

## Clue for Digit 1

Which diagram shows the path in which light travels?

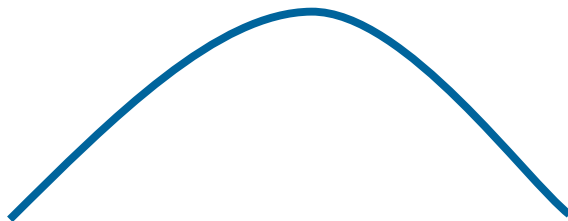
1.



2.



3.



4.



The correct diagram is the first digit on the keypad.

## Clue for Digit 2

Read these statements about the rules of reflection. Which are true and which are false?

The angle of incidence equals the angle of reflection.

The reflection in a plane mirror is bigger than the object.

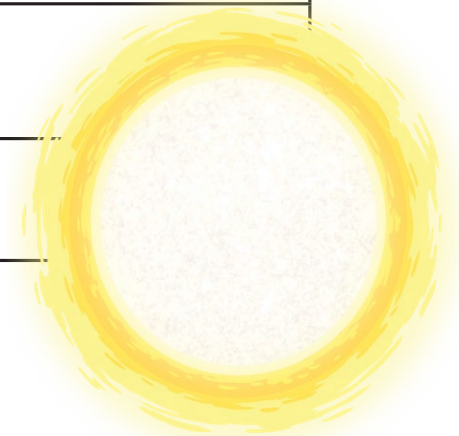
The reflected image is as far behind the mirror surface as the object is in front.

Everything in the reflected image is laterally inverted.

Completely smooth surfaces, like a mirror, will reflect light in a specific direction.

Rough surfaces scatter light in many different directions.

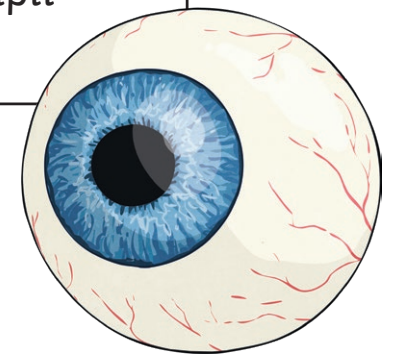
The number of true statements is the second digit on the keypad.



## Clue for Digit 3

How many of these features are parts of the eye?

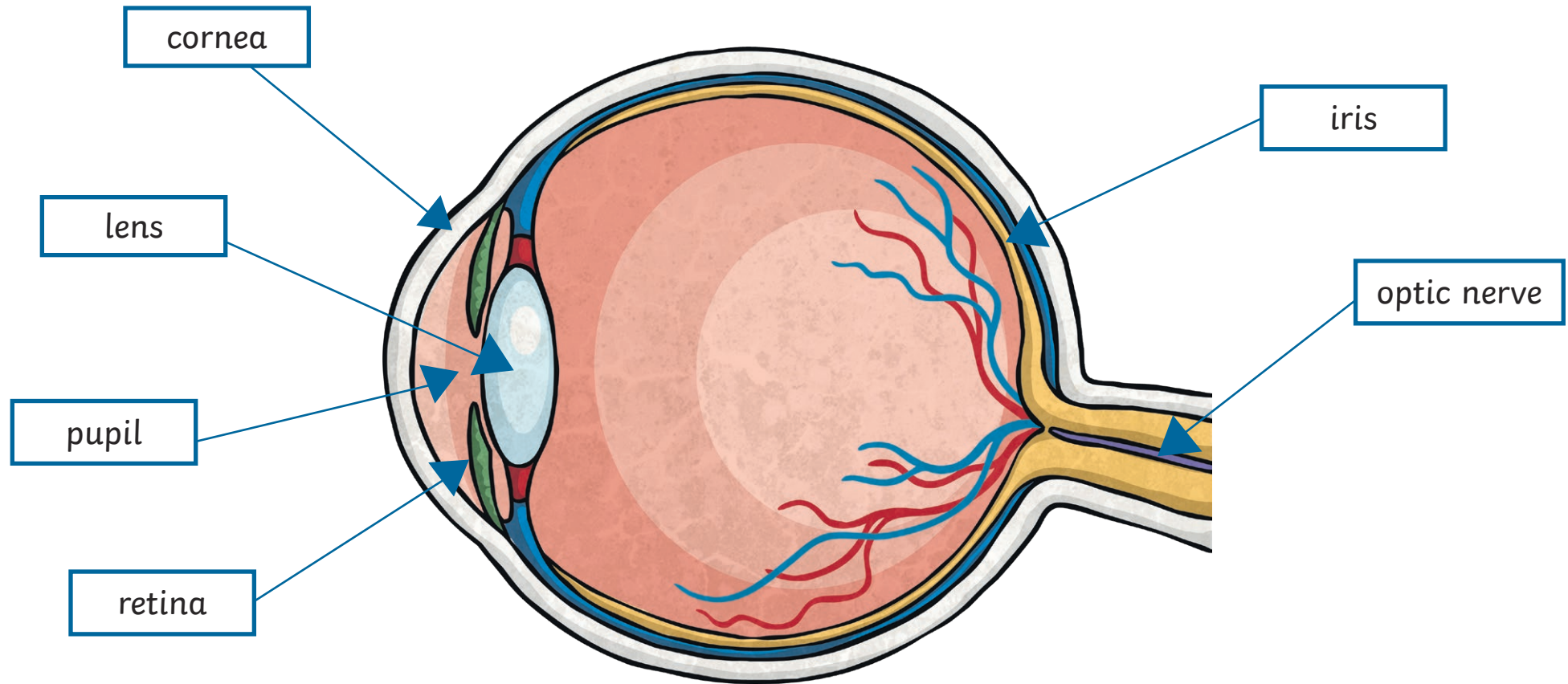
sclera	capillaries	ciliary muscle	retina	duodenum
aorta	optic nerve	cornea	ventricle	trachea
iris	chyme	lens	alveoli	pupil



