# Learning to work with Lego Spike Prime

MaFEA – Making Future Education Accessible

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## Learning to work with Lego Spike Prime

Learning the basics of Lego Spike Prime is easy. You follow the 6 short tutorials mentioned in the "Getting the right software for Lego Spike Prime" guide, and you will have a basic understanding. But there is much much more! Lego has made a lot of building instructions for different projects.

These projects come with instructions how to build the project and have suggestions can be found by clicking on this link or scanning the QR code to the right.

## Lesson plans and Lego Spike Prime in the classroom

Lesson plans are great for teaching Lego Spike Prime to the classroom. These lesson plans are meant for the teacher. They help the teacher prepare a class from start to finish. The different lesson plans display what grade the lessons are meant for. The plans also display what kind of subjects are being taught. Such as STEAM (Science, Technology, Engineering, Arts, Math) or Coding. On the website you can filter on these kinds of subjects to find a lesson plan for the class you want to give.

You can find all the lesson plans by clicking this link or scanning the QR code to the right.

Unit Plan (8 Lessons)                                                    Hybrid

**Life Hacks**

SPIKE™ Prime Set

Is there anything in your life that could benefit from a hack? What if that hack could help you see data? Or train your body, plan your free time, sharpen your mind... anything! Just hack it!

STEAM, Computer Science, Coding                    Grades 6-8          STEAM

Besides the lessons plans there are also great tips and tricks for managing your classes while working with Lego Spike. These resources can be found by following this link or scanning the QR code to the right.

## Programming languages

There also are different styles of programming your Lego Spike hub. There is 'word blocks' programming (which you used in the tutorial), Icon block programming and Python. These programming styles range in difficulty. For example, Python is a programming language used by professionals, while Icon blocks are used for the youngest of programmers.

To find the different kinds of ways to program the Lego Spike go to the home screen and click 'New Project'. You will see a popup shown on fig. 1

Here for example, you can select *Icon Blocks*, which programming looks like fig. 2

Icon Blocks programming works with clear icons showing a play button as the start of the code. The programmer can drag in different icons with different functions to create a string of actions.
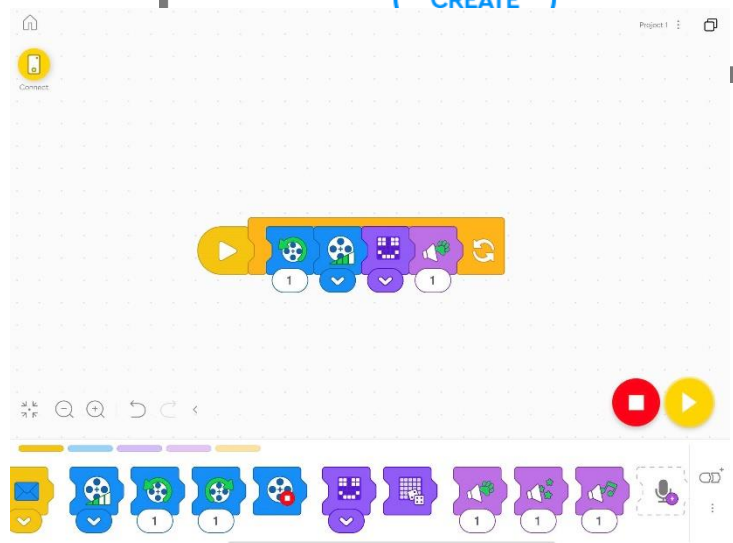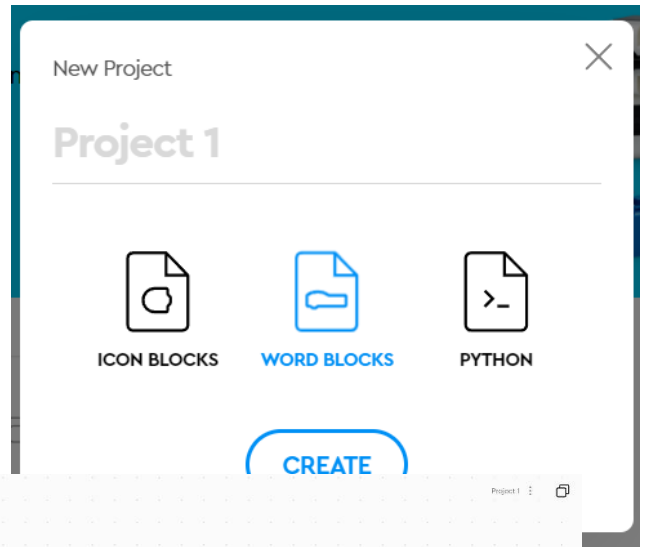


*Figure 2: Icon blocks programming*

The second way of programming the Lego Spike is *Word Blocks*. This way is the most used way of programming the Lego Spike. Programming this way is a bit more complex than the Icon Blocks way, but it keeps the same logic. You start out with a play block; the program starts here. You add different blocks (that must fit the previous block) and create a string of actions. Doing the main tutorial inside the Lego Spike app will explain the flow of the strings more in depth.
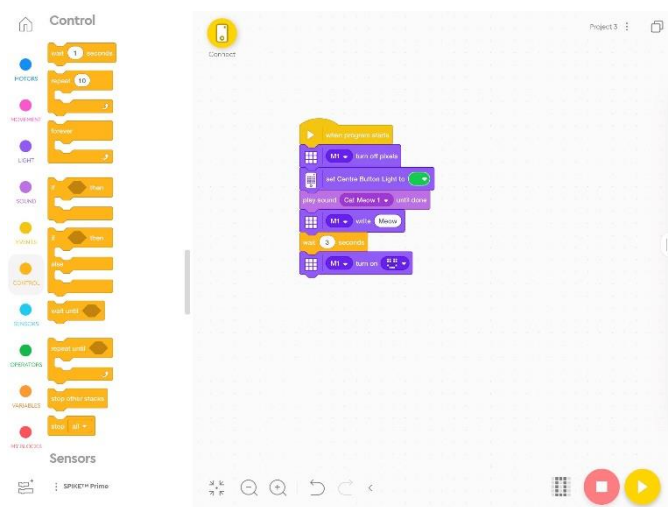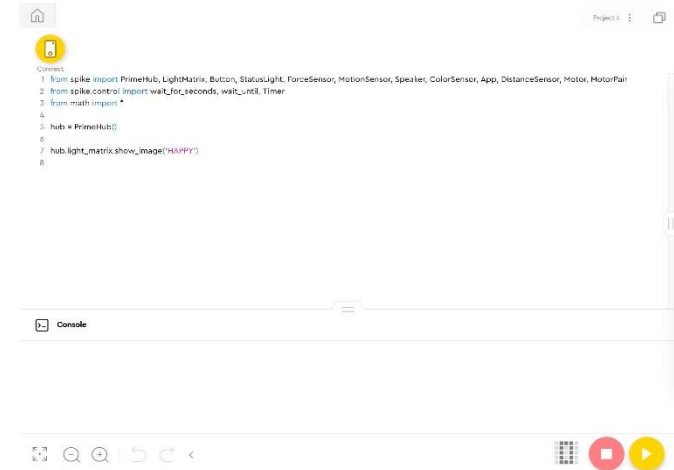


*Figure 3: Word Blocks programming*

Third and final way of programming you Lego Spike is Python. Python is a well-known programming language used throughout the world. Explaining Python would require a complete guide on its own. I suggest checking out Lego's courses that can be found by clicking [this](this) link or scanning the bottom QR code.



*Figure 4: Python programming*