EUREKA

Past, Present and Future!

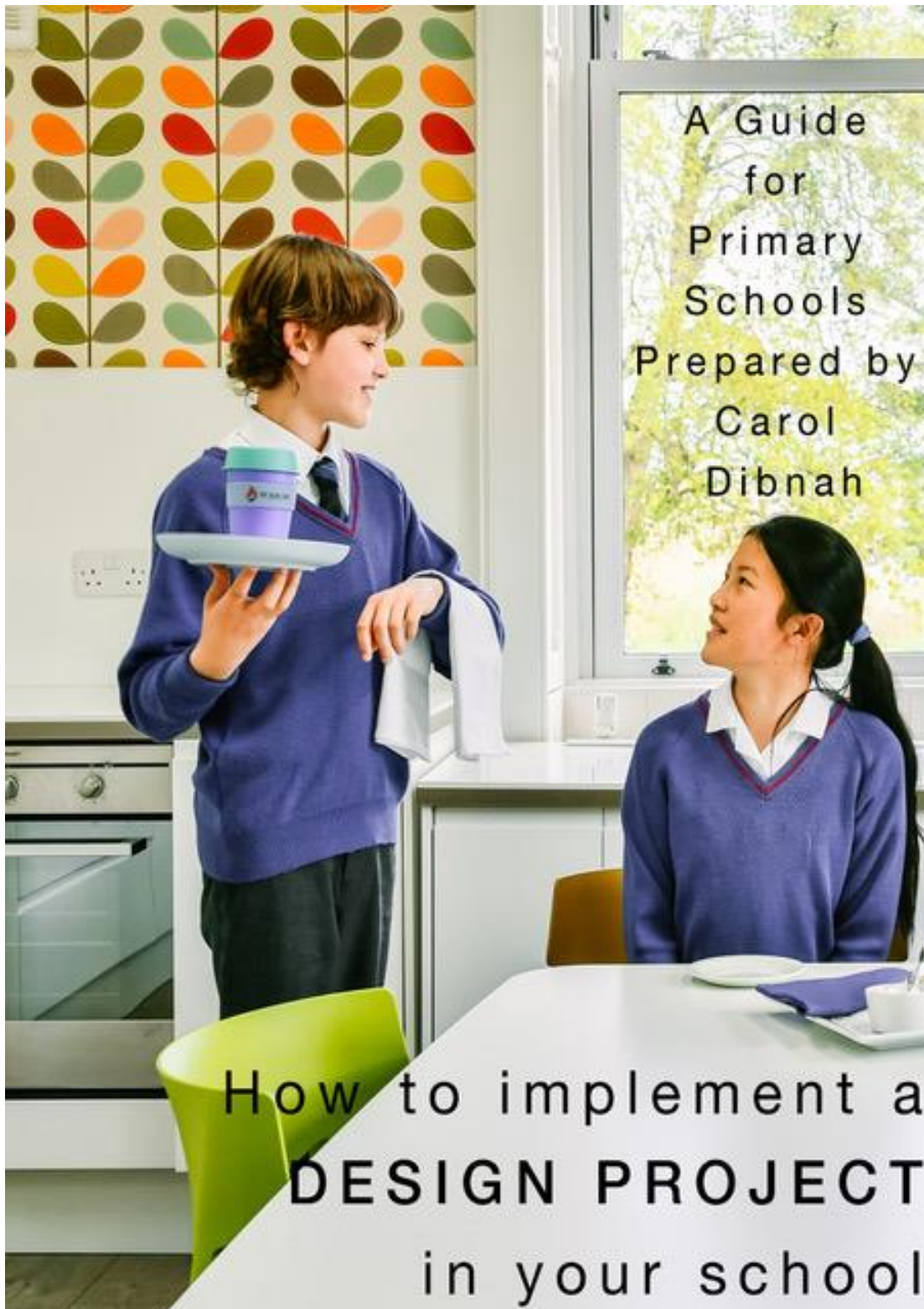A Guide for Primary Schools Prepared by Carol Dibnah

How to implement a DESIGN PROJECT in your school

Erasmus+

Thank you!

The extent and impact of this project has been enormous and so many people have helped to make this it a success. Obviously, without all of the partner schools the project could not have happened. Many teachers, pupils and parents have worked so hard to make this project the success which it has been. Special thanks must go to the coordinators and their teams from all the partner schools:

- Judith Page, Fiona Grant, Katherine Bergin, Lesley Court, Mark Dibnah, Lorna Bruce, Gill Murray – Craigclowan School
- Mirela Firth, Alexandra Fejer, Ottilia Salca - Scoala Gimnaziala Nr.14, Brasov, Romania
- Georgia Safouri - Aristotelio College, Thessaloniki, Greece - Partner
- Jeanne Rousselet, Aurelie Escoffier, Ecole Saint Victor, Paris, France
- Patrizia Bambara, Cinzia Sammartano, Stefania Petitti - Istituto Comprensivo Verbania Pallanza, Italy

Introduction

This guide has been produced for any teacher or primary aged children who may wish to run a design project in their school. It is one of the outcomes of the Erasmus + funded project – Eureka! Past, Present and Future!

Eureka! Past, Present and Future! – Background and objectives of the project

This project was funded by EU Erasmus +, Key Action 2 – Schools to Schools program. It involved schools from five different countries:
Craigclowan Preparatory School, Perth, Scotland, Coordinator
Scoala Gimnaziala Nr.14, Brasov, Romania – Partner
Istituto Comprensivo Verbania Pallanza, Italy – Partner
Ecole Saint Victor, Paris, France
Aristotelio College, Thessaloniki, Greece – Partner
This project's main focus was on inventors and inventions. It involved the research, design, production, presentation and evaluation of an invention idea. When pupils collaborate and work together, they have to learn to communicate their ideas, compromise and reach decisions. These are skills which are valuable throughout one's whole life. In addition to this we have become very much a "throwaway society". By taking ownership of their product from the initial design phase through to the final manufacturing of their product, pupils learned to appreciate what is involved in the production of any product, thereby fostering and understanding and appreciation of all products which we own. We hope that now this appreciation and understanding has been instilled, pupils will be much less likely to simply "throw away" their goods but will appreciate them for what they really are.

