

MATTER (teacher's notes)

About matter:

- Atoms join together to make molecules. For example two hydrogen atoms and one oxygen atom join together to make one molecule of water.
- Graphite and diamond are two different forms of carbon.
- “Molecules are so small that it is almost impossible to see them, even with powerful microscopes” (*101 Cool science Experiments*, published in 2005 by Hinkler Books Pty Ltd, Australia).
- Most matter is visible, but some matter is invisible (e.g. air).

ATOMS

Activity 1: Let's investigate atoms.

After about 8 cuts you can realize that it's almost impossible to go on cutting. You would have to cut the strip of paper 30 times to reach the size of an atom.

MOLECULES

Activity 1: Let's investigate molecules.

- The colours used in felt-tip pens, food colouring... are made of pigments/molecules. Water dissolves the pigment and moves them up the paper because of the capillary action. Different pigments/chemicals move at different speeds, which show the different shades that make the colours.
- “Some pigments move up the paper faster than others. They travel at different speeds. This depends on how large the pigment molecule is and how much the pigment is attracted to the paper” (*101 Cool science Experiments*, published in 2005 by Hinkler Books Pty Ltd, Australia).
- Dark colours contain more chemicals than lighter colours.
- Some colours contain just one chemical.
- Chemists use chromatography to identify different chemicals in substances.