

POWER POSITIVITY...

# BATTERIES FOR BARRETSTOWN

School Challenge



## Teachers Notes

### 1. Why should I recycle batteries?

Recycling batteries is good for the environment. If you put your batteries into a rubbish bin they will be taken to landfill sites and the resources lost. Heavy metals may leak into the ground when the battery casing corrodes, causing soil and water pollution. If batteries are incinerated with household waste, the heavy metals in them may cause air pollution.

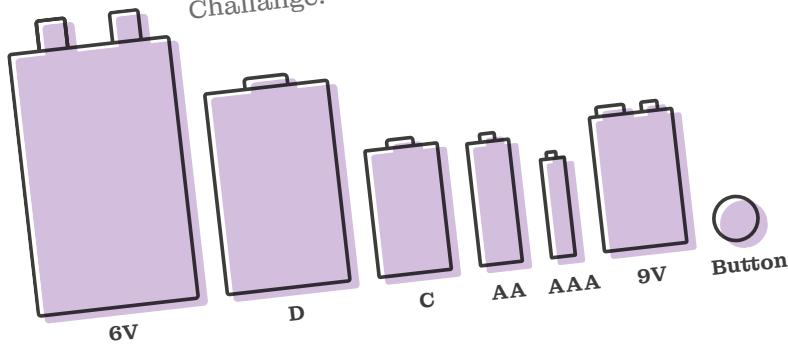
Recycling batteries saves energy. The recycling process separates the valuable metals. They are then sold and used to make new products. This reduces the demand for more raw materials from the earth and the energy used to extract and refine them.

Recycling cuts carbon dioxide (CO<sub>2</sub>) emissions and helps to tackle climate change. For example, four times more energy is needed to produce steel from raw iron ore than it does from recycled material.

### 2. What type of batteries are there?

Disposable batteries may be found in toys, torches, clocks, calculators and watches. Rechargeable batteries are found in electric toothbrushes, cameras, laptops and mobile phones.

The following batteries can be recycled as part of the ERP Batteries for Barretstown School Challenge:



### 3. What happens to the batteries after collection?

Batteries are made from important resources and chemicals, including lead, cadmium, zinc, lithium and mercury and steel. Each battery placed in the Battery for Barretstown recycling box will be taken apart and many of the materials will be recovered and used to make new batteries or new items like a new bike!

### 4. How are batteries processed?

First batteries are sorted into different types according to the metals they contain. They are then shredded. The steel casings are separated from the battery core, which is called black mass, using strong magnets. Steel and black mass are then heated to over 1000 degrees centigrade in separate furnaces. The different metals can then be recovered using different processes.

### 5. What happens to recycled batteries?

The metals recovered from battery recycling can be used in many products:

- Zinc is used in car manufacturing, as it helps prevent rusting
- Lead and silver can be refined, so that they are pure enough to make new batteries
- The steel from battery casings could end up as cabling on a suspension bridge, a food can or even new battery casings.

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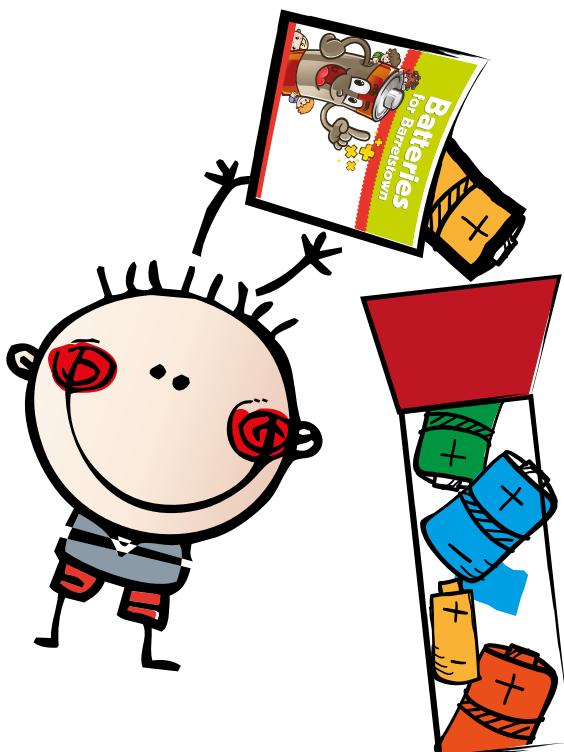
## Teachers Notes continued

### 6. How can we support Batteries for Barretstown?

Once the students have covered the materials, please distribute the battery recycling bags for them to take home and collect used batteries.

Important\*\* The batteries collected should be tipped into the battery collection tube in school and the bag reused again! Do not put bags into the tube.

Teachers should reward those that have brought used batteries in for recycling with a Battery Recycling Champion sticker.



### 7. What is the target of the EU battery directive?

The New EU Batteries Regulation sets ambitious targets for portable batteries with a collection rate of:

- 45 per cent by the end of 2023
- 63 per cent by the end of 2027
- 73 per cent by the end of 2030

### 8. What is the portable battery collection rate in Ireland?

For portable batteries, ERP Ireland collected 453 tonnes or 48% of the average of what was placed on the market from 2020 to 2022, exceeding the collection target.

### 9. What is the circular economy?

A circular economy provides us with the opportunity to consume fewer resources and to extend the productive life of the objects we buy and use. We are currently consuming at a rate that requires three planets. This is unsustainable.