

Create your own dark box to see what drivers can see at night.

Aim: to show how different materials show up at night: reflective is best, followed by white, whereas dark materials don't show up, even if they are fluorescent. To relate this to what children wear or carry at night. Key message: **reflective and light for night**.

You will need:

A large cardboard box, a small torch, poster paint (including black), thin cardboard and a selection of white, black, fluorescent (or bright) and reflective materials.

Method:

With the open part of the box placed on a surface, draw a rectangle across the top half of the front of the box to represent a car windscreen. Paint the 'windscreen' black. Below this you can draw or paint in controls, steering wheel and so on to make it look like the inside of a car. Paint the inside of the box black. Cut a hole in the windscreen approx 7cm by 3cm so one person can see through the 'windscreen' (without letting too much light in). Cut a hole immediately next to the viewing hole just big enough to shine the torch through. The torch represents the car's headlights.

Make cut-out figures of people with heights approx half the height of the box. Make cut-out coats to 'dress' the figures. Use a different material for each coat (at least one black, one white, one reflective, one fluorescent).

Stick the figures to the inside back of the box, one at a time. Shine the torch in (you may need to wiggle it around) and look at the different figures.

Questions:

Which materials show up best? Which colour doesn't show up at all? If someone is driving at night how can you make it easier for them to see you? If you have a dark coat what can you wear or carry to make it easier for someone to see you at night? When you buy new shoes, bags or coats look out for products that have reflective trims.

Additional Info:

Reflective materials help you to be seen at night. This is because a light source (car headlights) is reflected straight back to the driver. The special reflective tape used on high visibility products is designed to reflect a lot of light straight back to drivers (this is called retro-reflectivity).

Reflective materials do not usually work in the daytime.

Fluorescent materials help you to be seen in the day and as daylight is fading but they do not work at night. Many people think that fluorescent materials 'glow in the dark' but this is not true; they 'glow' when daylight is poor but not at night.

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