

Hello everyone,

You are going to do some tasks related to the 4 subjects of our project *Re-imagine what is possible – Relearnt*.

The subjects are:

- Innovation & prototyping
- Soft skills & project-based learning
- Art, design & history
- Sustainability

Choose at least one task per subject with your group. Good luck and have fun!

“I have never tried that before, so I think I should definitely be able to do it.”

Innovation & prototyping

What is innovation and prototyping?

Innovation and prototyping is solving a problem in a creative and innovative way with (new) technology. For instance, by using 3D-printers, laser cutters, robotics, programming and AR&VR you develop a creative solution for various problems.

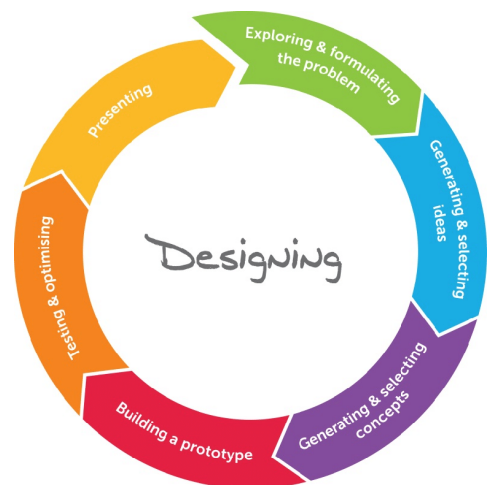
Solving a problem

To solve a problem you go through a design cycle. How do you make a prototype? To find out, you will make a prototype for a Rotokopter with your group, using the design cycle.

TASK 1 – Rotokopter

Design cycle – Rotokopter

A Rotokopter is a helicopter that will spin if you drop it.



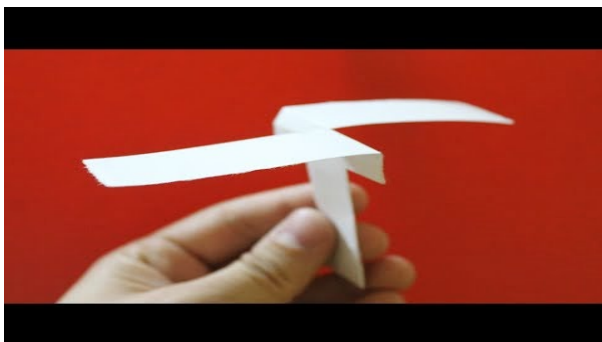
Requirements

The Rotokopter:

- has to fly for 5 seconds;
- has to spin at least 10 rounds;
- has to be made from 1 piece of paper

Ask questions like:

- How do you start?
- Is there already something like this?
- Can I improve that?



After you have made the first helicopter, which is your first prototype, you are going to test it. Then you will see if you can improve it. Maybe by adjusting the shape, the size or using a different / thicker material, or maybe you have to reinforce some parts of your prototype or add weight to certain parts of it. Make at least 4 different prototypes with your group.

TASK 2 – Egg drop challenge

Design, build and test a crash helmet for an egg, which allows the egg to fall from a height of two meters without breaking.

Make at least 4 different prototypes with your group.

Requirements

- The egg should not break.
- The crash helmet can weigh a maximum of 25 grams.
- The crash helmet's measurements should be no wider, higher or longer than 45 cm.
- You can easily remove the egg from the housing.



TASK 3 - Robotics and interactive technology

"A robot is a machine that can take over tasks or solve problems that people used to think could only be done by humans."

Computers and robots are not particularly smart. They're just really good at executing instructions. All computers and robots must be set / programmed to operate.



A programming language consists of instructions and each instruction has a very specific meaning. A sometimes frustrating aspect of programming is that computers always literally obey instructions, even when it produces crazy results.

