



Summary

Lab-on-Paper technology



Target age



Age 5 – 18 years old students

Level of difficulty

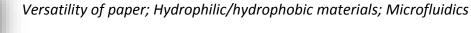
☑ Easy

☐ Medium

☐ High



Key words: Versatility of



Abstract of the activity:



In this toolkit there are three envelops with three different activities to explore the Lab-on-Paper technology. These activities aim to help the students explore the properties and wide variety of applications of paper and learn about hydrophobic and hydrophilic materials.

This toolkit is very comprehensive, and the activities can be carried out by participants from 5 to 18 years old. The deepening of the concepts inherent to the experiment must be done according to the age of the participants.









Summary



Learning Goals

- Critical raw materials and their substitution by renewable materials;
- Economic advantages of the development of microfluidics devices on paper;
- Definition of hydrophilic and hydrophobic materials;
- Microfluidics.



Specific Abilities - At the end of the activity the student will be able to:

- Understand the difference between a hydrophilic and a hydrophobic material;
- Comprehend the versatility of paper uses and its advantages;
- Describe the principal steps of wax printing method;
- Identify the advantages of using microfluidics devices on paper.

Cross-curricula Links- *Examples:*



- Ecology/Environment
- Physics
- Technology
- Social Sciences: human conditions, ethics
- Economics/Economy



Prerequisites - Knowledge and skills necessary for carrying out the activity

This toolkit has no prerequisites.



Time requirement

 \square 1 h \square 10 min

Instruments: No additional instruments are needed













Learning and Teaching Support Materials - What you can find in the toolkit

- 1. Lab Procedures
- 2. Students' Cards
- 3. PowerPoint presentation for preparing a lesson (plus a short text)
- 4. Three envelopes with three different activities
- 5. Plastic pipettes
- 6. Aqueous food dye solutions
- 7. Paper holders



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