This project fosters entrepreneurship, from an early age, and proposes the idea that any one has the capability of being an inventor. By carrying out such a project at your school you will inspire young people, to build on their sense of initiative and to show them that through team work, cooperation, hard work and good leadership, they can become the next generation of inventors. Through participating in such a project pupils will work towards becoming successful learners as they will need to be part of a team as well as taking on leadership roles. They are encouraged to be responsible citizens as questions around the environment and environmentally friendly materials and products arise. This project will assist them in becoming effective contributors as all pupils will be required to present their work at all stages of their project. Their confidence will increase as they become accustomed to presenting their work and discussing their rationale.

Eureka! Past, Present and Future! was a two year project. The first year was spent researching existing inventions and inventors from our own countries and sharing this information with our partner schools. The second year was the invention competition. This guide contains a plethora of worksheets, examples, useful contacts and advice. I hope that anyone undertaking such a project enjoys it as much as we all did.

Carol Dibnah, Craigclowan Prep School, Perth, September 2018

Phase One – Research

In order for our pupils to understand what an invention is, we spent the first year looking at inventions and inventors from our own countries. From this research we created fact sheets, presentations and games.

Pupils were provided with crib sheets [1]to help them with their research.

Below are examples of the factsheets which were produced by the pupils of Craigclowan School during the first year of the project. This research was then collated and the inventors and inventions "Top Trump" games were designed.

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[1] These photocopiable resources can be found in Annex 2

Phase Two - The Invention Design Process

The design process entails a series of clearly defined stages. Pupils must complete each stage before moving onto the next. This section contains examples of our pupils' work from these stages. The worksheets, schemes of work and other resources can be found in the Annexes at the end of this document.

Task One – Pupils are asked to identify problem areas in either their or their friends or families' lives which need to be solved. (Use "Ask" Research Form)

Ask! Summer Holiday Research

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1. During the holidays try to talk to as many people as possible about *what would make their life easier*. Make a list on this sheet and bring it to school in September.

- Getting out of bed
- Losing keys
- Stopping chickens from escaping
- Stopping dogs from barking to much
- Like to be able to hear better without making loud noises too loud
- Fix the boot catch on the car so it doesn't rattle
- Know if the car is locked

Task Two – "My problem" – pupils use the "My Problem" template to clearly state what their problem is.

My Problem!

1. Complete this list and really explain your problem!

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Name Mairi

What is the problem?
Never being able to get toothpaste out of it's tube.

Who has the problem?
Me and Louisa

Where is the problem?
In the bathroom, by the sink

My Product needs to.....!

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Past, Present and Future!

Name Mairi, Eve, Chairlie

Think about everything that your product needs to do and u se this table to make a list of these things.

brush your teeth, an automatic toothpaste dispenser, conectable toothpaste holder, a voice timer that tells where you need to brush and how long you have to brush for, it needs to have a wet wipe dispenser in the side, portable charger, a warning light for charging, a long battery life, you can different colours and

Task Four – Design Persona – Complete the "Design Persona" form in order to really identify with the person who has the problem and who will be benefitting from this product.

My Persona!

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Past, Present and Future!

Your persona is an imaginary person who will use your product.

Fill in each section of this form to help you focus on who you are designing your product for.

INTERESTS	money, junk food, suites, dogs
NEEDS	a healthy diet, some sugar free toothpaste.
VALUES	He likes to be extra early for work and gets really angry if he forgets to do his teeth.
POWERS	She he controls his costemers financial money. Eating junk food forgeting to brush her teeth.
BEHAVIOURS	Moody, lazy, he likes to "accidently forget" to do his teeth.
ASPIRATIONS	He wants to do his teeth every day and night. and to become the boss.

INTERESTS: POWERS:

NEEDS: BEHAVIORS:

VALUES: ASPIRATIONS:

NAME:	MINTY BLUE
PROFESSION:	A Busy accoubed accounter. B
AGE	33
PERSONAL BACKGROUND	he has no brothers or sisters but has a naughty dog called brushy, a hamster called toothy and a teddy.

ΑΡΙΣΤΟΤΕΛΕΙΟ ΚΟΛΛΕΓΙΟ
Vervitt
Character profiler

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Past, Present and Future!

ACTOR/ACTRICS

Put your character card down and describe them in your own words.

How can you help him/her? It could be something useful or just something fun! Write down your ideas.

① I can help him with something useful. A pair of glasses whith item he can see the words to play his part in. And something his ear wear inside his ear so that he can hear the words when he makes mistakes.

What is he/she called?	Kostas Pappa's
How old is he/she?	He is 24 years old
Where does s/he live?	He lives in Thessaloniki
What does s/he like?	He likes to play at the theatre.
What are his/ her hobbies?	His hobbie is cooking
What does s/he not like?	He doesn't like swimming
What does s/he find difficult to do?	It's difficult for him to remember the words for his part.
What does s/he find boring?	He finds boring reading

②

Task Five – "DECISION TIME"

- Use Post-it notes to come up with as many ideas to solve the problem as possible.
- Individually choose one idea each and complete "Decision Time" form

Decision Time!

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1. Write down ONE point in each column.

ONE GREAT FEATURE	ONE NOT-SO-GREAT FEATURE	AN INTERESTING FEATURE
A ~~voice~~ A sugar tracker that shows where plaque is.	A fluffy bit to hold on to so your fingers do not get sore when brushing. It might get wet.	A voice timer that tells you where to brush?

- Each group completes "How does it score?" form to help the decision on the final idea, pupils add up scores to decide the final idea

How does my idea score?