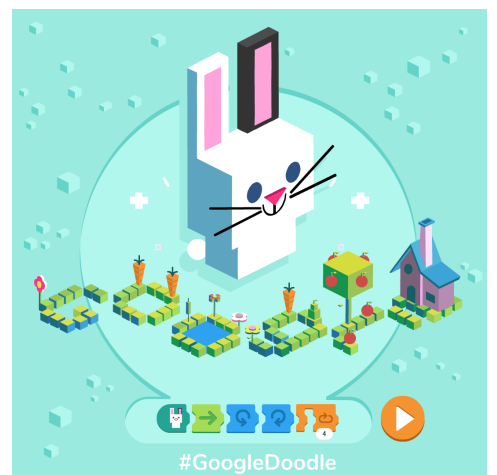
Programming a human:

- Make a simple drawing.
- Make a list of instructions on how to reproduce the drawing.
- Share the list of instructions with the others.
- Reproduce the drawing according to the instructions.

TASK 4 (EXTRA)– Google Doodle Bunny

This task is about programming with a computer. You will do a fairly easy game to learn how to code (program).

- Go to Google Chrome.
- Click on the Google-image or type in: *Google Doodle Bunny*
- Do the first four levels whilst communicating with your group members.



Art, design and history

TASK 1 - Pinpoint

Create, along with your international partners, some common website space (like "Padlet" or "Genial.ly") where you all upload images and information about specific places with special artistic value from your town / city. Using applications like GoogleMaps, pinpoint those places in your city map.

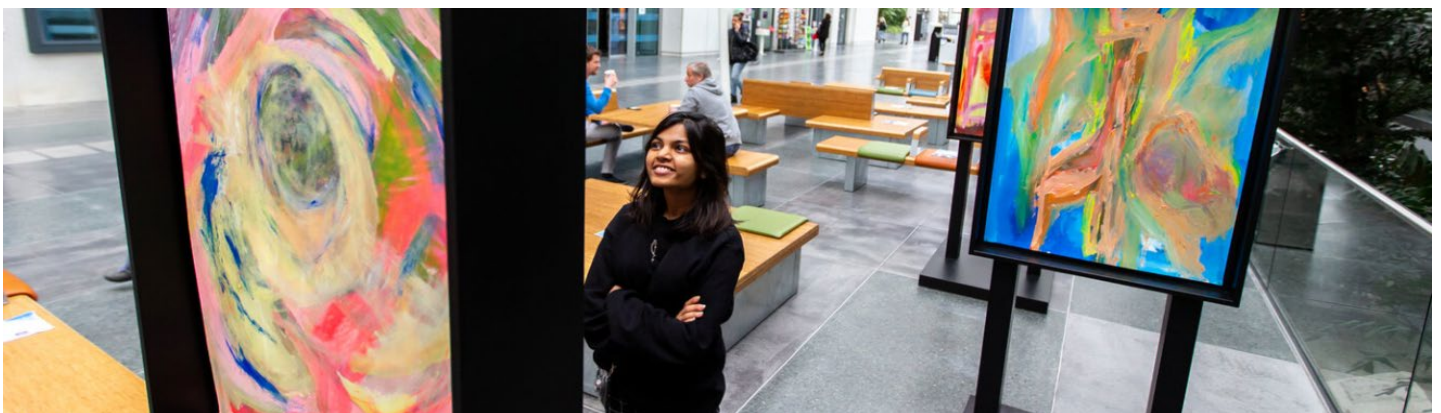


TASK 2 – Back in time

Look on the Web for one of the oldest buildings in your town / city or country. Imagine how life used to go on back then and describe it. (Use images and any other material which may support you).

TASK 3 – Exhibit

Planning an Erasmus+ (international project) exhibition at your school: what colours should prevail, where within or outside the building would you set it up, what would you show? Make a collage of your exhibition ideas.



Sustainability

TASK 1 – Keep in touch

Propose one activity you'd like to do with your international partners somewhere in the near future (like June or September), examples: be matched with someone from another country and stay in touch, record a video somewhere in your city to send the others and get feedback, create a website or social media outcome (like instagram) with pictures from your school and/or town, etc. together.



TASK 2 - Recycling

Present at least 3 examples about the way (home or industry) waste is recycled in your school, city or country and compare it with the other students in your group. Take pictures of the recycling methods. Come up with a thing you could do in your personal life to help nature and recycle more.

Play the recycle game: <https://www.turtlediary.com/game/recycling-waste.html>

TASK 3 – Means of transport

Present at least 3 examples of means of transportation in your hometown, say which one(s) you use the most and compare it with those of the other students in your group. Compare costs / comfortability /etc.

