

8k Light: Transparency and Shadows

Year 7

Week commencing 7th May 2012

Garendon High School

Title: Transparency, Shadows and Kaleidoscopes

Starter:

Re-arrange the following and write down 2 key points about it:

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Title: Transparency, Shadows and Kaleidoscopes

- **Objective: Describe how shadows occur and measure the effects of mirror angles on mirror images**
- I must be able to define the terms “transparent”, “translucent” and “opaque”
- I should be able to draw conclusions about how an object’s distance from its light source affects its shadow
- I could investigate how mirror angles affect the number of images

What materials do you think light can travel through?

What happens when light is shone on an object and it cannot travel through?

Can you think of some examples?

Copy and fill in the table

Transparent- Light goes through the material	Opaque – Light does not go through the material	Translucent – some light goes through but not all of it

Translucent

tissue paper

waxed paper

mottled glass *

paper towel

"almost" clear plastic lids

Transparent

plastic wrap

clear glass *

"bubble" packing material

laminating material

clear plastic lids

Opaque

construction paper

cardboard

felt

Styrofoam trays

coloured plastic lids

tin foil

wood

cloth

Shadows

<http://www.bbc.co.uk/learningzone/clips/how-shadows-are-made-shadow-puppets/2175.html>

- Watch the clip and answer the questions.
 1. What materials did they use in the puppet show?
 2. How do you think they made the characters look bigger (at end of clip)?

Using your torch and object...investigate making a shadow

1. What happens when you move the object closer to the light source?
2. What happens when you move the object further away from the light source?
3. Why do you think this is? Draw a diagram to help you.

When you have finished looking at shadows...

- Turn to page K2B “Kaleidoscopes” of the workbooklet
- You are going to investigate how the angle between two mirrors affects the number of images in the mirrors.
- What are the dependent and independent variables?

Plenary

- What did you conclude about shadows?
- What did you conclude about how the angle of two mirrors together affects the number of images in the mirror?