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Past, Present and Future!

Using the sheet where you wrote down all the things you need your product to do. Give your idea a score of 1-3. 1=not great, 2= OK, 3=great
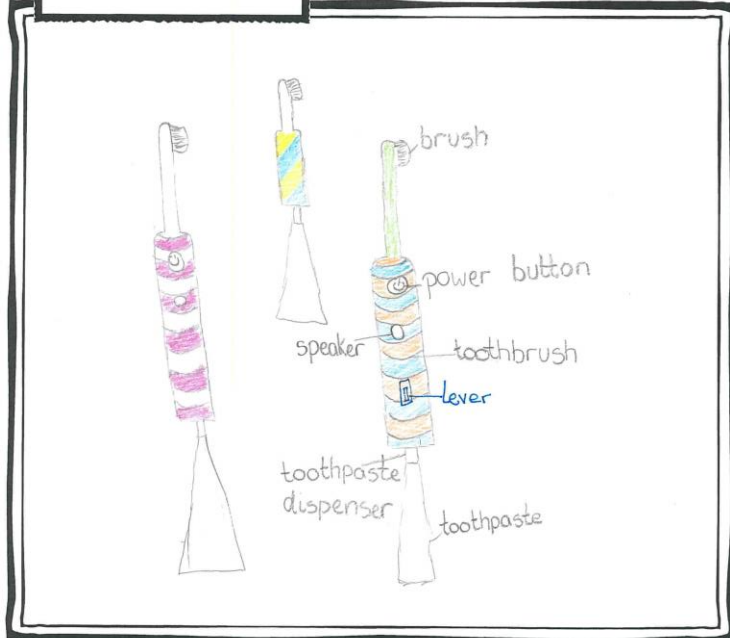
MY PRODUCT NEEDS TO....	IDEA 1 (SCORE 1-3)	IDEA 2 (SCORE 1-3)	IDEA 3 (SCORE 1-3)
Brush your teeth, squeeze toothpaste easily. makes it easier to brush your teeth, have electric brush, easily charged anywhere	3 ~~Portable toothbrush~~ 3 charger 3 It has a portable charger 3 3	It has an automatic toothpaste dispenser	A voice timer that tells you where to brush.
TOTAL SCORE	7 15 ~~8~~ 2	3	2

7

Task Six – MY BIG IDEA
Complete "My Big Idea" form, as pupils really begin to work out how their invention will work, they may go through many design ideas and wish to complete the analytical breakdown form as well as simply drawing their idea.

My Big Idea!

1. Draw a detailed picture of your idea and label it!

brush
power button
speaker
toothbrush
lever
toothpaste dispenser
toothpaste

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Name Mairi, Eve and Charlie

My invention is
called Paste n Brush

2. This is how it works!
It has an extendable toothpaste dispenser that when you push the lever, toothpaste will come out. The toothbrush has a speaker as a timer and tells you to brush.

Phase Three - Creating prototypes

For our pupils, this was one of the most exciting phases of the project. As we are a small school, our design and technology resources are limited. Drawing upon the expertise and resources of external bodies was the solution to this. We contacted a local senior school who kindly invited us in to their school for a morning session where our pupils and their sixth form design students worked together in their design and technology workshops to produce prototypes of our pupils' inventions. Our partners also called upon the help and expertise of parents, and local design specialists. We also involved local design colleges and universities who were able to offer us help on the prototype production.

Phase Four Commercialisation

Some of the concepts of marketing a product were introduced to the pupils during this phase. Pupils were encouraged to think once again about their target market and carry out their own primary market research to analyse the impact of their invention idea. They were also encouraged to carry out secondary market research to ensure that there were no similar ideas already on the market.

a.   *Marketing Campaigns*
      Pupils created their own branding for their product. They designed and produced publicity by way of posters, business cards, websites, TV commercials and wrote pitches about their products to present to the teachers.
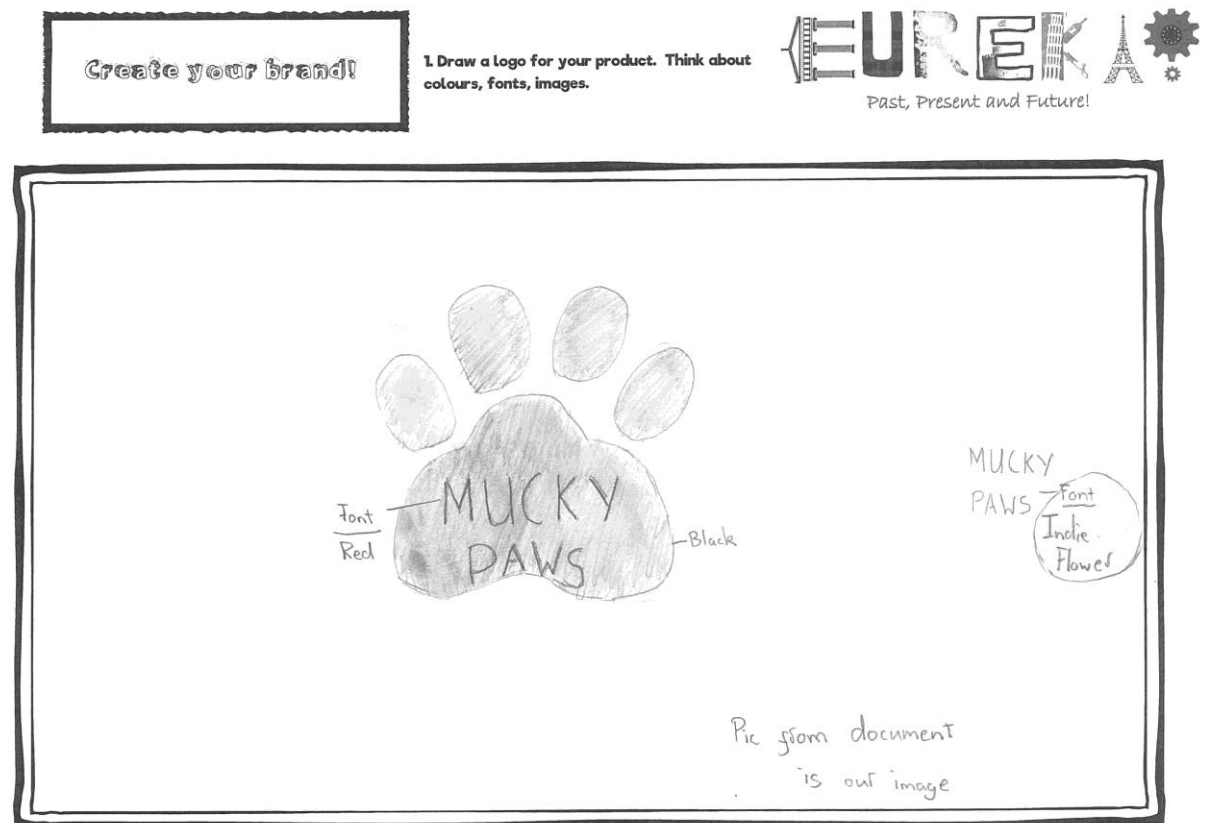
b.   *Creating commercials*

