JUNIOR CYCLE FOR TEACHERS
JC t4
An tSraith Shóisearach do Mhúinteoirí

An tSraith Shóisearach do Mhúinteoirí
Junior CYCLE
for teachers

The suite of Technology Subjects

Student Challenges - 4th May

Applied Technology

Engineering

Graphics

Wood Technology

Applied Technology Challenges

CHALLENGE 7

The tourism trade is very popular in Ireland. Companies are coming up with new and exciting ways to promote their attractions and to enhance the experience for tourists.

Many companies are using interactive technology to do this. One interesting emerging technology is the use of Bare Conductive paint which can transform the way we can create electric circuits.

Design a solution to promote a tourist attraction of your choice. Using the videos as an inspiration, detail how you could possibly use the paint to enhance the experience for tourists. Outline all the technology you might use to make this happen.

Links which might help in completing this challenge:

https://www.youtube.com/watch?v=pVvEQUbhar8

https://www.youtube.com/watch?v=H1ZWqRPG2xk

CHALLENGE 8

Contactless payment systems are being widely used during the COVID:19 pandemic. These systems can use near field communication (NFC) for making secure payments.

1. Name three applications (uses) of contactless payment systems?
2. Can you suggest some positive and negative impacts of using contactless payment systems?
3. Using notes/sketches, explain how NFC works?

Links which might help in completing this challenge:

To learn more about NFC technology, click on the link below.

https://youtu.be/vtCJewBisBs

Engineering Challenges

CHALLENGE 7

Newspaper Tower

Build the strongest and tallest tower with newspaper which stands firm on a flat surface.

All you need is newspaper, a scissors and Sellotape. You can use a maximum of 8 sheets of newspaper.

If the tower is falling easily, **reflect** on the process and alter some of your design to **create** a better result.

Links which might help in completing this challenge:

This 2-minute video shows examples and ideas of how to construct your own newspaper tower.

Here you will find more examples and approaches to build numerous different paper towers.

CHALLENGE 8

Product Design

Can you **explore** your home for 10 minutes and with your phone, take 3 pictures of objects in your house where you can see form following function?

For each of your examples, can you **explain** how the form of the object has improved the function of the object.

Links which might help in completing this challenge:

This 6-minute video will give you some examples of Form following Function and will explain the concept in detail.

Here is a link with some more information on product design outlining some simple key points to design considerations.
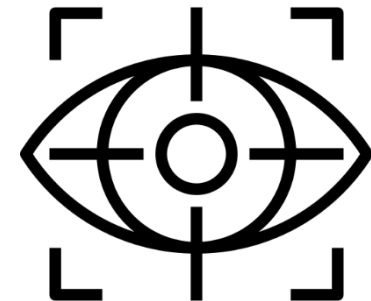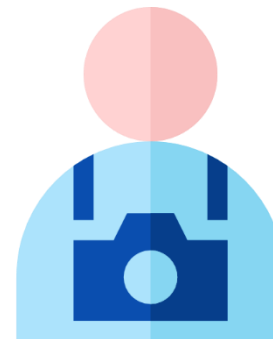
Graphics Challenges

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

Wood Technology Challenges

CHALLENGE 7

Planting flowers and shrubs around our homes contributes to biodiversity and adds aesthetic value.

Design an artefact that can be freestanding or wall-mounted to be used for this purpose.

The artefact itself must be decorative and reflect a theme of your choice.

Links which might help in completing this challenge:

To find out about increasing biodiversity in your garden click here

CHALLENGE 8

Design Thinking Challenge

Identify a problem within your home and design a solution to solve it

A problem might be:
- *Where is the remote control?*
- *Where are the car keys?*
- *Things at the back of a press that are hard to reach…*

Sketch your final design ideas and/or create a cardboard model of your design(s).

Links which might help in completing this challenge:

Watch this video to learn about the process of design.

This link will help you to create a model of your design

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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