

Europeana Learning Scenario

Title: Coding a Sustainable Future

Author: James Callus

Abstract

Environmental awareness to reduce the effect of climate change is fundamental to safeguard the well-being of future generations. This learning scenario endeavors to help students understand the importance of safeguarding the natural environment. Students will nurture 21st century competences and will take an active role in their own learning by thinking about innovative and creative solutions to solve real-life problems to ensure a sustainable future.

Keywords

Cross-curricular, Robotics, Coding, Digital Literacy, 21st century competences

Table of summary

<i>Table of summary</i>	
Subject	English (creating a story), Digital Literacy
Topic	Safeguarding the environment
Age of students	7 - 11 year olds
Preparation time	1 hour
Teaching time	3 hours (3 lessons of 60 mins)
Online teaching material	Answergarden , Pic Collage , Padlet
Offline teaching material	Lego We Do 2.0 kits, Scratch Jr app , school tablets
Europeana resources used	Picture 1 , Picture 2 , Picture 3 , Picture 4 , Picture 5 , Picture 6

Licenses

- Attribution CC BY.** This license lets others distribute, remix, tweak, and build upon your work, even commercially, as long as they credit you for the original creation. This is the most



accommodating of licenses offered. Recommended for maximum dissemination and use of licensed materials.

Integration into the curriculum

The following learning outcomes taken from the Maltese Learning Outcomes Framework are all linked to this Europeana Learning Scenario. They were extracted from:

http://www.schoolslearningoutcomes.edu.mt/files/documents/02_English.144501723005.pdf

<http://www.schoolslearningoutcomes.edu.mt/en/pages/digital-literac>

- I can express my opinions in writing on a range of topics.
- I can make up a story and write it down in a way that makes it interesting.
- I can use technologies and media to work in teams and collaborate in learning.
- I can collaborate with others and co-construct and co-create resources, knowledge and learning.

Aim of the lesson

By the end of the learning scenario students would have acquired knowledge to think about various measures that can be taken to safeguard our natural environment. They will also be acquainted with the effects of climate change and how can we make our world a better place for future generations. They will also engage in self-reflective processes and organise their thoughts to create a discussion while presenting their work.

Outcome of the lesson

By the end of this learning scenario students would have engaged in collaborative work to solve real-life problems by building a robot which will help future generations to overcome the outlined problems. They will also create a digital story focusing on the importance to promote a sustainable environment for future generations.

Trends

- Project-Based Learning: students get fact-based tasks, problems to solve and they work in groups. This kind of learning usually transcends traditional subjects.
- Collaborative Learning: a strong focus on group work.
- Student Centered Learning: students and their needs are at the centre of the learning process.
- Peer Learning: students learn from peers and give each other feedback.

21st century skills

Critical Thinking – students will become active learners by exploring different means how we can safeguard our natural environment for future generations.

Collaboration – students will collaborate to identify a real-life problem.

Creativity – students will come up with innovative ideas how they can make best use of digital technologies to overcome environmental issues.

Communication – students will present their ideas, thoughts and arguments.

Activities

Name of activity	Procedure	Time
Introduction	<ul style="list-style-type: none"> Students are familiarised with the Europeana resources, Picture 1, Picture 2, Picture 3, Picture 4, Picture 5, followed by a brief discussion. To post and share their feedback they will avail themselves of the school tablet to access Answergarden. 	10 mins
Creating a digital story	<ul style="list-style-type: none"> Feedback submitted by students is discussed in class focusing on the importance to look after our natural environment to reduce the effect of climate change. A video clip about climate change will be discussed with students where they will be given ample opportunities to share their reactions with their peers. Students will plan and create a digital story by availing themselves of the app Scratch Jr focusing on the effects of climate change on our environment. They will have to animate their story by availing themselves of the coding blocks available within the app. 	40 mins
Conclusion	<ul style="list-style-type: none"> Students are asked to think about any slogan/message they would like to share with their peers. They will avail themselves of the app Pic Collage to create it. Their work will be shared with the other students within the school. 	10 mins

Name of activity	Procedure	Time
Introduction	<ul style="list-style-type: none"> The main points of the previous lesson are discussed in class. 	5 mins
Identify a real-life problem	<ul style="list-style-type: none"> Students are divided in groups and will discuss the following issues: <ul style="list-style-type: none"> Which are the environmental issues that are affecting our planet, hence contributing to climate change? What needs to be done to overcome these issues? Who are the key persons who can help us solve these problems? 	35 mins
Conclusion	<ul style="list-style-type: none"> Students present their ideas to their peers. They can use Padlet to document their ideas or any other medium they deem necessary. 	20 mins

Name of activity	Procedure	Time
Introduction	<ul style="list-style-type: none"> The main points of the previous lesson are discussed in class. 	5 mins
Create a robot	<ul style="list-style-type: none"> Students are divided in groups. To overcome the problems outlined in the previous lesson, students will create and program a simple robot by availing themselves of the Lego We Do 2.0 robotic kits available in school. Students will document their work and think about how their robot will promote a sustainable environment for the future generations (Picture 6). 	40 mins
Conclusion	<ul style="list-style-type: none"> Students present their ideas in class and to the whole school. 	15 mins

Assessment

At home students will create a digital story focusing on their robot’s quest to save the environment. They can avail themselves of the app [Scratch Jr.](#) to compile their story.

***** AFTER IMPLEMENTATION *****

Student feedback

- Students can adopt the “two stars and a wish” model to outline what they liked or would have loved to see during these lessons.

Teacher’s remarks

This project can be presented to the subject experts during the [Malta Robo League](#) event which is held annually. Teachers can also embark on this project in the coming years and they could also organise coding clubs to allow ample time for students to further their knowledge in the subject.

About the Europeana DSI-4 project

[Europeana](#) is Europe’s digital platform for cultural heritage, providing free online access to over 53 million digitised items drawn from Europe’s museums, archives, libraries and galleries. The Europeana DSI-4 project continues the work of the previous three Europeana Digital Service Infrastructures (DSIs). It is the fourth iteration with a proven record of accomplishment in creating access, interoperability, visibility and use of European cultural heritage in the five target markets outlined: European Citizens, Education, Research, Creative Industries and Cultural Heritage Institutions.

[European Schoolnet](#) (EUN) is the network of 34 European Ministries of Education, based in Brussels. As a not-for-profit organisation, EUN aims to bring innovation in teaching and learning to its key stakeholders: Ministries of Education, schools, teachers, researchers, and industry partners. European Schoolnet’s task in the Europeana DSI-4 project is to continue and expand the Europeana Education Community.

Annex

Learning outcomes -

http://www.schoolslearningoutcomes.edu.mt/files/documents/02_English.144501723005.pdf

Lego Education - <https://education.lego.com/en-us/support/wedo-2>

Answergarden tutorial - <https://safeyoutube.net/w/Wh51>

Introduction to Scratch Jr - <https://safeYouTube.net/w/ET11>

Padlet tutorial - <https://safeYouTube.net/w/vV11>

Pic Collage tutorial - <https://safeYouTube.net/w/qW11>