

WATER@EDU

- EXECUTIVE SUMMARY -

1. Scope

WATER@EDU is an **Initiative** focused on promoting the development of international collaborative projects between students and teachers based on scientific experiments, aiming to promote **Water Literacy**, using a **Labware Science Kit**.

2. Context – World Classroom Partnerships

WATER@EDU is one of the main focus of the **World Classroom Partnerships**, an **Initiative** which intends to connect students and teachers with the support of the technological infrastructure, **Millennium@EDU Model Classroom**, in different countries, under a comprehensive education plan aiming to significantly contribute to the **Millennium and Sustainable Development Goals**, improving the quality of education and promoting 21st century skills and themes.

3. Institutional Framework

WATER@EDU is also part of our **Commitment to UNESCO Education for Sustainable Development Initiative**, regarding the connection of students and teachers in different countries under a comprehensive education plan, based on scientific experiments and **Sustainable Development Issues**, like water, food and environment, among others, improving the quality of **Education for Sustainable Development**.

<https://unesco4esd.crowdmap.com/reports/view/311>

WATER@EDU is part of our **Commitment** to the **Clinton Global Initiative**, which is focused on the **World Classroom Partnerships**.

<https://www.clintonfoundation.org/clinton-global-initiative/commitments/millenniumedu-world-classroom-partnership>

4. Basic equipment & App

The experiments will be performed using a Labware Science Kit, which includes:

Basic Equipment



- Chemistry Connector, allowing the connection of:
 - pH Sensor
 - Temperature sensor
 - Conductivity sensor
 - Pressure sensor
- Motion sensor
- Accessories

App

The Science Kit also includes an App, that allows to connect the various types of sensors to the teacher and student devices, and collect, treat and share the data.

Reference Exercises

Air Pollution and Acid Rain

- Use a pH sensor to determine the effect air pollutants (CO₂, SO₂, and NO₂) have on the pH of water.

Heating Land and Water

- Use a temperature sensor to determine a property of materials that allows some to heat up faster than other materials and then draw conclusions about water's influence on a region's climate.

Acid Rain and Plant Growth

- Using the pH sensor and simulated rainwater from different sources, the students determine the effect of acid rain on the germination of bean seeds.

As an outcome of these experiments, results can be pinpointed on a map, allowing a discussion between students in various countries regarding their specific local conditions and the impact of water pollution.