The number of parts of the eye in the table is the third digit on the keypad.

## Clue for Digit 4

Look at this diagram of the human eye. Identify the labels that are incorrect.



The number of incorrect labels is the fourth digit on the keypad.

## Clue for Digit 5

Read the clues about light and write the answer with one letter in each box.

Something that lets some light through.

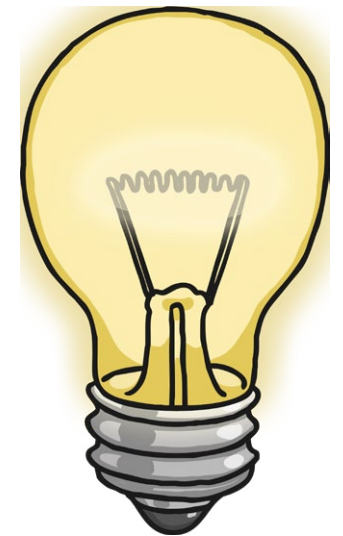
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Something that lets almost all light through.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Something that lets no light through.

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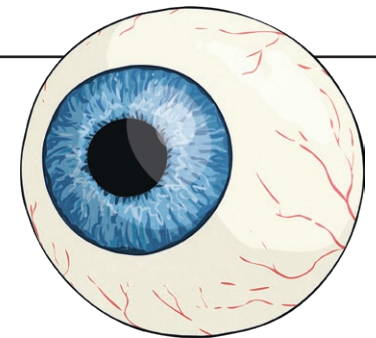


Rearrange the letters in the highlighted boxes to spell the next digit on the keypad.

## Clue for Digit 6

Which option shows the correct process of how we see things

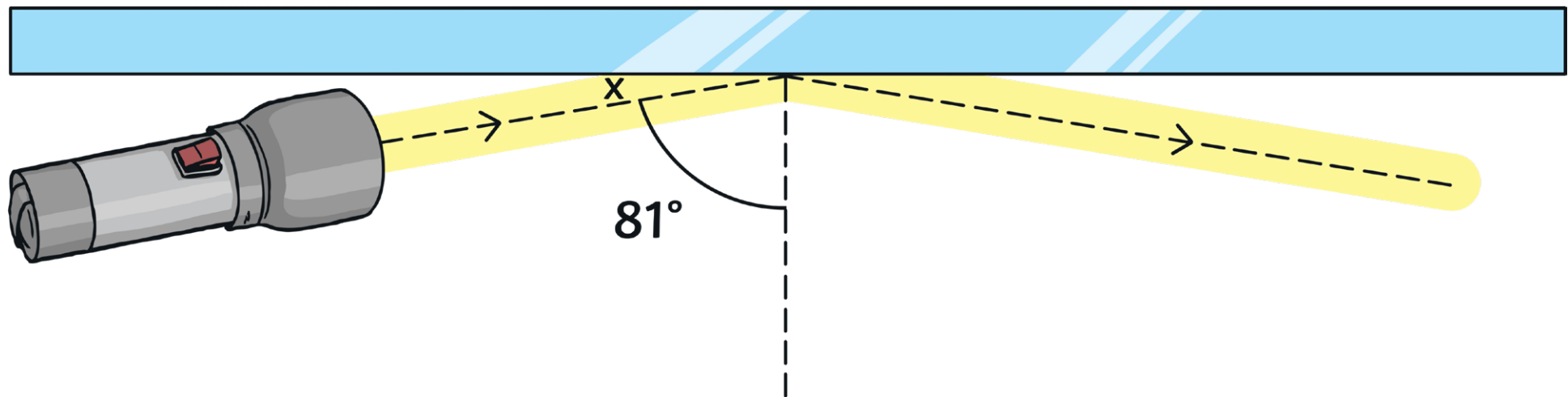
1. light hits an object, enters the cornea and passes the pupil → the information is sent to the optic nerve → the lens focuses the light on the retina → the information is sent to the brain → brain cells process the image
2. the lens focuses the light on the retina → the information is sent to the optic nerve → light hits an object, enters the cornea and passes the pupil → the information is sent to the brain → brain cells process the image
3. light hits an object, enters the cornea and passes the pupil → the lens focuses the light on the retina → the information is sent to the optic nerve → the information is sent to the brain → brain cells process the image



The number of the correct process is the sixth digit on the keypad.

