

Scratch: Basic Introduction into Visual Coding

Summary: Scratch is a visual coding language and environment, to teach pupils and students to code in a fun, easy way. Your pupils can use Scratch to code their own interactive stories, animations, and games. In the process, they learn to think creatively, reason systematically, and work collaboratively — essential skills for everyone in today's society.



In the following Scratch activities, your pupils will learn the basics of coding with blocks: movement, colour changes, animations and so on; as well as create a first fun project and design their own digital game.

Timeframe: two times 60 minutes

Learning outcomes:

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| 1.1 Algorithms | 2.6 Information: collection & management |
| 1.2 Sequences | 3.1 Working together |
| 1.3 Repetition and loops | 3.2 Negotiation practices |
| 1.4 Events and selection | 3.3 Describing thought processes |
| 1.5 Parallelism | 3.4 Learning from vicarious experiences |
| 1.6 Conditionals and logical operators | 4.1 Combination |
| 1.7 Mathematical operators | 4.2 Exploration |
| 1.8 Variables and data management | 4.3 Transformation |
| 1.9 Functions | 5.1 Problem identification |
| 2.1 Incremental & iterative work | |
| 2.2 Testing and debugging | |
| 2.3 Reusing and Remixing | |
| 2.4 Abstraction | |
| 2.5 Modularization | |

In this activity, your pupils will make a first acquaintance with the Scratch coding language and environment. In Scratch, you use building blocks to create a digital game, animation or app.

Getting started

You can choose to use the Scratch environment on computer (1) online at <https://scratch.mit.edu/> or (2) without internet by installing the offline editor (<https://scratch.mit.edu/download>). If you want the pupils to work online and save their work (recommended), have them create an account. Follow the instructions at <https://scratch.mit.edu/educators/faq> to help you create a teacher and individual student accounts.

First view on the program

Of course, you first want to show your pupils what Scratch is before diving in. You can either do this by sharing your own screen on a beamer and making a few first coding moves. Or you can show an introductory YouTube video. There are plenty of them out there, but we suggest one made by a student called "Matt the Scratch Kid": <http://bit.ly/intro-scratch> .