In drama lessons pupils worked on their storyboards, wrote scripts and filmed their commercials.

c.   *Pitching ideas*

Pupils were guided through the process on how to pitch their ideas to teachers. The concept of an "Elevator Pitch" was introduced to pupils and they used these guidelines to write and then to learn their pitches. The "Elevator Pitch" is a two-minute presentation, (the time it takes to go from the bottom floor to the top floor in an elevator!) This was adapted to become The Playground Pitch, where pupils walked around the playground for two minutes, explaining their idea to a teacher.

Phase Five - Promoting Pupils' Work

There are many ways that pupils can promote their work on this kind of project. We all used different methods in our different countries:

1. Exhibitions – At Craigclowan and in Greece we held an "Invention Fayre" exhibition where pupils set up their stalls and presented their ideas to staff, parents, the press and local visitors.
2. Presentation evenings – our Italian partners organised an evening to which parents were invited. Pupils then took it in turns to present their work.
3. In Romania an event was held at a local library when their pupils presented their work.
4. In France corridors were used to present their pupils work.
5. Competitions – running a design competition where there is a prize for the best idea necessitates the need for a system of voting. We all ran such a competition as our winning teams were rewarded with the prize of a week in Romania. These voting criteria sheets can be found in Annex Two.

EUREKA Past, Present and Future!   **ERASMUS** CREATING OPPORTUNITIES FOR THE UK ACROSS EUROPE

European Youth Invention Ideas Fayre
George Hotel, Perth
Tuesday 5th June 2018 2-5pm

Stall 1
The Hover Drone for farmers to protect their fields when harvesting.
Henry, Daisy, Josephine

Stall 2
The Desk Clipper keeps your paper and books secure whilst working.
Daniel, Louisa, Fynn, Florence

Stall 3
The Midge Buster jewellery to repel midges.
Iona, Sasha, Jamie

Stall 4
The Fruit Picker a mechanical device to pick fruit.
Rafferty, Ellie, Emily

Stall 5
The Fruit Cooler protects and cools your fruit
Hamish, Harriet, Zen, Kirsty

Stall 6
Stretchy Shoes shoes to make you taller
Kate, Lily, Ben

Stall 7
Electro-Magnet stops things falling over!
Yi, Shula, Fraser, Orley

Stall 8
The Dog Wash Washes your dog without hassle!
Dillon, Auriol, Max

Stall 9
The Bike Lift for getting your bike onto the car.
Sharland, Annie, Hopkin, Carmen

Stall 10
The Finder never lose anything again!
Mac, Jamie, Charlotte, Alyssa

Stall 11
The Rememberer never forget anything again!
Teo, Ferdi, Callum, Jack

Stall 12
Lux-specs glasses which glow in the dark.
Rohann, Hugo, Annabel, Eve

Stall 13
Pro-glasses no-steam glasses!
Indigo, Olivia, Finlay, Harry

Stall 14
Paste 'n' Brush automatic toothpaste onto toothbrush dispenser.
Mairi, Charlie, Eve

Stall 15
Attracto-Key A magnetic key which easily attracts to the lock.
Oliver, Olivia, Ellie, Max

Stall 16
Pocket De-Tangler no more annoying wires!
Ben, Annie, Matilda, Will

Stall 17 - from Romania
The Fruit Stick
Chiriac Mihail Andrei

The Hammer Cioc-Boc Paduraru Beniamin

Stall 18 - from Romania

Pastiora Seceleanu Denis Andrei

Roto-Support Popcev Teodora

Stall 19 - From Greece
Street Food and House Nicky Dimanopoulou

Kids Ambulance , George Felekis

Stall 20 From Greece

Energy Independent Eco Village

Anna Maria Verviti

Stall 21 From Greece

Driving With Safety Matilda Konstantindini and Fay Cafe

Dress it Up Ismini Lagoutari, Iliana Kyzaki, Christiana Kefou, Joanna Zidrou

Stall 22 - from France
Yuriflow

Adam Hidalgo

Stall 23 - from Italy
Multi media desk

Stall 24
Multimedia school bag and pencil case

ΑΡΙΣΤΟΤΕΛΕΙΟ ΚΟΛΛΕΓΙΟ   Scuola Cadorna

Useful tips

1. Technology – hardware and software

The following is a list of programs and hardware which we used to carry out different elements of this project:

Google Chromebooks, Google Docs, Google Education Suite. Really useful for collaborative work as pupils can work on the same, single document.