## Clue for Digit 7

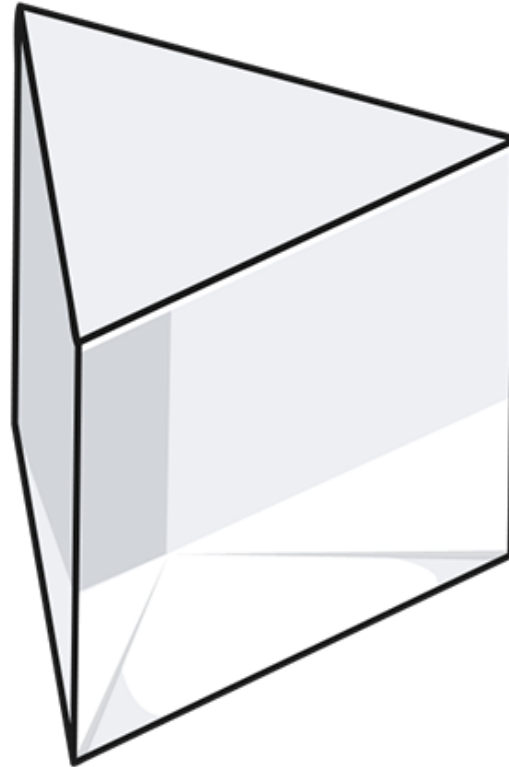
Look at this diagram which shows a torch shining on to a mirror. The angle of the beam of light has been measured as shown. What is the size of the angle marked 'x'?



The size of angle 'x' is the seventh digit for the keypad.

## Clue for Digit 8

How many colours are there in the visible spectrum?



The number of colours in the visible spectrum is the eighth digit on the keypad.



## Clue for Digit 9

Look at these statements about how we see colours. Which are true and which are false?

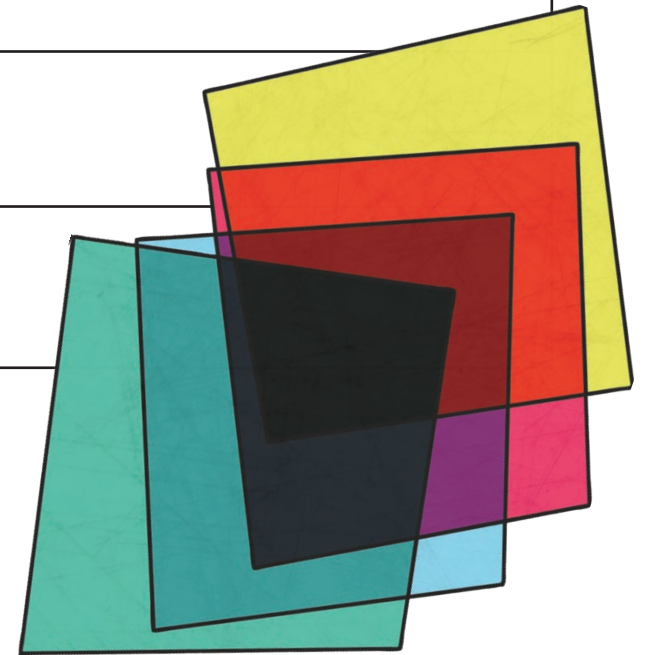
A blue object absorbs all colours of light except blue, which it reflects.

A red object absorbs all colours of light except red, which it reflects.

A white object absorbs all of the colours of light.

A black object reflects all of the colours of light.

The number of false statements is the ninth digit on the keypad.

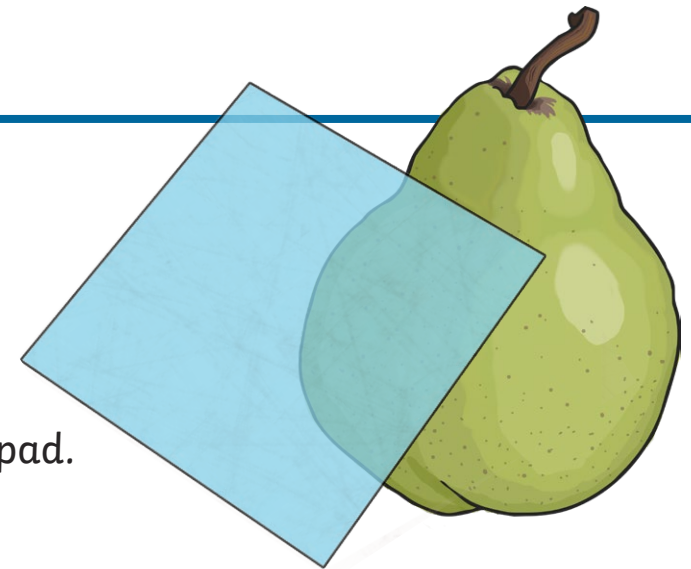


## Clue for Digit 10

Fill in the missing word below.

A filter only allows certain colours of light to pass through it. A green filter absorbs all colours in the spectrum except green, which it lets through.

If you look at a green pear through a blue filter, it will look\_\_\_\_\_.



The number of letters in the missing word is the tenth digit on the keypad.