Education

This is lesson 1 in the ASDC Colour Physics syllabus. In this lesson we will be taking a first look at the nature of light. Later in the course there will be another session on this subject where we can revisit the ideas and go into a bit more depth so this is very much an introduction. My name is Richard Ashworth and I am the Colour Experience Manager at the SDC.

In this lesson we will be giving some background into the science of light and colour, with some historical perspective. Looking at additive and subtractive colour mixing: how light interacts with surfaces to create colour and have a look at some of the difficulties associated with describing colours.

These are the learning objectives for the lesson, so by the end of it you should know:

1. Light is electromagnetic radiant energy
2. Colours are perceived when light enters our eye – directly or when reflected or transmitted
3. Additive primary colours
4. Subtractive primary colours
5. Additional factors can affect appearance
6. There are specific attributes that are useful when describing colours

The colours that we see in the world around us are a result of the interaction of light energy with an object and our subjective response to that energy. From this we can see that the colours we perceive depend not just on the object itself, but also both the light illuminating the object and the observer.

In simplest terms, a coloured object appears coloured when it reflects that colour of light into our eyes. But that doesn't explain the colours that we can see on the surface of a CD or a peacock's feather. The interaction of light, object and observer can take on many forms and we'll be looking at some of these as we progress through the course.