MS Office

Logo designers: https://www.freelogodesign.org/index.html

Website design: https://www.wix.com/my-account/sites/

Microsoft Power Point for the presentations

Microsoft Word for research

Microsoft Picture Manager to edit pictures

Microsoft Paint to edit pictures

Microsoft Publisher to make posters

Windows Movie Maker to make videos from photos

Windows Media Player to play the videos and recorded audio files for the Inventions commercials)

Adobe Reader to read and create pdf files

Word Press - free and open-source content management system (CMS); to create the Kids Ambulance **website**

Gmail to create the **email account** for the Kids Ambulance project

Facebook, Instagram for the social media account of the Kids Ambulance project

Eclipse - integrated development environment (IDE); its use was to develop the Java code for the Driving with Safety application for **Android**.

Java is one of the most popular programming languages in use.

Android Studio - the official integrated development environment (IDE) for Google's **Android** operating system, designed specifically for Android development; its use was to develop the Driving with Safety application for Android.

Microsoft Video Cutter Editor to cut/ trim videos

Easel.ly – a design tool with engaging infographic templates (to create the Driving with Safety **poster**)

Animoto - **web 2.0 tool** to create videos

LEGO Mindstorms Education EV3 - a hands-on, cross-curricular STEM solution that engages students by providing the resources to design, build and program their robotic creations; it was used in the **robotics** workshops. The LEGO MINDSTORMS Education EV3 software lets students:

Program robots and other creations

Document and track progress using the documentation tool

Create and edit content

Access the Robot Educator tutorials

Log real-time data and calculate data sets (not available on the tablet app)

3D printing is any of various processes in which material is joined or solidified under computer control to create a three-dimensional object.

The Design Software used for the Greek projects was **Fusion 360 (Autodesk)** and **Blender (opensource)**.

The 3D Models were printed on Ultimaker 2+ printer. Materials used: PLA.

Google Drive to share files and documents

Google Forms to compile the **Impact Survey** and send it to stakeholders to complete

OnlineVideoConverter to convert mp4 to mp3 and vice versa

https://www.onlinevideoconverter.com/el/convert-mp4-to-mp3

I LOVE PDF to split or merge pdf files

https://www.ilovepdf.com/word_to_pdf

Small PDF to split, merge or convert pdf files

https://smallpdf.com/merge-pdf

PDF MERGE to split and merge pdf files

https://www.pdfmerge.com/split-pdf/

I LOVE IMG to resize Jpg

https://www.iloveimg.com/resize-image

BulkResizePhotos to resize photos/ jpg in bulk

https://bulkresizephotos.com/

Convertio to convert all files/ images/ videos/ presentations into another format

https://convertio.co/doc-jpg/

Word to Jpg to convert word docs to jpg

http://wordtojpeg.com/

WeTransfer to transfer and share large files of photos/ videos/ etc.

DropBox to transfer and share large files of photos/ videos/ etc.

Yahoo mail and G mail to communicate and share

WhatsApp Android application to share and communicate with the Erasmus partners

Viber, **Skype**, **Messenger** applications to share and communicate with Greek stakeholders

Facebook, Instagram for dissemination

Youtube channel to upload videos and disseminate

eTwinning space to upload, share, disseminate

Logos for all the inventions, as well as the posters were realized by our pupils on canva.com site. We used PPT presentations or Microsoft Word documents.

2. *Collaboration and class organisation*

All the partners in this project organised the running of this project in different ways. The following methods were adopted:

- Dedicating a certain amount of time per week during the school day and putting the pupils into small teams selected by the teacher.
- A whole class approach
- Mixing different year groups up and running extra curricular workshops and clubs

This type of project really lends itself to cross-curricular work. Craft Design Technology, ICT, ART, Drama, English, Modern languages can all become involved in such a project.

3. *External Agencies*

We all found that involving the wider community in such a project is one of the bonuses as many parents and local businesses offer skills which teachers do not always possess. Many parents have really enjoyed being involved in this project. They have offered us skills such as:

- art and design
- printing
- manufacturing
- photography

Working with local colleges and universities has also been enriching for both pupils and staff. We held design workshops which were run by recent Graphic Design graduates. These were hugely informative for teachers and pupils!

A detailed list of organisations, and useful contacts can be found in Annex 3.

Annex One –
Scheme of Work –
Scottish Education System

SCHEME OF WORK

Design and Invention Project

September 2017

Carol Dibnah

Introduction

This project is phase two of the Eureka! Past, Present and Future project. Pupils are set the task of creating their own invention based on " What would make life easier?"

There are Seven phases to this project.

Phase One – Pupils are asked to identify problem areas in either their or their friends or families' lives which need to be solved. (Use "Ask" Research Form)

Phase Two – "My problem" – pupils use the "My Problem" template to clearly state what their problem is.

Phase Three – In Groups – Choose One Problem. Complete the "My product needs to...." form.

Phase Four – Design Persona – Complete the "Design Persona" form in order to really identify with the person who has the problem and who will be benefitting from this product.

Phase Five – "IDEA TIME"

- Use Post-it notes to come up with as many ideas to solve the problem as possible.
- Individually choose one idea each and complete "Decision Time" form
- Together complete "How does it score?" form to help decision on final idea, add up scores to decide final idea
- Complete "My Big Idea" form

Phase Six - pupils produce prototypes of their invention, marketing plans, advertising material and prepare a two-minute "walk around the playground" presentation and their stall for the "Ideas Fair"

Phase Seven – An invention idea "Fair" is held at school which consists of two parts.

- Part One – pupils have two minutes to present their idea to a teacher, whilst walking around the playground (elevator pitch)
- Part Two – Pupils set up stalls in the gym and the whole school, parents, teachers and local businesses are invited to the "fair". Pupils present their ideas as people come and visit their stall. Certain teachers are "moles" and will ask the same questions to all the groups and will feedback after the fair, in order to decide a winning team.
- The winning team is announced.

