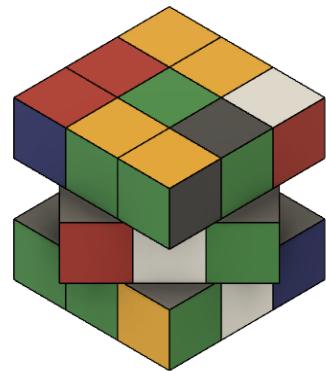Name:

My
Geometry Journey
- Junior Cycle Graphics

Reflecting on my geometry learning journey in Graphics

An tSraith Shóisearach do Mhúinteoirí
**Junior CYCLE**
for teachers

JUNIOR CYCLE FOR TEACHERS
JCt4
An tSraith Shóisearach do Mhúinteoirí

Exploring Geometry

In Graphics, you are encouraged to explore and identify the geometry that surrounds you everyday.

In Graphics, you'll explore the geometric world to gain an appreciation of the importance of Graphics in your environment.

This document will aid in developing skills and act as a journal to reflect on your progress throughout your Graphics learning journey.
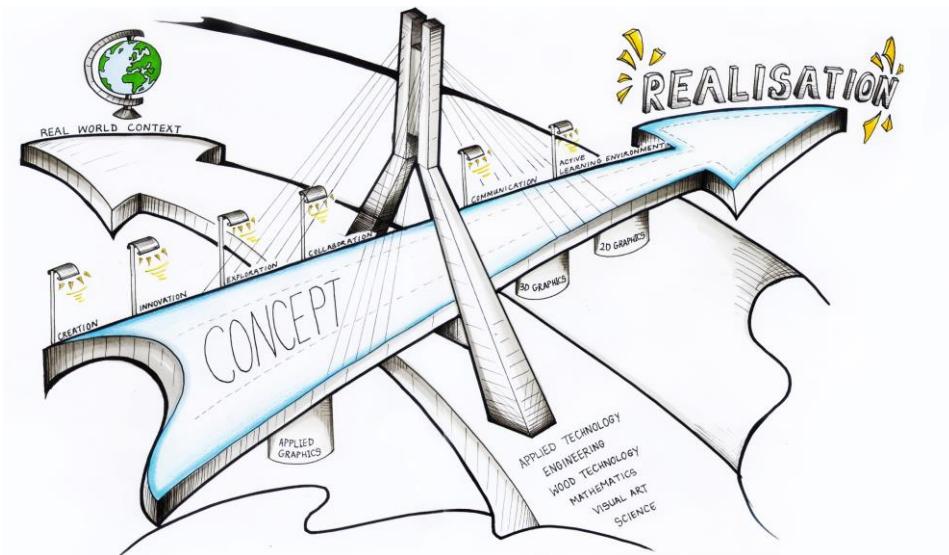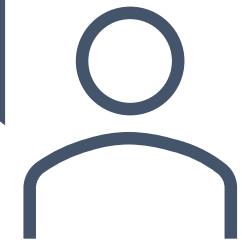

Reflecting On My Learning

As you reflect on your learning, it is important that you record your thinking through whatever media works best for you.

This document is intended to be used in whatever format you find most appropriate. It can be used digitally or could be printed out to engage with as a hardcopy journal.

Reflection helps you to…

-take responsibility for your learning

-develop skills to identify geometry in your environment

-become more aware of the knowledge and skills that you have developed.

Possible ways I could present and share reflections on my learning:

