

Activity 2

Choose three items from your table that are easy to change and three which are not. Write a sentence about each to describe why you have chosen it and why it is difficult or easy to substitute.

	Easy substitutes	Difficult substitutes
<i>Example</i>	<p>Plastic item: Teabag</p> <p>Replaced with: Tea strainer</p> <p>Explanation: Single-use teabags which don't break down in compost or landfill are wasteful. Tea strainers are reusable, and the leaves can be added to gardens or home composting. Loose tea leaves are available in most supermarkets which makes it an easy swap.</p>	<p>Plastic item: Crisp packet</p> <p>Replaced with: Paper bag</p> <p>Explanation: Alternatives to plastic packaging for snacks like crisps are not readily available. Other materials such as paper are not as effective at keeping food fresh. Plastic packaging helps to reduce food waste and is more hygienic.</p>
1.	<p>Plastic item:</p> <p>Replaced with:</p> <p>Explanation:</p>	<p>Plastic item:</p> <p>Replaced with:</p> <p>Explanation:</p>
2.	<p>Plastic item:</p> <p>Replaced with:</p> <p>Explanation:</p>	<p>Plastic item:</p> <p>Replaced with:</p> <p>Explanation:</p>
3.	<p>Plastic item:</p> <p>Replaced with:</p> <p>Explanation:</p>	<p>Plastic item:</p> <p>Replaced with:</p> <p>Explanation:</p>

Evaluation: Is our life filled with plastic and unrecognisable without it?

Use the evidence you have gathered during the first two activities to evaluate the statement: 'We all have homes filled with plastic ... Life would be unrecognisable without it.' Draw on evidence that supports and opposes the statement. Your evaluation should include:

- evidence for the prevalence (or not) of plastic in everyday life.
- properties of plastic that make it a material of choice for so many different applications.
- an example of an item that could easily be swapped for an alternative.
- an example of an item that there is no suitable or easy alternative for.
- your opinion on the original statement.

Extension:

- Is it necessary to reduce the use of plastic in everyday life? Why, or why not?
- Discuss whose responsibility it should be to reduce plastic use. Should it be the consumer, the manufacturer or the government? What can you do?

Chemistry careers

Visit the [A Future in Chemistry](#) website to find out more about how chemistry is tackling the plastic problem. Start by checking out these job profiles:

- **Analytical technician**
Celine develops ways to alter the structure of plastics so they become biodegradable in the natural environment: <https://edu.rsc.org/job-profiles/analytical-technician-plastics/4010921.article>
- **Research innovations manager**
What Margot loves about her job is that she gets to apply chemistry to real-life problems, in this case fighting the war on plastics: <https://edu.rsc.org/job-profiles/research-innovations-manager/4010862.article>
- **Marine biogeochemist**
Ben's research focuses on how the biology and chemistry of our oceans are responding to climate change in order to learn how we can protect our marine environments and ecosystems: <https://edu.rsc.org/job-profiles/marine-biogeochemist/4012870.article>