Curriculum for Excellence and this project

This project meets a number of the main purposes of learning in the technologies as set out in the Scottish education system's - Curriculum for Excellence. On completion of this project pupils will have:

1. embraced the use of technologies in the wider community

2. become more informed consumers

3. made reasoned choices re. the environment and sustainable development

4. broadened their understanding of ICT

5. broadened their understanding of the application and concepts of ICT

6. experienced a work-related application of ICT

7. worked collaboratively

8. experienced presenting their work in a variety of ways

9. reflected and evaluated their work

10. identified problems and created solutions to those problems

In addition this project will develop the following skills

1. curiosity and problem solving, a capacity to work with others and take initiative

2. planning and organization skills

3. creativity and innovation

4. skills in using software, working on shared documents and using Google Drive

5. discussion and debate

6. evaluating products

7. presentation skills

This project will tap into the children's inventiveness and their desire to create and work in practical ways. It will also allow for cross-curricular work to be carried out, specifically with relation to Art, CDT and ICT.

Experiences and OUTCOMES (Scottish system)

Pupils will be mostly working at the Second Level of Experiences and Outcomes and it is anticipated that the following will be covered during the course of this project:

TCH 2-01a	TCH 2-02b
TCH 2-02a	TCH 2-03a
TCH 2-11b	TCH 2-03b
TCH 2-14a	TCH 2-08a
TCH 2-15b	TCH 214a

ICT Scheme of Work – Forms 6+7 – Eureka Project - Carol Dibnah

Week	C oF E Ex and Out	Topic	Learning Objective	Activity	Teaching Points	Resources
1		Introduce project	Pupils aware of expectations of project	Present project Begin research. Complete "ASK" form	Ensure pupils understand design brief and competition Deadlines Discussion of possible challenges	"ASK" template
2		Identify Problem	Pupils individually decide on one problem from their list of problems	Pupils clearly state the problem and complete the "My Problem Template"	Explain the My Problem template	"My Problem Template"
3		Group work – decide one problem	Identify one problem	Discuss all the problems from the group and decide which problem to choose. Make a list of all the requirements which the final product will need to meet. Complete the "My product needs to…." form	Explain pupils need to choose one problem and think about all the requirements which their product will need to meet.	"My product needs to…"template
4		Design Persona	Understand what a design persona is and identify the	Discussion and completion of "design persona" template	Explain the idea of a design persona and why it is important to understand the person you are	"design persona" template

			characteristics and needs of their persona		designing for. Explain the design persona template	
5-7		Idea Time!	Come up with ideas and select the most appropriate product idea.	• Use Post-it notes to come up with as many ideas to solve the problem as possible. • Individually choose one idea each and complete "Decision Time" form • Together complete "How does it score?" form to help decision on final idea, add up scores to decide final idea • Complete "My Big Idea" form	Encourage pupils to be as creative as possible. Explain they have to choose one idea each Explain the scoring system in order to decide on final idea. Encourage pupils to be as detailed as possible with the "Big Idea" form	Post-it notes Decision Time template How does it score template My Big Idea template
8-12		Create prototype and brand	Make prototype of invention Discuss and create packaging Design advertising materials	In ART/CDT make models Make packaging Design posters and radio commercials	Provide materials to make prototypes Discuss consistent brand marketing, nature of advertising	Model making materials
12-14		Prepare presentations	Understand the principles of the elevator pitch and the ideas fair	Prepare two presentations – short and long Organise all materials needed for ideas fair.	Explain the idea of pitching an idea. Offer guidance re ideas fair and expectations of teachers.	Elevator pitch guidelines, materials for ideas fair.
15	Presentations and ideas fair					

Annex Two – Photocopiable Resources

Eureka! Past, Present and Future! – Activity 1

Scottish Inventor Biography Frame

Name of inventor:
Why are they remembered?
Date and place of birth and early life:
An obstacle which they overcame in their life:
Achievement 1:
Achievement 2:
Interesting facts:
End of life, summary of achievements:

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Eureka! Past, Present and Future! – Activity 2

Scottish Invention

Name of inventor:
Name of Invention:
Date invented:
What was the need for this invention? (ie WHY did he/she invent it?)
Interesting facts:
How did this invention develop? Can you draw a time line for this invention?

Ask! Summer Holiday Research

EUREKA

Past, Present and Future!

1. **During the holidays try to talk to as many people as possible about *what would make their life easier*. Make a list on this sheet and bring it to school in September.**

My Problem!

EUREKA

Past, Present and Future!

Name_____

What is the problem?

_____

_____

_____

Who has the problem?

_____

_____

_____

Where is the problem?

_____

_____

_____

My Product needs to....!

Name_____

Think about everything that your product needs to do and use this table to make a list of these things.

My Persona!

Your persona is an imaginary person who will use your product.

Fill in each section of this form to help you focus on who you are designing your product for.

INTERESTS	
NEEDS	
VALUES	
POWERS	
BEHAVIOURS	
ASPIRATIONS	

INTERESTS: What does she spend her time on? What enlivens her? What does she read, watch, listen to?

POWERS: What Resources does she control? What can she do, muster? Who does she have Influence over?

Name: Fictionalize it
Profession: Be very specific
Age: Choose a number, Not a Range
Personal BG: Mini Life story — Hometown, Family, Schooling, Work, etc

NEEDS: What does she Need, in her Life, in her work? What's Essential for her, what does she require? WHAT's MISSING?

BEHAVIORS: What Are her Routines? Buying Free Time Rituals

VALUES: What carries Meaning For Her? What's her Moral Compass? What makes her Indignant, Satisfied, Frustrated? What does she want for the world?

ASPIRATIONS: What Kind of Person Do They want to Be? Brands? Spending Patterns? Life Dreams? Heroes? Role Models?

NAME:	
PROFESSION	
AGE	
PERSONAL BACKGROUND	

Decision Time!

