

# bloom

Boosting  
European Citizens'  
Knowledge and Awareness  
of Bio-Economy  
Research and Innovation



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# TEACHING STEM WITH BIOECONOMY

**32<sup>nd</sup> Science Projects Workshop in the Future  
Classroom Lab**

13-14 September 2019, Future Classroom Lab, Brussels



# Aim of the workshop

- Learn about bioeconomy and how to implement it in STEM classes
- Contextualize bioeconomy in real life
- Discover the BLOOM project
- Find useful bioeconomy resources
- Create a bioeconomy activity for STEM lessons



# Introduction to bioeconomy

- Bioeconomy is an alternative to fossil-based production processes
- To replace fossil fuels with renewable biomass
- European Commission's Bioeconomy Strategy (2018): sustainability and circular economy





# Why is bioeconomy important to learn and teach about?

- 2015 OECD PISA measured an average of 24.5% of students from the OECD countries who are expecting to pursue a STEM career
  - It definitely does matter HOW we teach science
- Holmlund et al. (2018): Most teachers found interdisciplinary and real-world connections to be especially relevant for defining STEM education
- Wellcome Trust (2012): students tend to have a better understanding of some of the relations between the real world and real jobs if interdisciplinary teaching is enhanced
  - Students reported that they have more confidence when learning STEM subjects together



# The BLOOM Schoolbox

- **BLOOM** is an EU Coordination and Support Action implemented from 2017 to 2020. The project aims at **raising awareness of bioeconomy**
- Collection of state-of-the-art bioeconomy learning scenarios
- Integrating bioeconomy in classes
- Twenty expert teachers from 10 countries created tested and improved worked together for over a year to develop the BLOOM School Box
- Wide range of topics, from **plastic pollution**, through **waste management** to the **thermal properties of bio-based building materials**



<https://bloom-bioeconomy.eu/schoolnetwork/schoolbox/>



# The “Boosting Bioeconomy Knowledge in Schools” online course



**bloom**  
“Boosting Bioeconomy Knowledge in Schools”  
MOOC for teachers  
Starts on  
4 March 2019



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<https://europeanschoolnetacademy.eu/en/web/bloom-mooc/course>



# Creating a bioeconomy activity for STEM lessons

- Create a bioeconomy activity for STEM lessons, using the resources you identified before
- In groups of 3/4
- 30 minutes
- You can use several resources
  
- Think about:
  - How long is the activity?
  - How will you combine the different subjects?
  - How is it connected to real life?



# Bioeconomy resources to use in the classroom



- List of bioeconomy teaching resources: <http://bit.do/eN2ZR>



- The BLOOM School Box: <https://bloom-bioeconomy.eu/schoolnetwork/schoolbox/>



- The BLOOM MOOC: <https://europeanschoolnetacademy.eu/en/web/bloom-mooc/course>



# References

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**Thank you!**

