

Edible atoms

Introduction

This is a short, fun activity which will help students to recall the structure of the atom that they learnt about in GCSE. They will model atoms using a paper plate and 3 different sorts of sweets. At the end, when they have correctly demonstrated their understanding of atoms and isotopes, you may wish to let them eat their model!

The activity

Part 1: The atom

Place 3 different sorts of sweets in bowls labelled protons, neutrons and electrons. Give students a paper plate and ask them to model an atom e.g. Carbon-12. Depending on the ability of the class you could give different students different atoms. It is probably best to limit the atoms to the first few elements as heavier elements tend to require too many sweets.

Class discussion should draw out the main points of the atom and the significance of the numbers as shown on the periodic table.

Part 2: Isotopes

Ask students to pair up and model different isotopes.

Class discussion should draw out that isotopes have the same number of protons and different numbers of neutrons.

Part 3: Comparing the model with the real thing

Ask students to compare and contrast the model with a real atom and to suggest reasons why scientists often make use of models to describe a situation.

At the end of the activity students could eat their atoms.

Resources:

Paper plates (or circles drawn on paper)

3 different sorts of sweets e.g. chocolate beans, marshmallows and jelly beans

Optional: strawberry laces – useful if students have studied chemistry and want to add electron shells.

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Science explanations:

Da Although all atoms of an element have the same number of protons and electrons they may have different numbers of neutrons. Atoms of the same element with different numbers of neutrons are called isotopes. Most atoms are stable but some of these isotopes have unstable atoms. A substance containing unstable atoms is said to be radioactive.