Presentation of images with my comments

A sketch accompanied with notes

A video/voice-over or any appropriate media

Discussion with others

Engaging with this resource

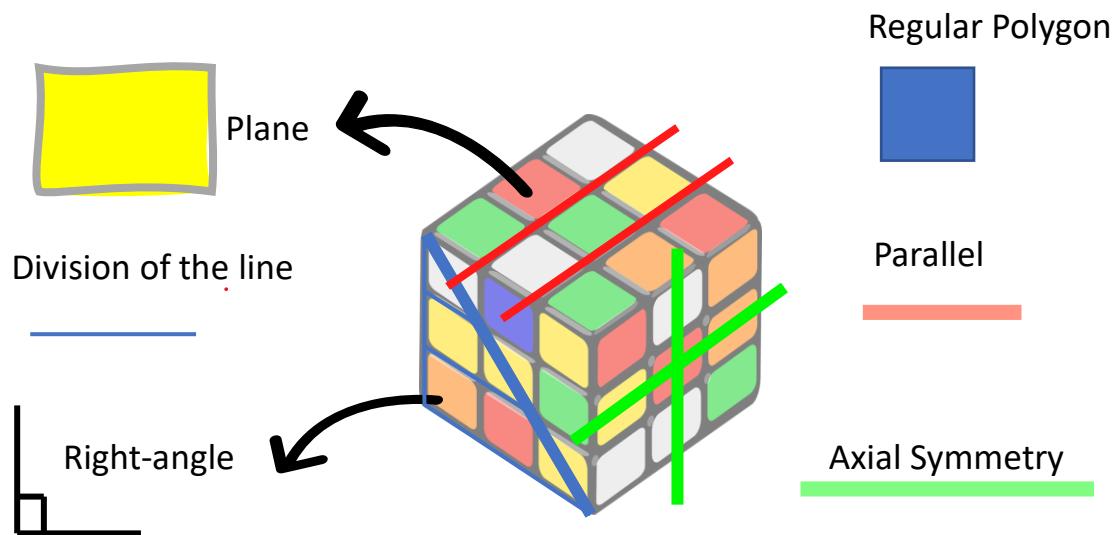## Looking in and Looking out

Looking in

'Looking in' activities concentrate on identifying as much geometry in a single object or image. This is a great opportunity to highlight all the geometry that you have engaged with.

Example:

What geometry can I see in the Rubik's cube?

Plane

Regular Polygon

Division of the line

Parallel

Right-angle

Axial Symmetry

What other geometry can you identify in the Rubik's cube?

Looking out

'Looking out' activities encourage you to identify specific geometry in a number of different examples and images in your environment.

Example:

Read the following geometric principle:

Parallel lines appear parallel in every orthographic view

Parallel lines in the cube

Rotate a cube in your hand - Do the edges remain parallel?

Parallel lines on a gate

Open the gate to a new position - Are the lines still parallel?

Parallel lines in a grate

Walk around the grate - What happens to the parallel lines

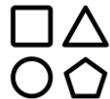*What other examples would show this principle?*

Check-in sheet

Use this page to record the skills/techniques/understanding of geometry as you experience it in Graphics.
As your learning progresses this page could act as stimulus to help identify relevant geometry in objects or your environment.

Geometric shapes
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-
-

Geometric constructions
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-
-

Geometric principles
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-
-
-

Geometric objects and surfaces
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-
-
-

2D conventions
-
-
-
-

Modelling systems
-
-
-
-

Rendering and presentation techniques
-
-
-
-

2-D and 3-D sketching techniques
-
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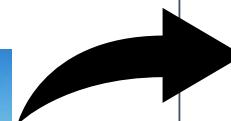-
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Looking in

Finding examples:

Shown across are images which could be used in the **'Looking in'** activity.

You are encouraged to capture your own images which are relevant to you and your environment.

Tip:

Use your **check-in sheet** to help stimulate ideas for what geometry you can identify in objects.
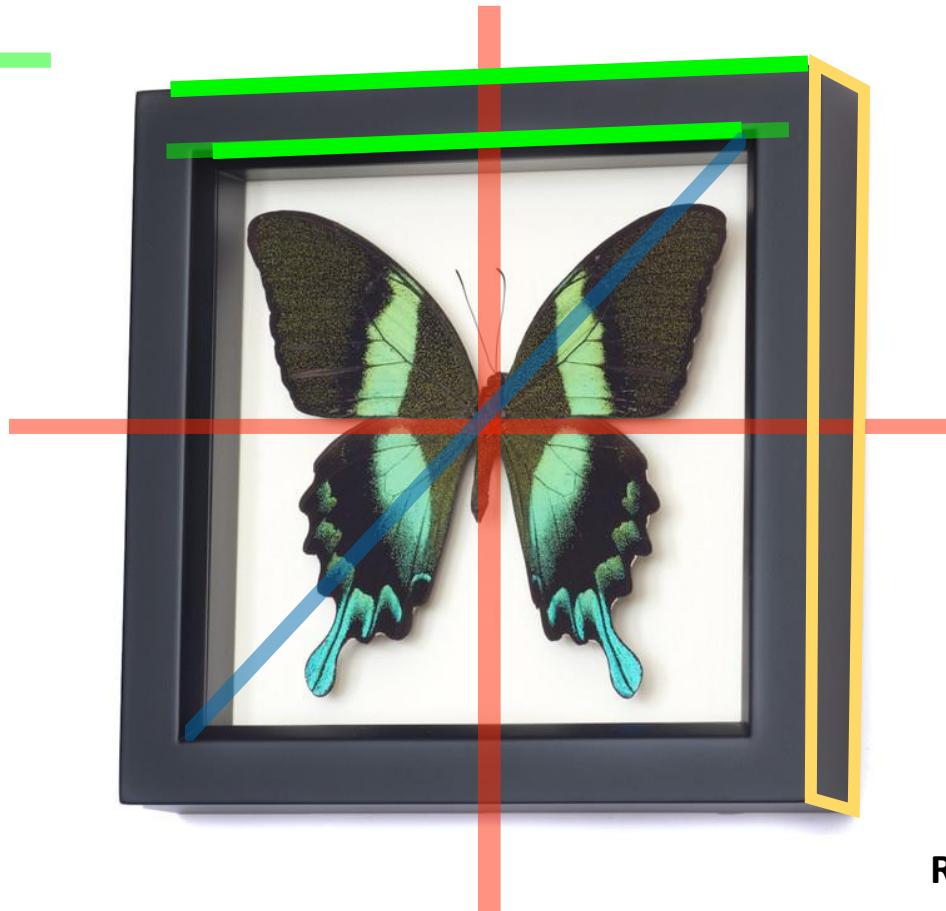
Looking in

Offset

Parallel

Diagonal

Axial Symmetry

Rectangle

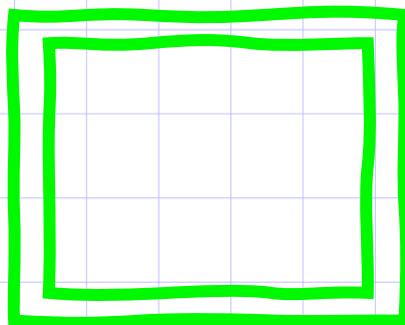What geometry can I see in this picture?

What do I notice now that I didn't notice before?

How would I explain this geometry to someone else?

What other examples show this geometry?

Offset is when there is an equal distance between similar shapes . Example here is thickness of frame.

What other geometry can you identify in the picture frame?

I would explain this to someone else by pointing out a wheel of a car or frame of tv.

Pause and reflect - What do I know now?

What next? How can this knowledge help me?

Looking in

Attach picture here

What geometry can I see in this picture?

What do I notice now that I didn't notice before?

How would I explain this geometry to someone else?

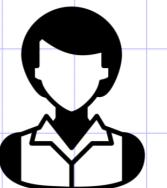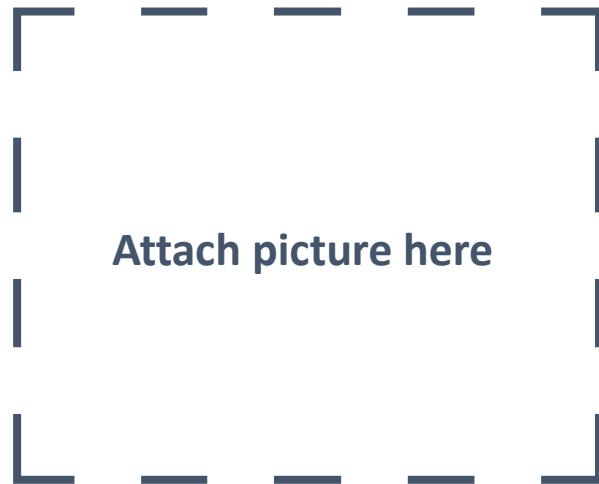What other examples show this geometry?

