

Graphics

Students engaging with learning
from home





Graphics Challenges

CHALLENGE 1



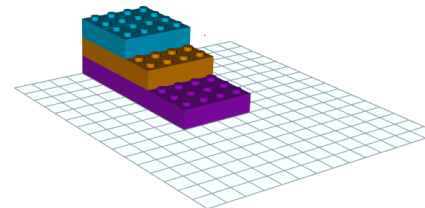
Take a picture from a magazine or newspaper and deconstruct it into basic geometric solids such as cubes, cylinders, pyramids etc.

Links which might help in completing this challenge:

This [short video](https://www.youtube.com/watch?v=TntR8sb-UMc&t=209s) shows how objects can be broken down into simple shapes and forms



CHALLENGE 2



Create a brick model of one of the objects from you have recently draw in your Graphics classroom through 'Brick Builder' on

www.publishyourdesigns.com

Links which might help in completing this challenge:

Buildyourdesign.com has some brilliant modelling features including a 3D modelling application which runs in your browser and a virtual creator with dozens of types of brick pieces

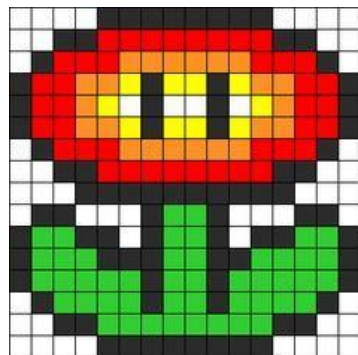
3D Modeller: <http://www.publishyourdesign.com/modeler>

Brick Builder: <http://www.publishyourdesign.com/design>



Graphics Challenges

CHALLENGE 3



Create a pixelated object/scene of your choice.

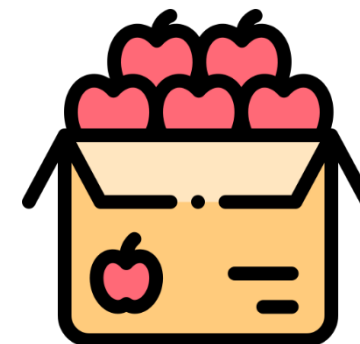
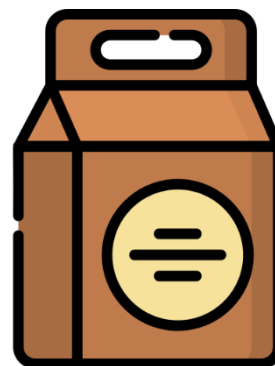
Links which might help in completing this challenge:

The following websites can be used to create digital pixel art:

www.pixilart.com/draw

<https://www.piskelapp.com/>

CHALLENGE 4



Create packaging for an everyday item.

1. Use the least amount of material possible.
2. Add rendering to enhance the overall appearance of the packaging.

Links which might help in completing this challenge:

For some tips on effective packages, the following website gives some insights:

www.canva.com/learn/packaging-design/



Graphics Challenges

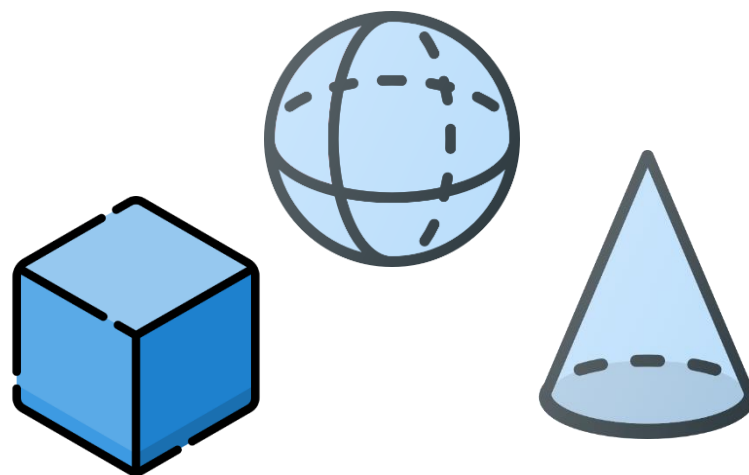
CHALLENGE 5

The **Royal Institute of the Architects of Ireland (RIAI)** have partnered with the **Jct4 Graphics team** to offer an opportunity for First-year Graphics students to have their work exhibited at the RIAI headquarters. More information [here ...](#) Leagan Gaeilge [anseo...](#)

