

Cafe wall illusion

Location

First floor, Curiosity zone exhibition

In a nutshell

Investigate this geometrical optical illusion involving parallel straight dividing lines between staggered rows of alternating black and white tiles. Why do they appear to be sloped?

What to do

Look at the exhibit and describe what you see. Use the switch to change the colour of the light representing the grout between the tile rows and move the lower rows using the two handles. Does this change what you see? Has the shape of the tiles or the rows changed? Can you explain your observations?

Time Required

KS1 & KS2 2-3 minutes per student.

What's happening?

This geometrical optical illusion was first described under the name 'Kindergarten illusion' in 1898 and re-discovered in 1973 by Professor Sir Richard Gregory on a wall outside a café in Bristol. It is a variant of the shifted-chessboard illusion originated by Hugo Münsterberg.

When the overlapping of the tiles is at a maximum the straight parallel lines between the rows appear to be slanted. If the colour of the light behind the tiles is changed or the overlap is removed the straight parallel lines can clearly be seen.



Curriculum links

KS1/2	Science - Working scientifically
	- (Yr 1 & Yr 2) asking simple questions and recognising that they can be answered in different ways
	- (Yr 1 & Yr 2) using their observations and ideas to suggest answers to question
	English - Spoken language
	- articulate and justify answers, arguments and opinions
	- give well-structured descriptions, explanations and narratives for different purposes, including for expressing feelings
	- use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas
	Mathematics - Geometry – Property of shapes
	- (Yr1) recognise and name common 2-D and 3-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and triangles] 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].
	- (Yr2) identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line

Relates to:

Workshops & Theme Days	Shows	Trails	Other exhibits
<ul style="list-style-type: none">• Body basics (KS1)• Brain and body theme day (KS1 & KS2 lower)	<ul style="list-style-type: none">• Brainworks (KS1 & KS2 lower)• Boggling Brains (KS2 upper)• How my body works (KS2)		<ul style="list-style-type: none">• Eye witness• Colour trickery• Push over• Funny faces• In a spin

