The suite of Technology Subjects

Student Challenges - 11th May

Applied Technology

Engineering

Graphics

Wood Technology

Applied Technology Challenges

CHALLENGE 9

What? So What? Now What? Reflecting on a regular basis helps you to learn better and make your learning experiences more enjoyable. Select a project or a task you completed this year.

1. What did you learn and how did your skills develop?
2. What did it tell you about your strengths and gaps in your understanding?
3. What will be your next steps to improve your knowledge, skills and understanding?

Create a poster or a mind map to communicate your reflection of your learning through this project or task.

Links which might help in completing this challenge:

To find out more about reflection watch the following video https://youtu.be/vGyjF9Ngd8Y

Visit https://coggle.it/ to learn more about creating mind maps.

CHALLENGE 10

'The force strong in this one is'

May the 4th, affectionately known to Star Wars fans worldwide as, 'May the force be with you', coincided with the general release of the movie The Rise of Skywalker.

Many movies, including those in the Star Wars franchise, are now being created using Computer-Generated Imagery (CGI).

1. What technology is used to create CGI?
2. Where is CGI used in every-day life?
3. Create an image, using a social media app, of an object of your choice superimposed onto a background/filter.

Be imaginative!

Links which might help in completing this challenge:

This clip can show you how some of your favourite movies were improved using CGI.
https://www.youtube.com/watch?v=q1QVoGszY6M

Watch the video below to learn how to add backgrounds to pictures https://www.youtube.com/watch?v=1VQmcfl6v5A

Engineering Challenges

CHALLENGE 9

Design and **build** your own rollercoaster to allow a table-tennis ball or marble to free-fall around the track. The ball should take more than 10 seconds and less than 30 seconds to reach its final destination.

Communicate your design with a 2-minute video and a voice-over describing how you made the structure, how you overcame some structural challenges and conclude the video capturing the ball free-falling to its destination.

Links which might help in completing this challenge:

Here is a short video outlining one approach but any number of approaches with different materials can be used.

Check out this link which will give you real insight into "A Day in the Life of a Structural Engineer".

CHALLENGE 10

There is a limited amount of resources in the world that humans can extract from the earth in order to produce houses, cars, computers and much more. Engineers of the future must create smart solutions to manufacture products for an increasing population.

Using the video links to inform you of the process of recycling and living sustainably; **Research** 10 objects in your home that can be recycled and **design** a poster to allow your classmates to easily **identify** what can be recycled and how to do this efficiently.

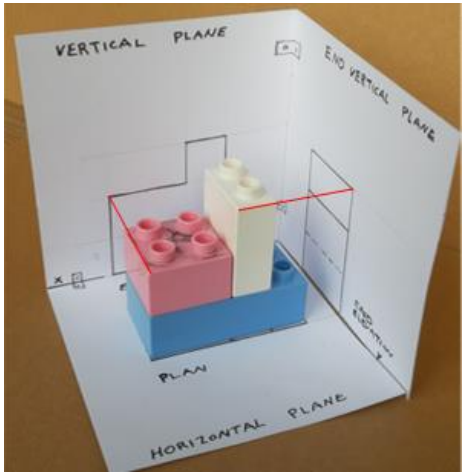
Links which might help in completing this challenge:

Click here to take a walk through this virtual tour of a recycling centre.

Visit this link for some ideas and approaches to becoming more environmentally sustainable at home.

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.

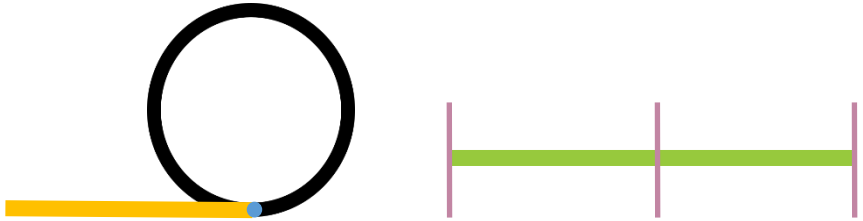
Using an object of your own, create a model like this which shows its projected views. (Elevation, End View and Plan).

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?

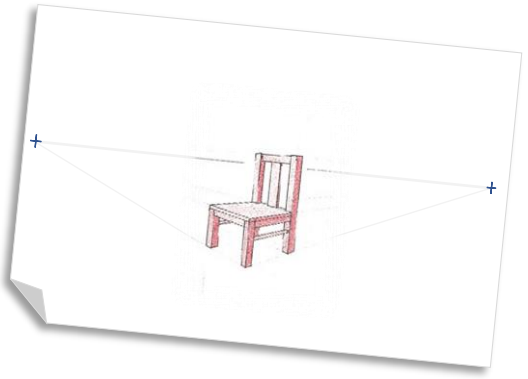
Create a collage of your examples.

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.

Wood Technology Challenges

CHALLENGE 9



Furniture in my home

Take a picture of a piece of furniture or any wooden object in your home.

Watch the videos below on perspective sketching.

Sketch/draw the piece of furniture in perspective.

Add colour, shading and rendering to your sketch.

Links which might help in completing this challenge:

Click here for video on how to sketch a chair in perspective.

Click here for video on how to sketch an office table in perspective.

CHALLENGE 10

Design Challenge

'Visitors to our garden'

Design an artefact to house or feed small birds in your garden, balcony or any outside space.

Click the links below for design ideas and sketching techniques.

Sketch your own unique design idea(s).

Create a model of your final design from cardboard or by upcycling other materials.

Links which might help in completing this challenge:

Click here for design ideas and inspiration.
Click this video on how to make a sketch of a birdhouse.
Click this video on how to make a cardboard model.

Technologies teachers …

These activities are designed and collated for teachers who may have to engage with remote teaching. 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.

We would like to showcase student challenge responses each Friday on our JCt4 twitter page.

If you would like any of your student's responses featured, please send images of this work to the following JCt4 email: michael.lynch@jct.ie

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