

## Chemistry

## Getting to know the elements of your smartphone

(Portugal)

## Background

The project title 'Periodic Table of the Smartphone'. Today all students have a smartphone but what substances and mixtures are they made up of? Let students explore the elements of their phone while they understand more about the importance of the periodic table and the information it gives us. A researched based activity.

## You will need:

- ✓ Teachers' can use a copy of information is image 1 a copy of 'Elements of a Smartphone'. This information sheet can be found at [www.compoundchem.com](http://www.compoundchem.com)
- ✓ Students use a template as in image 2 to carry guide them with their research.

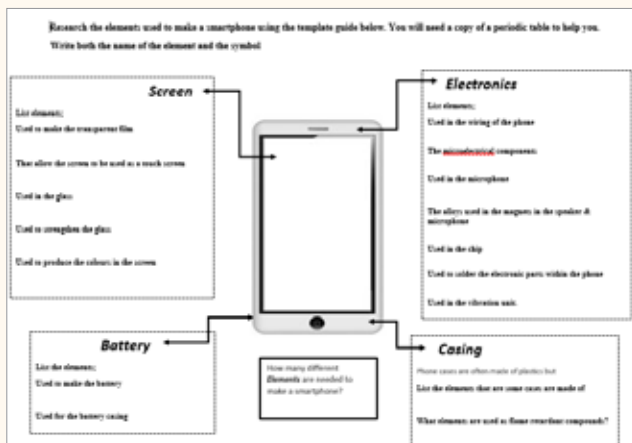
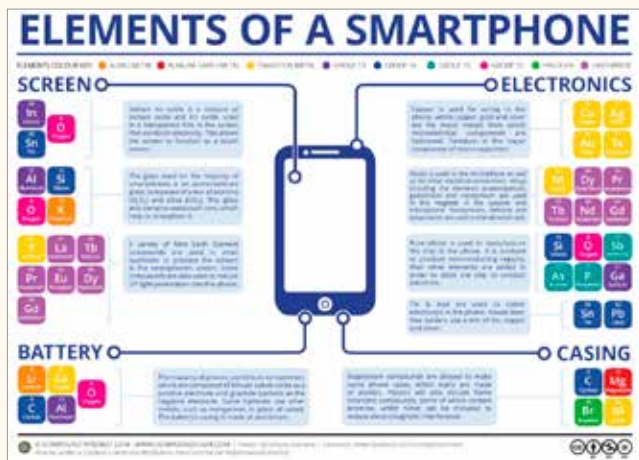
## So what happened?

By carrying out the research activity students should become more aware of the elements on the periodic table and what they can be used for. The activity will develop student discussions on the range of elements that are needed to make a smartphone and how valuable they are.

## What next?

Students can extend on this by:

- Research the sustainability of the elements used.
- The varying quantities of the elements used and the effects of using & depleting these resources.
- The strategies phone companies are or can put in place to make their phones more sustainable.



Research the elements used to make a smartphone using the template guide below. You will need a copy of a periodic table to help you.

## Screen

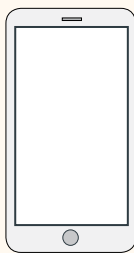
List elements;

- used to make the transparent film
- that allow the screen to be used as a touch screen
- used in the glass
- used to strengthen the glass
- used to produce the colours in the screen.

## Electronics

List elements;

- used in the wiring of the phone
- the microelectrical components
- used in the microphone
- or alloys used in the magnets in the speaker & microphone
- used in the chips (integrated circuits)
- used to solder the electronic parts within the phone
- used in the vibration unit.



## Battery

List elements;

- used to make the battery
- used for the battery casing.

## Case

Phone cases are often made of plastics but

- list the elements that some cases are made of
- which elements are used as flame retardant compounds?

How many different Elements are needed to make a smartphone?