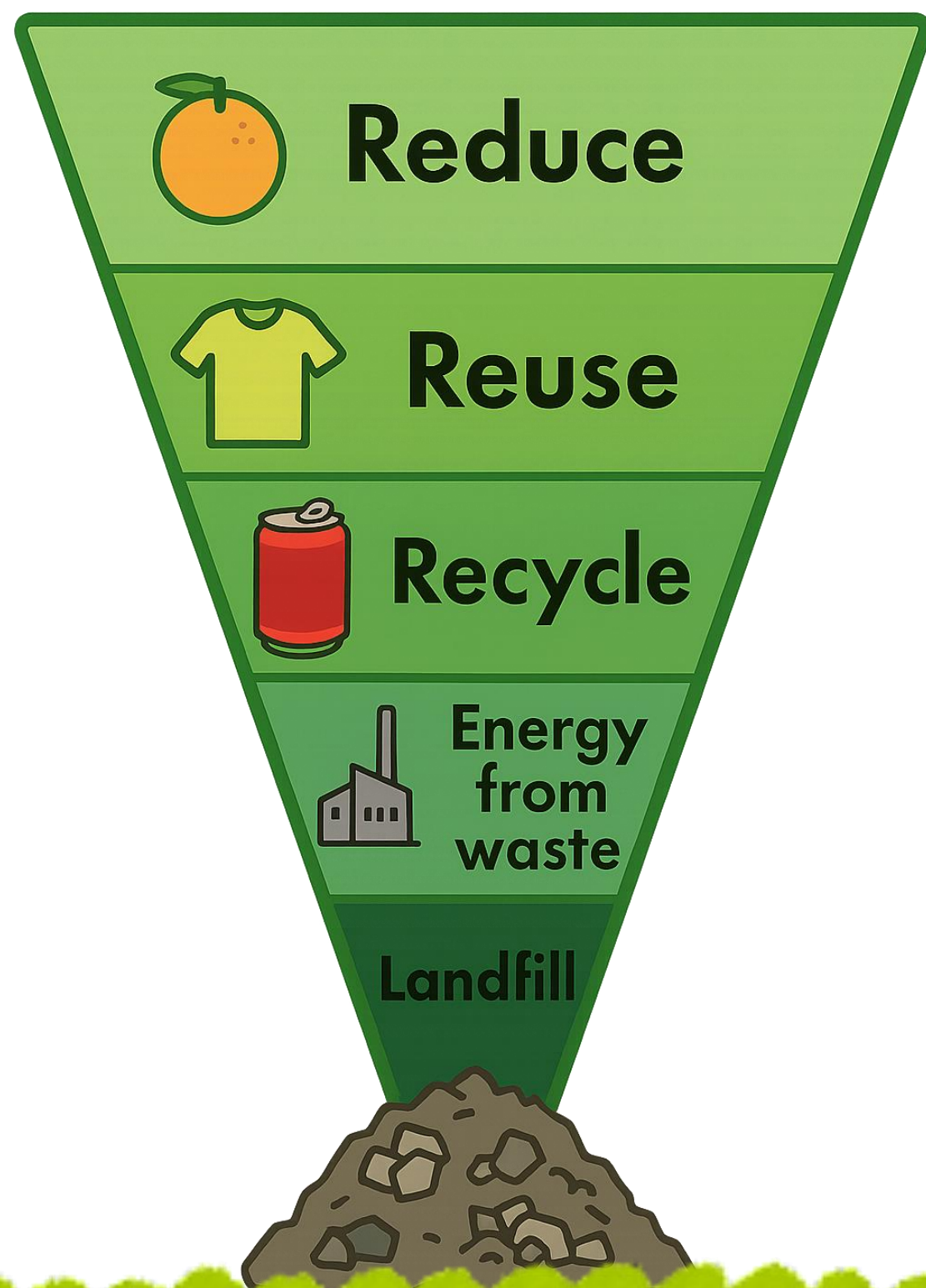
Uses far fewer resources than making new products.

✗ Negatives

Some items are too damaged or poorly made to repair.

You may need tools or know-how to fix things properly.

Certain products (like single-use plastics) can't be reused safely.



WASTE HIERARCHY

- Everyone could make more sustainable choices to reduce, reuse or recycle the materials they use.
- Nottingham City's household waste is disposed of through energy-from-waste.
- Landfill is not used by Nottingham City as it releases harmful greenhouse gases, such as methane, into the atmosphere.



👍 TRUE OR FALSE? 👎

**Used tissues go in the
green bin.**





👍 **TRUE OR FALSE?** 👎

**Used tissues go in the
green bin.**





TRUE OR FALSE?

**Takeaway drink cups
don't go in the green bin
because they are made
of paper.**





👍 **TRUE OR FALSE?** 👎

Takeaway drink cups
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of paper.





👍 TRUE OR FALSE? 👎

**Energy-from-waste is
more sustainable than
sending waste to landfill.**

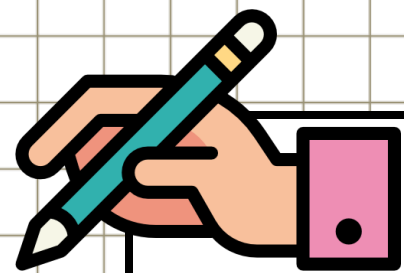




👍 **TRUE OR FALSE?** 👎

**Energy-from-waste is
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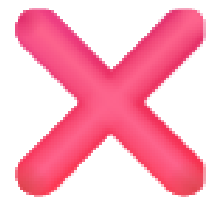




ACTIVITY – CHANGE MY MIND

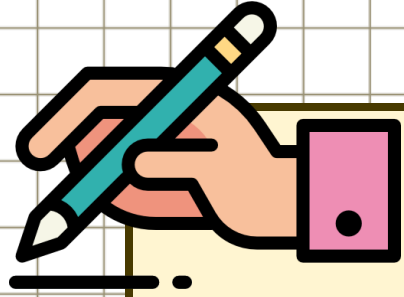
Explain why Bill's opinion is incorrect. Use the word bank to help your explanation.

1 point	2 points	3 points
green bin heat electricity homes burned	landfill environment greenhouse gas household waste waste hierarchy	methane incinerator turbine energy-from-waste sustainable



ACTIVITY – ENERGY-FROM-WASTE ANALYSIS

In pairs, decide which of the statements are positive effects of energy-from-waste and which are negative effects.



ACTIVITY – STORYBOARDING

Use the storyboard to draw each stage of the journey of waste.
Write a caption to explain what happens.

1

2

3

4

5

6

household waste

energy

refuse collection vehicle

green bin

heat

steam

turbine

electricity

homes

Nottingham

incinerator



ACTIVITY – INVESTIGATE

Check the waste bins in your school to see if the right materials are in there.



- ☐ used tissues
- ☐ dirty items
- ☐ pencil shavings
- ☐ drink and yoghurt
pouches



- ☐ paper and card
- ☐ plastic bottles
- ☐ cardboard
- ☐ clean foil
- ☐ crisp packets and sweet wrappers

