

**1. Discuss the questions.**

- How often do you replace your mobile phone? What is the most common reason for replacing it?
- What do you usually do with the electronics you don't need anymore?
- What do you know about e-waste recycling?

**2. Complete the sets of sentences with the words provided. One sentence in each set can take both words.**

## a) component / element

- 1) This is the key **element/component** of a successful recycling process.
- 2) The primary **element** in this compound is carbon.
- 3) The company manufactures electrical **components** for cars, like batteries and alternators.

## b) a magnet / adhesive

- 1) You can collect waste iron using **a magnet**.
- 2) The components are fixed in position by **adhesive/a magnet**.
- 3) Apply **adhesive** immediately to both surfaces and press together.

## c) precious / raw

- 1) **Raw** materials like clay or gravel are used in construction.
- 2) **Precious** metals should be recovered from e-waste.
- 3) **Precious/Raw** metals require extensive mining.

**3. Read the sentences and replace the words and phrases in bold with the words in the box.**

degraded    depleted    discarded    disassembled    shredded    sifted

- a) The furniture didn't fit so it was **taken apart** and transported back to the store. **disassembled**
- b) The quality of these raw materials is **reduced** over time. **degraded**
- c) Leaves are **cut into small pieces** to decompose faster. **shredded**
- d) Stones were **examined and sorted** in order to separate the bigger pieces which would be used to make arrowheads. **sifted**

## E-waste recycling

- e) Some toys were **removed** from the inventory as they contained toxic adhesive. **discarded**
- f) We won't be able to manufacture some items because certain elements are being **used up**, e.g. matches can't be produced without phosphorus. **depleted**

**4. Discuss what steps each of the processes might involve. Use the words in the box.**

adhesive	degrade	deplete	discard	disassemble
element	magnet	precious	shred	sift

- recycling old cars
- disposal of documents
- recycling furniture
- any other recycling or disposal process you're familiar with

**5. You are going to watch a video about mobile phone recycling. What do you think the process might look like?**

**6. Watch the [video](https://youtu.be/mFc80PhnU7w) [https://youtu.be/mFc80PhnU7w] and take some notes on the following.**

- a) traditional methods of recycling phones **These involve shredding in industrial machines and sifting the pieces to recover reusable material. [00:16] They can degrade the recovered materials or miss them because they use brute force. [03:12]**
- b) how Apple's robot Daisy recycles phones **Recycling a phone takes it one minute. The display is separated from the phone, the battery is removed using freezing air to stop the adhesive from working, the screws are taken out, different components are separated by the machine and individual pieces are left to be sorted by humans. [01:03]**
- c) why it is important to recycle phones **Some elements used in phones may be depleted in 100 years. [01:47] Rare earth elements used in phones require extensive mining and recycling could end our reliance on it. [02:14]**

**7. Discuss the questions.**

- Did anything in the video surprise you?
- In your opinion, how sustainable is the process of recycling phones used by Apple?
- The video mentions “circular supply chain”. What does this mean? **Recycling and reusing a large part of materials in a product.**
- Do you think developments like Daisy will end our reliance on mining? Why/Why not?
- What other ideas for reducing e-waste have you heard of?



**8. Look at some ideas for solving the e-waste problem and discuss how feasible they are. Then, decide which one would contribute most to reducing e-waste.**

- Introducing regulatory measures for electronics so that they are designed for durability and repairability, for instance by obligating manufacturers to extend warranties to five years.
- Ensuring availability of spare parts and access to repair.
- Improving the treatment of e-waste by forcing manufacturers to research and develop methods of material recycling and reusing.
- Funding the development of solutions for high-quality sorting and removing contaminants from waste.
- Introducing universal phone chargers.

[The ideas are taken from [A new circular economy action plan for a cleaner and more competitive Europe.](#)]