Links which might help in completing this challenge:

A short video animation of various shapes we interact with on a daily basis can be found at <http://www.makeshapechange.com/>

CHALLENGE 6



How many ways can you stack/combine these 3D solids?

Sketch your solutions in 2D and/or 3D. Add colour/shade to your solutions. Perhaps add in a 4th solid of your choice.

Links which might help in completing this challenge:

Watch this [video](#) to help you sketch the 3D solids.



Graphics Challenges

CHALLENGE 7

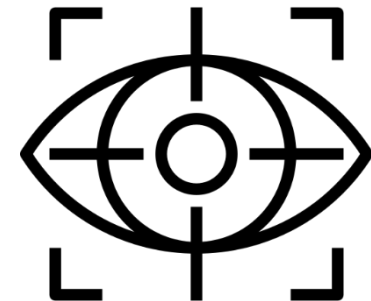
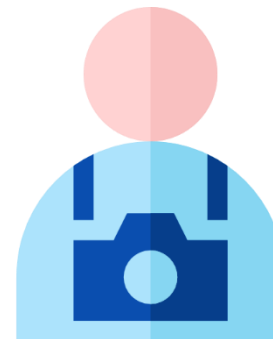


Kirigami is a craft used to create 3D pop-up cards. There are many tutorials of such on YouTube. Create a kirigami card which may be given to a person of your choice.

Links which might help in completing this challenge:

How to Make a City Pop-Up Card | Pop-Up Cards -
<https://www.youtube.com/watch?v=HA-zqA4Xm-w>

CHALLENGE 8



Take an object and photograph it from 5 different view points. What do you notice about the different views?

Create a collage of your photographs and outline your conclusions on what is similar and what is different about the object in the various photographs.

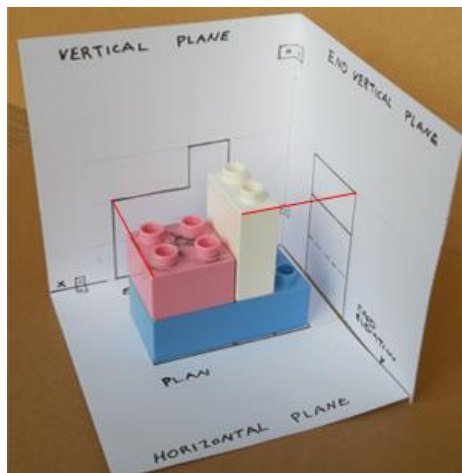
Link which might help in completing this challenge:

Orthographic Projection vs Perspective
<https://www.youtube.com/watch?v=2YtdGVzDFkw>



Graphics Challenges

CHALLENGE 9



Above, you will see a model of a 'planes board' which shows the projections of a 3D model onto vertical and horizontal planes.

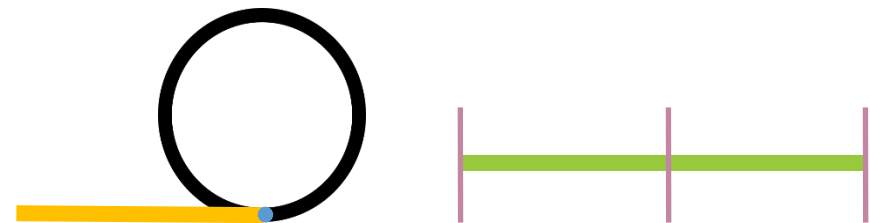
Using an object of your own, create a model like this which shows its projected views. (Elevation, End View and Plan).

