



DIGITAL SCIENCE

using the Qx3 microscope and digital cameras in science

DIGITAL SCIENCE has seven parts

- 1 Introduction
- 2 A PowerPoint presentation – for staff training
- 3 Guidance notes for importing pictures
- 4 Opportunities highlighted in the QCA Schemes of Work.
- 5 Guidance notes for using the time-lapse facility and making movies.
- 6 Sample slides and images
- 7 A quiz to try with pupils.
Available as a Word document and PowerPoint presentation.

1 Introduction

Using the Intel microscope

This microscope is different. Unlike a classic microscope INTELPLAY does not require thin sections of material to view. This means that you can look at a petal or a pollen grain, a rock or a grain of sand. It is fundamentally a digital camera that offers views at 3 different magnifications.

The microscope shows the viewed object as an image on the computer screen. This image can be saved, altered, or using another piece of software, just printed. The saved image can have text added to it, and it can be imported into a document.


There is a facility for time-lapse photography. This might be used to illustrate such topics as growth, animal movement or crystal formation.

Once saved it can be used for different classes and as often as required.

Marketed as a child's toy INTELPLAY is very easy to use. It comes in very American and zany packaging! To set up you simply install the CD ROM and connect in the microscope. All the instructions for use are shown on screen and, when you use the microscope, sounds confirm the kind of choices you are about to make.

It is a useful resource for all children but especially younger children that find using traditional lenses and viewers difficult.

Context use

Suggested use	Talk about what you see
Life processes & living things	<p>Look at an ear, hair, fingers.</p> <p>Make comparisons of skin from different parts of the body.</p> <p>Look at dirty and clean hands.</p> <p>Look inside mouths at teeth. Look at teeth that have fallen out.</p> <p>Look at leaves, bark, roots, flower parts, pollen, seeds, germinating seeds, root hairs, bulbs and corms, fungi, rotting logs, humus, compost ...</p> <p>Look at insects, worms, maggots, spiders, eggs of various invertebrates, caterpillars, shed skins and wings ...</p> <p>With the Qx3 you can quickly return things to their habitat, but keep the pictures or movie forever.</p> <p>Watch buds open, soft fruit rot, anthers split and seed pods ripen. Try lily anthers and pansy fruits.</p>
 <p>SAFETY– remember to follow safety procedures outlined in <i>ASE BE SAFE!</i> 3rd Edition</p>	
Materials	<p>Look at rocks and soils, coins and jewellery, decorations and glitter.</p> <p>Look at fabric types.</p> <p>Look at crystals and saturated solutions as they crystallise out.</p> <p>Scrutinise fluff from pockets, crumbs from a box of soup mix, other mixtures.</p> <p>Watch cornflour and water dry out.</p> <p>Look at 'white powders' such as flour, cornflour and icing sugar. Identify the similarities and differences.</p> <p>Look at biscuits and cakes, sponges and dish cloths – discuss the air spaces.</p> <p>Freeze ceramic tiles or similar and use them to 'catch' snowflakes to observe.</p>
Physical Processes	<p>Look at materials before and after stretching.</p> <p>Look at translucent materials.</p> <p>Look at wires and the internal workings of bulbs.</p>