

Is the light from a candle the same from every angle? Is the light from a torch the same from every angle?

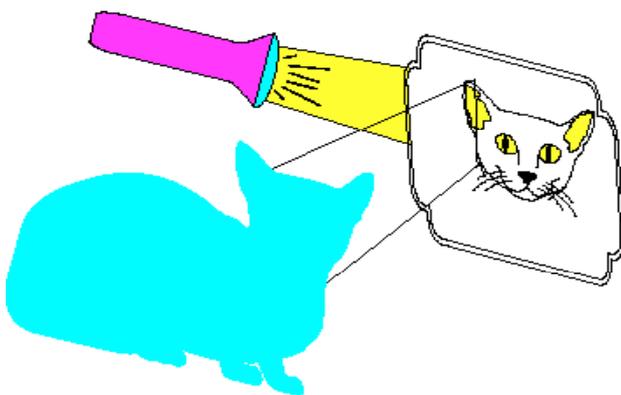
Candles provide general light while a torch provides a beam. The children use a **light sensor** to take light readings at different angles around a torch and a candle. You might ask: when would a candle be useful? What makes a torch directional? How could you make a candle beam like a torch beam? How could you make a torch beam like a candle?

IT: Measuring

What happens when light shines on things?

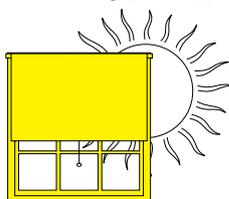
Some light is absorbed when it is reflected from a table, a mirror and even day-glo material. The children measure the light reflected from a table by pointing a **light sensor** at it. They can find out which surfaces reflect the most light. They can sort them into order: which reflects the most light?

IT: Measuring



What is the best material for a window blind?

You can use a **light sensor** to see how much light can pass through different materials. The children put the sensor in a box with a 'window' at one end. They put different fabrics or materials over



the window. The computer will show how transparent the material is. Do your results help you to sort out the materials? Which materials are transparent? Which are opaque? Which are translucent?

Which would be best for a window blind? Would thicker materials let through less light? How many layers of tracing paper would stop the light getting through?

IT: Measuring

Does light travel through water?

You can take light level readings in a pond. You need to place the **light sensor** in a well-sealed plastic bag. You can show how the light level affects the life in different parts of the pond. You will need a portable computer or plug your sensor into a data logger. Remember to always point the sensor at the same angle (up is best) or you will get spurious readings.

IT: Measuring

How fast do photochromic sunglasses change?

You can use a **light sensor** to investigate how fast photochromic glasses (which darken in the sun) change. The children can place the sensor in a card tube and measure the light passing through the lens. Can they predict what will happen? The computer will display a graph showing the lenses getting dark or light. Can they predict what the computer screen will show? Do the glasses get darker, faster than they get lighter? When would it be important that the glasses change fast?



IT: Measuring

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