A tutorial video of this process can be seen below.

Links which might help in completing this challenge:

Here is a [video](#) showing the steps involved in creating a 3D model of an object projected onto vertical and horizontal planes.

CHALLENGE 10



Tangents and **equal division of lines** are examples of geometric constructions which we often use in our drawings in Graphics.

How many examples of these types of geometric constructions can you see in your own environment?

Create a collage of your examples.

Links which might help in completing this challenge:

Here are some tutorials on possible constructions used to accurately [construct a tangent](#) to a circle and [dividing a line](#) into equal parts.



Graphics Challenges

CHALLENGE 11



“The UEFA Europa Conference League will be the third UEFA club competition and run alongside both the UEFA Champions League and UEFA Europa League. It was first approved by the UEFA Executive Committee in December 2018. The competition is set to get under way in 2021/22 and run throughout the 2021–2024 cycle at least”
– www.uefa.com

Design a trophy for this new competition using shapes you have encountered in Graphics.

You can sketch your solution in 3D and perhaps model it in Tinkercad.

Links which might help in completing this challenge:

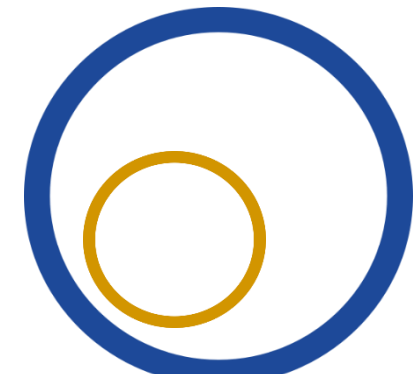
A basic introduction challenge for Tinkercad can be found [here](#).

A basic introduction to grouping geometric solids in Tinkercad can be found [here](#).

CHALLENGE 12



Concentric



Eccentric

Concentric circles share the same centre point, whereas eccentric circles do not.

How many examples of each can you find? Create a collage of your examples.

Here are some examples that may help with this challenge:





Graphics Challenges

CHALLENGE 13



Choose an item or object that you interact with or use everyday.

Create a sketch of this object paying attention to its proportions.

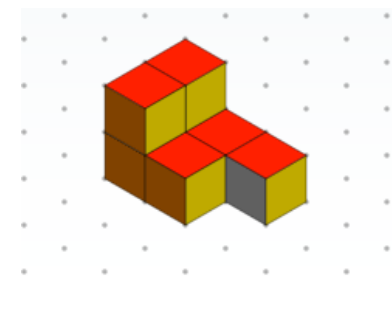
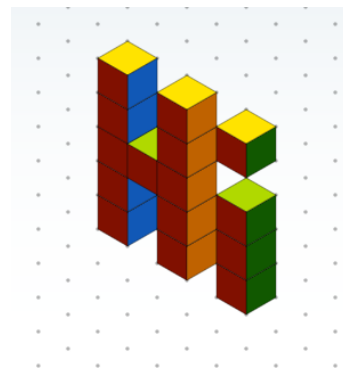
Include at least three main dimensions.

Apply a rendering technique to enhance your sketch.

Here is a link which might help with completing this challenge:

The link [here](#) shows some sketching and rendering techniques.

CHALLENGE 14



Use the website <https://www.nctm.org/Classroom-Resources/Illuminations/Interactives/Isometric-Drawing-Tool/> to **create** a block model of your own initials or any other suitable model.

Investigate its plan and elevation using the inspect tool.

Add colour to highlight the different surfaces on the object.

Here is a link showing some examples that may help with this challenge:

The link [here](#) shows a basic introduction to the software.

Graphics teachers ...

These activities are designed and collated for teachers whose students may have to engage with learning from home. These activities only offer, as a suggestion, some possible tasks which could be completed by students.

Teachers' knowledge of their own students' context should inform their decision around which activities would best engage their students. If students are engaging with learning from home, assessment and reporting procedures may need to be reconfigured to reflect this circumstance.

