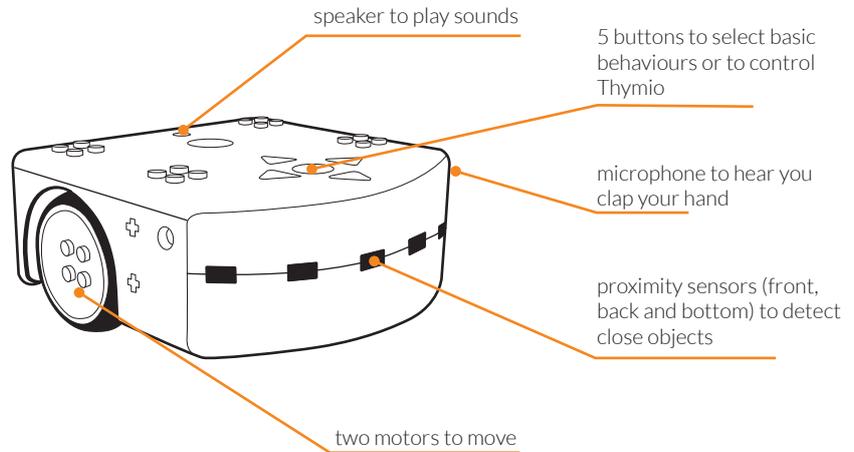# thymio
DISCOVERY KIT

Thymio is an open-source, open-hardware robot whose goal is to introduce its users to programming and robotics in a fun way. In order to be accessible to everyone, it comes with basic behaviours and can also be programmed visually or textually.

thirty-nine LEDs to shine in countless colors
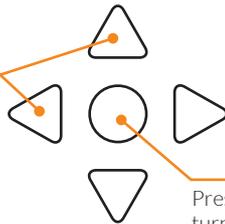
accelerometer detecting shocks and gravity

speaker to play sounds

5 buttons to select basic behaviours or to control Thymio

microphone to hear you clap your hand

proximity sensors (front, back and bottom) to detect close objects

two motors to move

START

By pressing the arrows, you can go through the 6 behaviours of Thymio. Each mode has its color!

Press for 3 seconds to turn **on/off**. Use a gentle pressure to go **in/out** of a basic behaviour.

BASIC BEHAVIOURS

Friendly (●) follows objects/hand
Explorer (●) avoids obstacles
Fearful (●) flees objects or hand, detects shocks
Investigator (●) follows a path/line
Obedient (●) follows commands given by the arrows
Attentive(●) reacts to claps

This poster allows you to explore the different basic behaviours of the robot but also to take your first step in programming. How? Begin by doing every "Discovery" challenge. You did everything and want to go further? Install Aseba (www.thymio.org) on your computer and launch « VPL for Thymio ». You just have to choose an event block on the left and an action block on the right! Grab your mouse!

0 Calibration

To ensure that Thymio works well, you might have to calibrate its ground sensors. Start the investigator mode (●). Put the robot on the black line and press simultaneously on the front and back arrow to calibrate the black level. Then, put it on the white paper and press simultaneously on the left and right arrow to calibrate the white level.

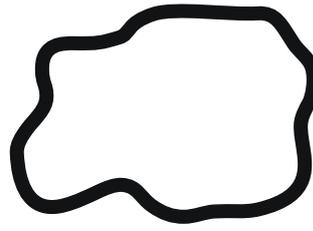## 1

Flee, here comes the Yeti!
Goal: scare Thymio

Discovery: select the red behaviour on Thymio and put it down on the Yeti! Place one hand ahead and the other behind Thymio and see its reaction!

Curious?: program the robot so that it plays music when it sees an obstacle ahead and behind it. Small hint: you need 2 blocks at least!

2

I see a track!
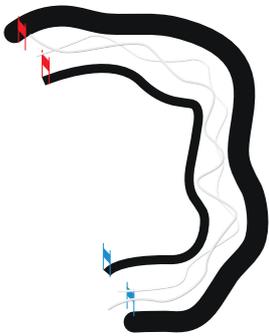*Goal: follow the widest black line*

Discovery: one of the six basic behaviours allows to do this task, can you find which one it is?

Curious?: try to program the robot so that when it sees black it goes forward and when it sees white, it turns. Small hint: you need at least 6 blocks!

3

Thymio skis
Goal: slalom while avoiding the cliffs

Discovery: with the green behaviour, guide Thymio with your fingers. In the yellow one, Thymio will avoid your hands and finally in the red behaviour, it will flee... Try them all!

Curious?: program Thymio so that when it sees black it changes direction. Small hint: you need 6 blocks at least!
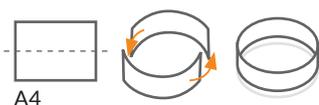
4

Beware of the firs!
Goal: avoid obstacles

Discovery: put small objects on the firs to create obstacles for Thymio. Will you find the behaviour allowing it to avoid them?

Curious?: program the robot so that when it sees an obstacle, it changes direction. Beware not to have it fall off the table. Small hint: you need 10 blocks at least!

5

A long road
*Goal: go around the mountain*

Preparation: put a cylindrical object on the mountain, you can use a sheet of paper and assemble it as shown in the diagram on the left.

A4

Curious?: program the robot so that when it sees an obstacle on one side, it moves alongside it without touching it.
Small hint: you need 4 blocks at least!

6

Let's sing!
Goal: play a melody while passing over the chalets
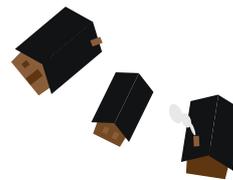
Curious?: program the robot so that it follows the line with one sensor and plays music when it detects the chalets with the other sensor. Small hint: you need 8 blocks at least!

GOING FURTHER

If you need help or want to have more details on what you can do with this discovery kit, scan the QR-code here. It will guide you to the wiki page dedicated to this kit. And if you have a problem, do not hesitate to ask a question on Thymio's forum. The whole community is there to answer your questions!

www.thymio.org