### **ABOUT**

The 24M long project (Nov 2022-Oct 2024) proposes the use of tinkering as an approach that can be merged with **Education for Sustainable** Development (ESD). It will develop educational activities around sustainability and climate topics to be applied at late primary and early secondary level (students aged 8-12 years).

Tinkering relies heavily on creative collaborative problem solving, where learners not only gain specific knowledge, but also develop their critical thinking, collaboration and communication skills. The method also trains students in dealing with uncertainty, as many of the issues that will be tackled don't have a unique or straightforward solution.

hands-on

getting curious

slowing down

frustrating

enjoyable





Lead: University of Iceland (IS) www.hi.is



MIO-ECSDE / MEdIES (EL) www.medies.net



Centre for Research and **European Studies-Future** Business (IT) www.asscres.eu

#### **bartolomeo** culturale (IT)

Bartolomeo associazione www.bartolomeo.education



NEMO Science Museum (NL) www.nemosciencemuseum.nl

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Using tinkering tounlock the student's creativity and support teachers in holding meaningful interventions on sustainability and climate change topics











# WHY FOCUS ON SUSTAINABILITY & CLIMATE CHANGE?

The complexities of climate change and sustainability challenges of today require holistic approaches in our educational methods combining science, but also culture and emotional learning.

The project supports learners in responding to vast global challenges through translating what may seem overwhelming into aspects (choices, habits, creations) of everyday school life. Within a collaborative setting, using tinkering, STEAM and real-life problem solving the project aims to enable learners to grow up being eager and committed "change agents".



## WHY USE TINKERING?

Tinkering can be described as a 'thinking through hands' learning approach that is gaining popularity within formal and non-formal learning settings, because:

- It engages people with STEAM (Science, Technology, Engineering, Arts and Mathematics).
- It uses inquiry-based as well as immersive learner-centered pedagogies.
- It develops 21st century skills such as critical thinking, problem solving, creativity, selfreflection, self-confidence and dealing with uncertainty and frustration.
- It is motivating and fun!

### **TASKS**

Peer-training on tinkering

Stakeholders' mapping

A toolkit for students

Guidelines for teachers

Implementation / piloting

Info Days / Workshops

What does tinker mean?

Verb: to make small changes to something, especially in an attempt to repair or improve it

Noun: especially in the past, a person who travelled from place to place, repairing pans or other metal containers

(Cambridge Dictionary)