Using models

Education in Chemistry
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Once you've introduced your students to the overarching concept of scientific models, you can use these worksheets to get them discussing models.

The first worksheet asks students to evaluate models, deciding whether they are scientific ideas or representations/illustrations of scientific ideas.

Based on Ben Rogers' similar/different resources, the second sheet asks students to explore the similarities and differences between the model and what it represents, for example the magnet model of forces between atoms.

Physical models

Comparisons/ analogies

Visual pictures held in our minds

Equations/graphs

Computer models

SCIENTIFIC MODELS

Which scientific models are **<u>scientific ideas</u> that attempt to describe/picture things in the world?**

Which scientific models are **things used to *represent* or *illustrate* scientific ideas?**

An egg can illustrate the structure of the Earth.

A loop of rope can represent a circuit.

The particle model of solids, liquids and gases.

You can build model atoms from plasticine.

The nuclear model of the atom.

The bell-jar model of the lungs illustrates how lungs work.

The plum pudding model of the atom.

The Dalton model of the atom.

Molymods represent molecules.

The geocentric and heliocentric models of the universe.

Our model of the Earth's structure (crust, mantle, outer core, inner core).

Evaluating THE MAGNET MODEL of FORCES BETWEEN ATOMS

MAGNETS

DIFFERENT

Features of the model which are different to reality.

In the model,

SIMILAR

Things that the model illustrates or represents <u>well.</u>

The model shows how …

FORCES BETWEEN ATOMS

DIFFERENT

Features of reality which are not shown well by the model.

In reality,