


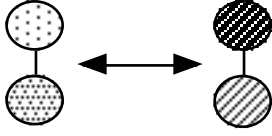
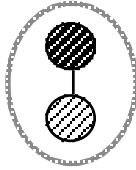
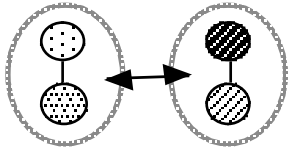
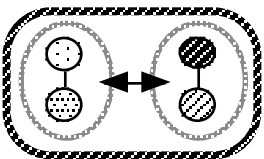
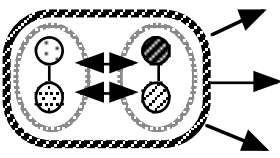


Generic SCIENCE level descriptions	Visual interpretation	Colour Level Samples
<p>Awareness - Level 1 students Are aware of matter and energy and living things. Can observe objects and observe changes. Can distinguish between objects. Can distinguish between changes.</p>		<p>Level 1 Students are aware of the notion of colour and coloured objects; they can identify different objects of the same colour. <i>Pre-school and Lower Primary school students.</i></p>
<p>Describing - Level 2 students Can describe and name objects. Can describe and name features of objects. Can describe changes to objects. Can describe how. Can prepare lists.</p>		<p>Level 2 Students can describe different colours by using their common names. They can name the colour of objects. They can describe colour changes.</p>
<p>Patterns - Level 3 students Can describe patterns in objects and in features of objects. Can classify and sort objects and features. Can organise observations and information. Can link cause and effect.</p>		<p>Level 3 Students can recognize patterns in colours. They can classify various objects according to colour.</p>
<p>Comparing - Level 4 students Can compare characteristics and features. Can identify processes that are occurring. Can describe relationships and interactions that are occurring. Can make predictions based on data.</p>		<p>Level 4 Students can compare colours (more red, less red, lighter red, darker red). They can describe colour changes, and identify causes of colour changes (e.g. colours of acid/base indicators).</p>
<p>Models - Level 5 students Can use models to explain concepts. Can use concepts to explain observations. Can apply concepts to new areas. Understands experimental design procedures. Can assess ideas and information.</p>		<p>Level 5 Students understand that we see colour because of light rays coming from an object to our eyes. They understand that white light is composed of the colours of the spectrum. prisms, etc. <i>This is the first level of abstract thinking.</i></p>
<p>Quantitative - Level 6 students Can describe models quantitatively. Can apply quantitative information. Can apply laws. Can explain interactions occurring. Can present relevant evidence.</p>		<p>Level 6 Students can interpret colour in terms of frequency of electromagnetic waves. They can explain a spectrum in terms of refraction and velocity of different colours, and diffraction gratings. <i>This is typical of top year 9 and most year 10 students.</i></p>
<p>Theories - Level 7 students Can apply theories and principles to explain observations. Can describe and analyse systems. Can evaluate theories, systems and ideas. Can predict based on system wide evidence.</p>		<p>Level 7 Students can explain colour light in terms of continuous and band emission spectra. They can use atomic theory to explain line emission spectra, <i>These are higher level theories that only the more advanced students can cope with – usually upper school Physics students.</i></p>
<p>Complex Systems - Level 8 students Can explain complex systems and complex interactions. Can apply concepts, models, laws, theories and principles to complex systems. Can use models to compare, validate or refute ideas. Can use knowledge, principles, theories and supporting data to evaluate and make recommendations.</p>		<p>Level 8 Students can explain the source and properties of coherent light. Use properties of light to refute or validate the wave theory and corpuscular theory of light.</p>