

Colour is (not) a characteristic material property**Colour – part 1****Experiment:**

There are two solutions: The first one is an extract from green leaves, the second one is a β -carotene solution. Observe and write down the colours of the solutions a) in daylight, b) when being irradiated in the dark with a UV-LED torch, and c) when being irradiated in the dark with a green LED torch.

Observed colours

	daylight	UV light (in the dark)	green light (in the dark)
green leaves-extract			
β -carotene-solution			

A2 Decide whether the statements are **true** or **false**. Give reasons based on your observations in A1.

- The colour of an object does not depend on the light colour the object is irradiated with.
- When being irradiated with sunlight, objects **absorb** light. Accordingly, these objects can only show a **colour** that is contained in the sunlight spectrum.
- When being irradiated with light from the UV-LED torch, objects produce a **luminous colour (fluorescence)** by **emitting** light. This emitted light is contained in the light spectrum of the UV-LED torch light.
- A luminous colour (e.g. fluorescence) is produced when substances transform high-energy light into low-energy light.

Further online experiments:

'Crying chestnut twig' and 'Glowing marker pen'.