Pause and reflect - What do I know now?

What next? How can this knowledge help me?

Looking out

What are geometric principles?

Geometric principles are defined as:

"The fundamental principles which define and describe the nature of points, lines and planes together with the two dimensional and three dimensional shapes, solids, projection systems and constructions derived from them."
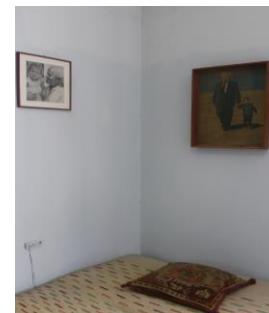
Graphics specification, Page 21

For more geometric principles, scan the QR code across.

Here is an example of a geometric principle:

Two planes intersect in a line

When considering geometric principles:

Do I understand all of the words used in the sentence?

Where can I identify this principle in my environment?

What other examples of this principle can I find?

Looking out

Geometric principle: A sphere appears as a circle in every view.

My example/s of this principle...

A football appears as a circle in all views

As the earth rotates, we continue to see it as a circle from space

A ball being kicked over the bar is seen as a circle on our TV screen. I also explored this principle on Tinkercad

Pause and reflect
What do I know now? What have I learned about this geometric principle?

Use this space to explore some of the above questions.

When I kicked a ball outside, I noticed that the higher or further away it went, the smaller it looked. However, no matter how far away I kicked the ball, it still looked like a circle. This gave me the idea of using the GAA video as a sample.

The same idea of a sphere being viewed as a circle applies to an astronaut looking at the earth as it rotates in space.

What other examples would show this principle?

Looking out

Some questions to consider

Geometric principle:

My example/s of this principle is...

Attach media/s here
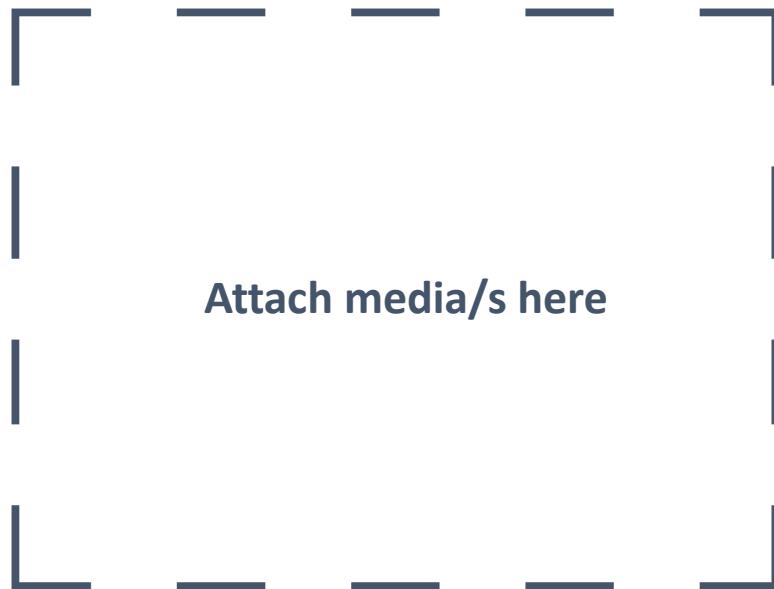
The most important thing I learned was...

What surprised me was...

Have my knowledge and skills in this area developed? If so, how and what have I learned?

What I found difficult was...

What still puzzles me is...

I might have learned better if...
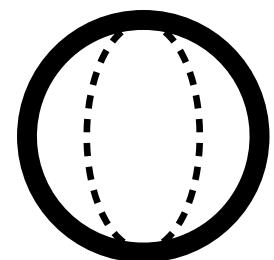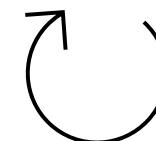
How has my thinking changed about this area of learning?

How could I explain this to someone else?

Use this space to explore some of the above questions

Pause and reflect

What do I know now? What have I learned about this geometric principle?

Notes/sketches

Notes/sketches:

Notes/sketches:

Geometry:

Point:

Line:

Plane:

Notes/Sketches: