

A stylized Scratch mouse character with a pink-to-orange gradient body, large white eyes with black pupils, and black ears. A white tag with a hole is attached to its left ear. The background is a gradient from orange to red.

This lesson material belongs to:

WORKSHOP

PROGRAMMING WITH SCRATCH

Motivation:

In our digitalized world, the future lies in programming skills. It makes sense that pupils in primary school, as well as learning maths, languages and geography, should take their first steps in learning computer language. More and more campaigns are being developed to encourage young people to create technology, instead of just consuming it.

Goal:

Children will learn that every app, every webpage, every new technology that we use, is built by programmers, using various programming languages. In this workshop, the children will learn to program using the language Scratch.

Target group:

Children aged 10 and older and adults

Materials:

- Digital board
- Computers with a link to the free program <http://scratch.mit.edu/>
- A printed version of the Getting Started Guide on <http://scratch.mit.edu/help/>
- A link to the Step-by-Step Guides 'Make a greeting card' and 'Animate your name' on http://scratch.mit.edu/projects/editor/?tip_bar=getStarted. By clicking on the tab 'Tips' in the menu bar, you will find the Step-by-Step Guides at the right-hand side of the page.
- Printouts of the Scratch Cards, that you can find on <http://scratch.mit.edu/help/>

Duration:

3 hours prowise.com (free version), printed Prowise manual from http://downloads.prowise.com/Handling_Prowise_Presenter_3.9.pdf



WORKSHEET



1. Do the tasks from the workbook 'Getting Started with Scratch'
2. Now that you know how Scratch works, you can do the following tasks: 'Make a greeting card' and/or 'Animate your name'
3. Do the various tasks and practices on the Scratch cards. You will learn, for example, how to make an animation, change colours or keep a score for a game.
4. Look at other peoples' examples and change them. Click on the word Scratch in the left-hand corner of the menu bar and then on 'See examples'. Choose an example you like and start changing it by clicking on the button 'See inside' and then on 'Remix'.

What example do you want to change?

What exactly are you going to change?

HOW TO SET UP YOUR CLASS:

1. Tell the pupils that they will learn how to program in the class. Explain to the class that programming is a way of telling a computer what to do and that they will do this with a language that the computer understands, called a computer language.

2. Using a digital board, show the class what a computer language looks like by going to the page source of a webpage. In the Firefox browser, you will find the page source by clicking on the icon on the far right in the menu bar (the three horizontal lines) and then on 'Developer', 'Page Source'.

3. Explain that some programming languages work with complicated codes, but that we will work with Scratch today, an easy to use programming language.

4. The following video about Scratch gives a good introduction: <http://vimeo.com/29457909>

5. Open the program Scratch: <http://scratch.mit.edu/>. Click on Learn how to make a project in Scratch and show how you can make the cat dance by using this programming language.

6. The pupils will be set to work now with the tasks in the booklets Scratch Getting Started, Make a greeting card and/or Animate your name.

7. Any pupils that have difficulties with programming can work with the separate Scratch cards.

8. At the end of the class, the pupils present their free exercises to their classmates.

This workshop aligns with the following Media Literacy competences:

- Comprehension: Understanding of how media are made
- Use: Use devices, software and applications

And with the following key goals of primary education:

Pupils learn how to obtain information from language. They also learn how to reproduce this information in a structured way, orally or in writing.

Pupils learn to trace information from informative and instructive texts, such as outlines, charts and digital sources.

TIPS:

- On <http://learnscratch.org/> you will find an entire series of classes with tutorial videos.
- For many tips, teaching material and good examples, visit the Dutch website <http://scratchweb.nl/>
- Watch the TED talk where the inventor of Scratch, Mitch Resnick, emphasizes the value of learning to program. He compares it with learning to read and write. 'When you learn to read, you can then read to learn... that also applies to programming'. http://www.ted.com/talks/mitch_resnick_let_s_teach_kids_to_code
- On YouTube you will find several tutorial videos on how to develop more games with Scratch, like an aquarium for example: <http://www.youtube.com/watch?v=xPLKItqLANE>.
- Have you become enthusiastic about learning to program with children? Then watch <http://www.codekinderen.nl/> for more examples of programming with children.
- Another child friendly programming language is CodeHs. Children learn programming by playing and giving commands to a dog called Karel: www.codehs.com
- Advanced pupils can learn to program with the more 'serious' programming language Javascript at the Khan Academy: <https://www.khanacademy.org/computing/cs>



5. Now, think of something you want to program yourself.

What will it look like?

What will happen?

Which blocks will you be using most?

COLOPHON

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