Can you see a pattern?

## Patterns in nature

### Zebra

Look at the image below.



Source: <https://commons.wikimedia.org/wiki/File:Common_zebra_1.jpg>

Describe what is being repeated on this animal?

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#### Did you know?

Every zebra has a different coat of stripes. They may look the same and their stripes may follow the same pattern, however no two zebras are exactly alike.

(Source: [National Geographic – Plains Zebra](https://www.nationalgeographic.com/animals/mammals/p/plains-zebra/))

### Beehive

Look at the image below.



Source: <https://www.needpix.com/photo/832748/beehive-bees-insects-collects-nectar>

What shape can you see that has been repeated in the beehive?

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#### Did you know?

A beehive can have a population of up to 80,000 honeybees.

(Source: [National Geographic – Honey Bee](https://www.nationalgeographic.com/animals/invertebrates/h/honeybee/))

## Patterns in the home

### Quilts

Look at the image below.



Source: <https://www.flickr.com/photos/58593446@N07/5571072936/>

Is there an easy way to work out how many little squares make up this quilt without having to count each square individually?

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#### Did you know?

The world’s largest quilt measures 25100 square metres!

(Source: [Guinness World Records – Largest patchwork quilt](https://www.guinnessworldrecords.com/world-records/largest-patchwork-quilt#:~:text=The%20world's%20largest%20patchwork%20quilt,completed%20on%2018%20June%202000.))

### Board games

Look at the image below.



Source: <https://www.pikrepo.com/nfuxt/brown-wooden-chess-board-game>

What other games do you know of that uses a grid board to play on?

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#### Did you know?

In some countries the game of checkers is also known as ‘draughts’.

(Source: [Britannica](https://www.britannica.com/topic/checkers))

## Patterns in the classroom

### Chairs and tables

Look at the image below.



Source: <https://pxhere.com/en/photo/1609072>

What pattern are the chairs and tables arranged in within your classroom? Is it the same as the pattern in the picture above?

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#### Did you know?

In 2020 there were 76 310 students who studied one or more HSC courses. Those students would need a lot of chairs!

(Source: [NSW Education Standards Authority](https://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/hsc/about-HSC/HSC-facts-figures))

### School timetable

Look at the table below.

|  |  |
| --- | --- |
| Period or Break | Time |
| Period 1 | 9:00 – 9:40 |
| Period 2 | 9:40 – 10:20 |
| Morning recess | 10:20 – 10:40 |
| Period 3 | 10:40 – 11:20 |
| Period 4 | 11:20 – 12:00 |
| Lunch | 12:00 – 12:30 |
| Period 5 | 12:30 – 1:10 |
| Period 6 | 1:10 – 1:50 |
| Afternoon recess | 1:50 – 2:10 |
| Period 7 | 2:10 – 2:50 |
| Period 8 | 2:50 – 3:30 |

Source: <https://albury-h.schools.nsw.gov.au/about-our-school/bell-times-and-timetables.html>

Describe the pattern of the periods of learning and breaks? Does your school follow the same pattern? If not, what pattern does your school timetable follow?

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#### Did you know?

The NSW Mathematics Life Skills course requires 120 hours of learning in Year 11 and 120 hours in Year 12. That is equivalent to 10 days straight with no sleep and no breaks!

(Source: [NSW Education Standards Authority](https://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/stage-6-learning-areas/stage-6-mathematics/mathematics-life-skills-2017/course-structure))

## Patterns in the workplace

### Food production line

Look at the image below.



Source: <https://commons.wikimedia.org/wiki/File:Chocolate_factory_in_Konya,_Turkey,_May_24,_2015.jpg>

Why do you think it is important that when companies make chocolate that they use the same recipe and follow the same procedure every time?

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#### Did you know?

The first Cadbury Freddo the Frog was produced in 1930 and now approximately 90 million Freddos are eaten in Australia every year.

(Source: [Cadbury](https://www.cadbury.com.au/our-history))

### Tiling

Look at the image below.



Source: <https://www.pxfuel.com/en/free-photo-oxdjw>

What shape is each tile?

How many tiles make up the pattern?

When the pattern repeats, how many tiles are common?

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#### Did you know?

There are more than 1 million roof tiles used to cover the Sydney Opera House and it took 14 years to build.

(Source: [Sydney Opera House](https://www.sydneyoperahouse.com/our-story/sydney-opera-house-facts.html))

## Patterns in pictures

### Tessellations

Look at the image below created by famous artist M C Escher.



Source: <https://mcescher.com/gallery/symmetry/>

What do you notice about the seahorses? Can you see any gaps between them?

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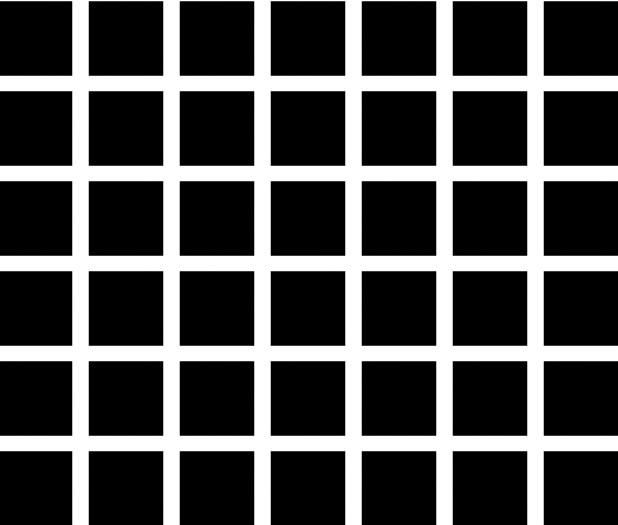
#### Did you know?

In 2011 there was an exhibition of Escher’s work in Rio that was visited by 780000 people in just 6 weeks. On average, how many people would have visited the exhibition each day?

(Source: [M C Escher](https://mcescher.com/about/eschers-route-to-fame/))

### Optical illusions

Look at the image below.



Source: <https://www.illusionsindex.org/i/hermann-grid>

If you stare at the grid, how many dots do you see?

How many dots would you see in an 8 by 8 grid?

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#### Did you know?

The above image is known as the Hermann Grid. It is named after the physiologist Ludimar Hermann in 1870 and is still used to trick the eye of thousands of people today.

(Source: [How do optical illusions work?](https://www.verywellmind.com/optical-illusions-4020333))