EUREKA

Past, Present and Future!

1. Write down ONE point in each column.

ONE GREAT FEATURE	ONE NOT-SO-GREAT FEATURE	AN INTERESTING FEATURE

How does my idea score?

Using the sheet where you wrote down all the things you need your product to do. Give your idea a score of 1-3. 1=not great, 2= OK, 3=great

MY PRODUCT NEEDS TO....	IDEA 1 (SCORE 1-3)	IDEA 2 (SCORE 1-3)	IDEA 3 (SCORE 1-3)
TOTAL SCORE			

My Big Idea!

1. Draw a detailed picture of your idea, label it, and explain exactly how it works!

EUREKA

Past, Present and Future!

Name_____

My invention is

called_____

_____

2. This is how it works!

_____

_____

_____

_____

_____

_____

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ΠΩΣ ΛΕΙΤΟΥΡΓΕΙ Η ΕΦΕΥΡΕΣΗ / HOW IT WORKS

ΑΡΙΣΤΟΤΕΛΕΙΟ **ΚΟΛΛΕΓΙΟ**
ΠΑΙΔΙΚΟΣ ΣΤΑΘΜΟΣ - ΝΗΠΙΑΓΩΓΕΙΟ   ΔΗΜΟΤΙΚΟ-ΓΥΜΝΑΣΙΟ-ΛΥΚΕΙΟ

My invention!

Αναλυτικός οδηγός του τρόπου λειτουργίας με αριθμημένα βήματα
Analytical breakdown of how the invention works

EUREKA
Past, Present and Future!

Ονοματεπώνυμο/-α / Name(s) ....
....
Όνομα εφεύρεσης/ My invention is called ....
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Create your brand!

1. Draw a logo for your product. Think about colours, fonts, images.

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Past, Present and Future!
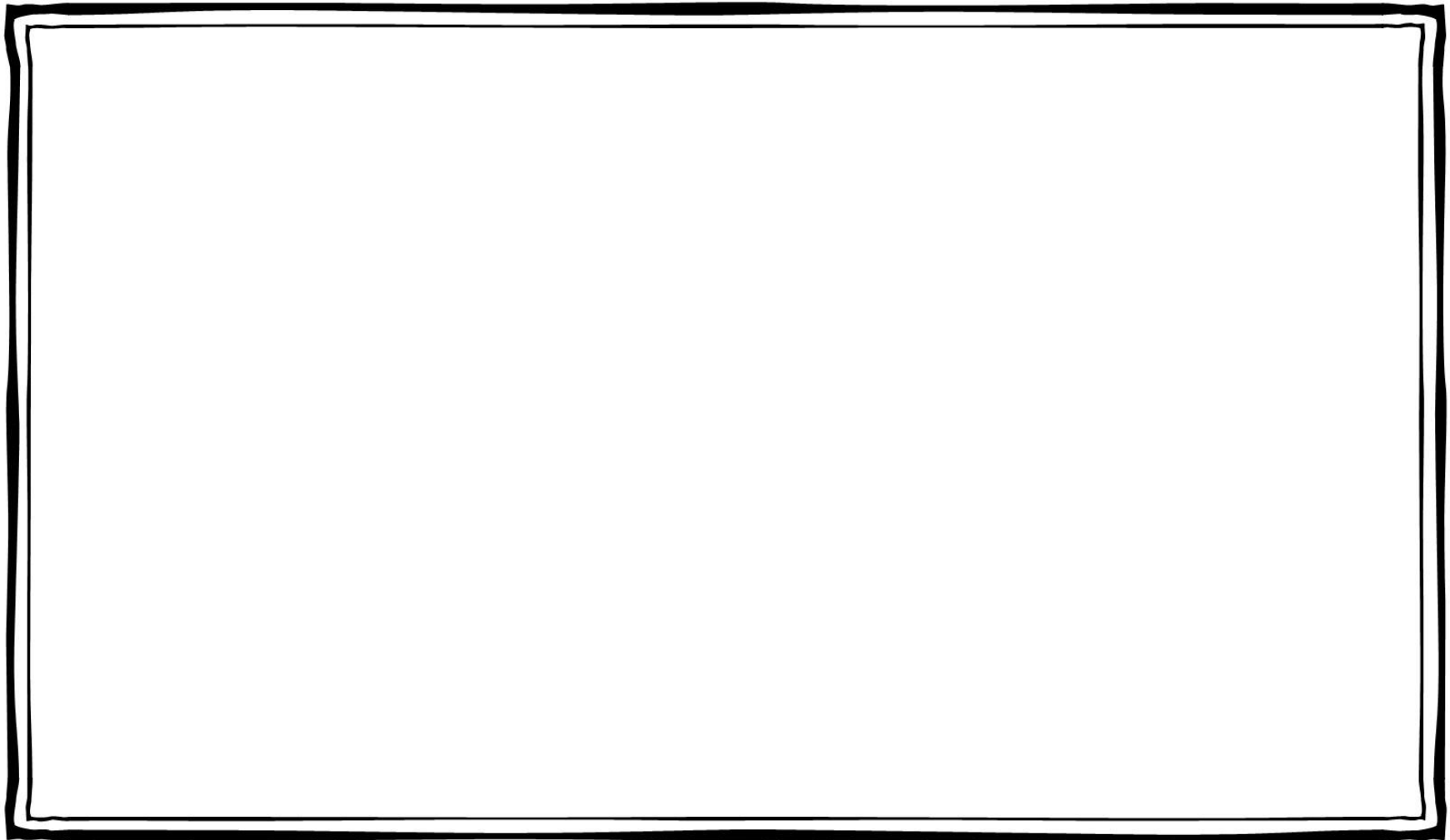
Storyboard video

Project Name: _____   Page: _____ of _____

By: _____   Date: _____

Thank you for being a judge. Each team will be judge on the same criteria. You have been given a judging sheet. Pupils have been put into teams and should have produced the following elements for you to judge:

1. The paper prototype of their invention (the initial drawings)

2. A prototype of their invention

3. Evidence of market research, competition and customer research

4. A 2-min pitch where they explain their invention clearly and the PROCESS which they went through to develop the invention

5. The branding of their invention

    6. A logo

    7. The packaging for their invention

    8. A website explaining their invention

    9. A poster advertising their invention

    10. A storyboard/viral video advertisement

11. A well organised display stall

12. A display of team spirit

Judges sheet – PLAYGROUND PITCH

Invention Name_____

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Please use this sheet to judge each invention, giving a score of 1-10 for each category

	Yes/No	Score 1-10	Comment
Is the need for the product explained?			
Was the pitch explaining the product clear?			
Is there a clear target market?			
Is it useful?			
Were the advantages of this invention explained convincingly?			
Was the pitch explained in two minutes?			
Total Score			

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Please use this sheet to judge each invention, giving a score of 1-10 for each category

	Yes/No	Score 1-10	Yes/No	Score 1-10	Yes/No	Score 1-10	Yes/No	Score 1-10	Yes/No	Score 1-10
Does it solve a problem?										
Was the pitch explaining the product clear?										
Did the team explain the process of the product development?										
Is there a clear target market?										
Is it useful?										
Were the advantages of this invention explained convincingly?										
Is the invention a completely new concept, or is it a new combination or modification?										
Is it creative?										
Is it user-friendly?										
Is it eco-friendly?										
Can it be implemented?										
Would the price be appropriate for the target market?										
How soon could the invention be put into operation?										

Annex Three – Useful Contacts

Below is a detailed list of organisations, people and agencies who helped us, in differing capacities throughout the course of this project:

UK

Gill Murray Photography – for help with promotional documents:

Website: www.gillmurrayphotography.com

Lorna Bruce – graphic designer

Website: www.thebeanshop.co.uk

Strathallan School – Design Technology Department

Website: www.Strathallan.co.uk

Tom Walker – Graphic designer. Led very informative workshops on The Design Process with our pupils at school.

Email:toomwalker@gmail.com

Greece

Fototypo Digital Printing printers, where we had all documents printed (booklets/ photos/ posters/ Pwwair memory game on 'Greek Inventors and Inventions' for the learning activity in Greece)/ etc) throughout the project and for the Exhibition in Scotland.

Website: https://www.fototypo.gr/

Email: info@fototypo.gr

Address: Leoforou Konstantinou Karamanli 162, Thessaloniki, Greece   Tel / Fax: +30 2310 323957

Model Making workshops with **Museologist Despoina Tsiptse** to help students construct the prototypes of the ancient Greek inventions - using materials like paper, carton, cardboard boxes, crayons, clay.

Social Media: Despoina Tsiptse   https://www.facebook.com/despoina.tsiptse

Tel: +30 6978 891142

Robotics workshops with **Robotics eduACT**, where the students made with LEGO Mindstorms Education EV3 Core Set the robots of two of the ancient Greek automata (Archimedes' odometre and catapult), which actually worked, and presented videos of the robots at work in Paris. In the second year the students made with eduACT the working robots of two of their Best Inventions (Dress it Up! and Street Food and House) and exhibited the actual robots at the Youth Invention Ideas Fayre at the Royal George Hotel in Scotland.

Robotics team eduACT is a non-profit, beneficent organization, aiming at the introduction of innovation and entrepreneurship in the educational process. Their vision is to redefine education and help young people build leading skills and social awareness: "We are constantly searching for the educational methods which are going to inspire kids to love knowledge removing the sterile memorizing. Moreover we are trying to cover the gap between conventional knowledge and the abilities which form successful entrepreneurs."

Website: http://eduact.org/el/home/

Social Media: eduACT   https://www.facebook.com/eduact/

Email: info@eduact.org

Address: Tsimiski 136, Thessaloniki, Greece   Tel: +30 2311 286 369   Mobile: +30 6984 332342

3D printers experts "θες3d" worked with the students to turn the Kids Ambulance, Street Food and House and Dress it Up ideas and cardboard models into **3D prototypes.** 3D printing is any of various processes in which material is joined or solidified under computer control to create a three-dimensional object.

Website: https://thes3d.gr/?lang=en

Social Media: Thes3d   https://www.facebook.com/thes3D/

Email: info@thes3d.gr

Address: Zaimi 43, Triandria 55337, Thessaloniki, Greece Tel:+302313052143 Fax:+302313052144

 Application for Android workshops with **IT teacher Giannis Mindis Tsiptse** to help students with the graphics and first steps towards making the Driving with Safety app for Android real.

Social Media: Giannis Mindis   https://www.facebook.com/giannis.mindis

Tel: +30 6974 190 960

Romania

Phototype Digital Printing printers, where we had all documents printed (booklets/ photos/ posters/ Pair memory game on "Romanian Inventors and Inventions" for the learning activity in Greece etc) throughout the project and for the Exhibition in Scotland.

Website: https://libris.ro/

Social Media; https://ro-ro.facebook.com/libris.ro/

Email: valeria.reit@libris.ro

Address: Romania, Loc: Brasov, Str. Muresenilor nr 14 162,   Tel / Fax: +400745077730

3D printers experts "Bytes2Matter" worked with our student to turn the "Pastiora"model into **3D prototypes.** Pastiora invention was created with the help of eng. Dana IUGA, her association called INVENTICUM using the "Inventor" programming. 3D Printing represents a revolution in the way we fabricate things. From simple action figure models or phone cases, to the most complex and functional mechanisms, we can 3D print almost anything. 3D printing is based on a vast experience in additive manufacturing, a continuous drive for improvement, and attention to details .

Website: https://www.bytes2matter.com/ Bucharest;

https:m.facebook.com/Inventicum-821721931341998/

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Erasmus+