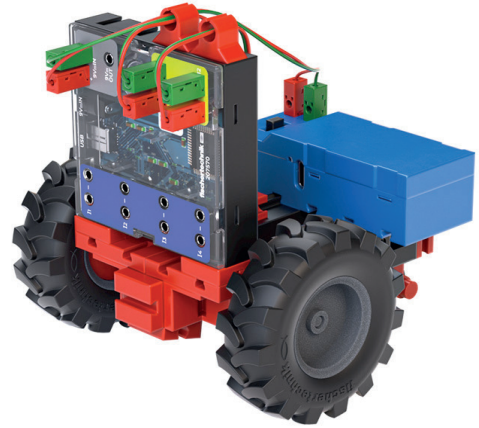# Model 10: Buggy
Objectives and classification

Overview

The buggy is a three-wheeled driving robot that is controlled remotely via the keyboard. Logical connections („and", „or") are introduced. In the experimental task, the buggy receives a voice output.

Topics

How does a remote control work? What are „logical operators"? How can you evaluate the sound
strength level?

Learning objectives

- Evaluate keystrokes and use them as remote control
- Use of variables to store status values (motor speed)
- Use of logical operators („and", „or")
- Evaluation of the volume level

Competition

The buggy model is particularly suitable for a playful competition, such as a race. If several STEM Coding Pro kits are available, the students build one buggy per team and then compete against each other. The students can come up with their own rules or the teacher can provide them.
If programming skills are already available, e.g. a backpack race can serve as a motivating introduction to the world of robotics.

Time required

The buggy can be constructed in around 20 minutes. The first tasks „Remote control 1", „Remote control 2" and „Remote control 3" can be solved by the students in the same lesson. The topic of the experimental task (emergency stop) is taken up again in model 11. Experiment task 5 adds a voice output to the buggy. The tasks are independent of each other and can be used as a supplementary task for particularly fast students.

Note: Bluetooth transmission delays the commands slightly; with a USB connection, the buggy responds more immediately to the remote control.

Solutions and notes
Programming tasks Model 10: Buggy

Solution Remote control:
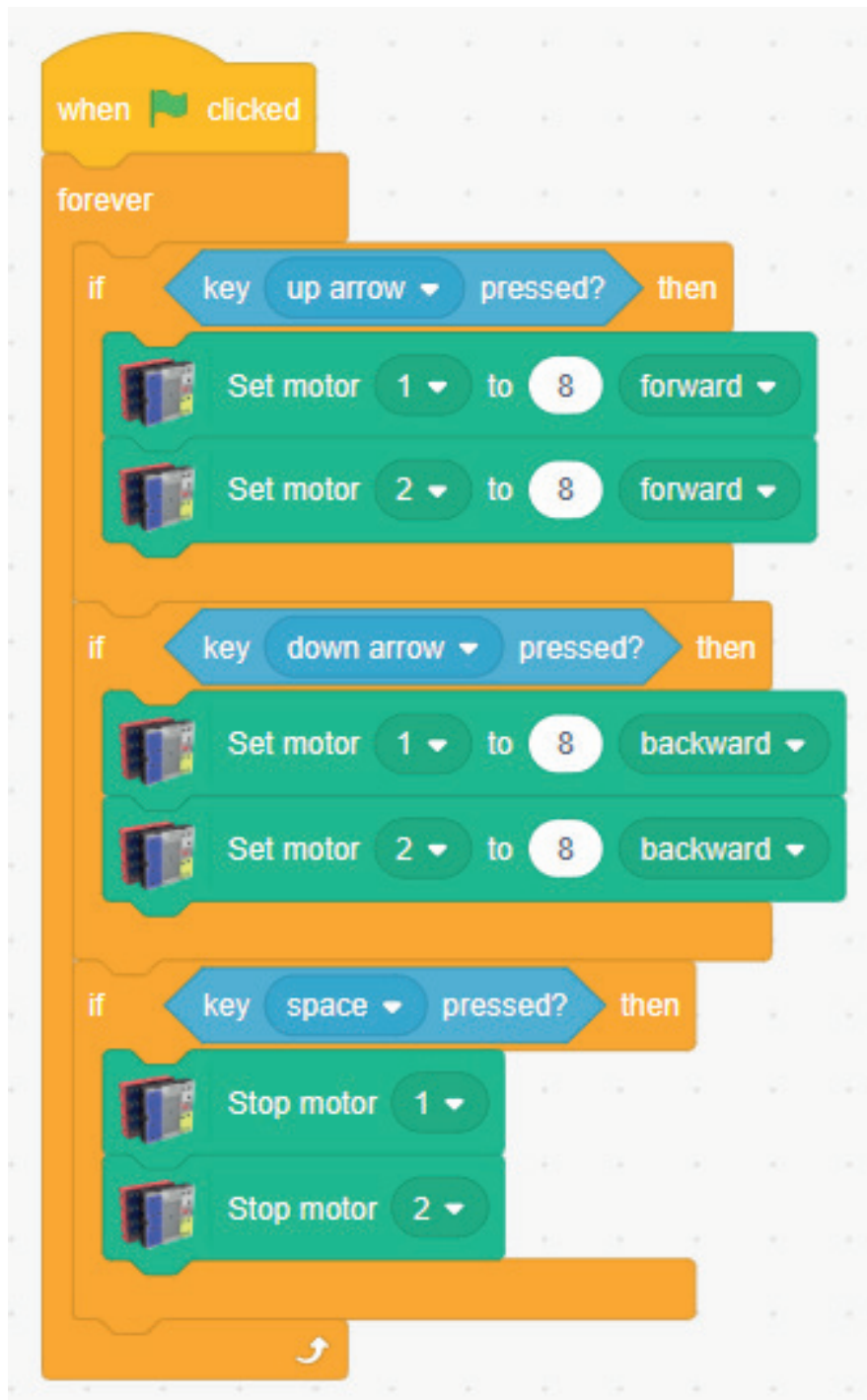
remote control 1.sb3

fischertechnik

Solutions and notes
Programming tasks Model 10: Buggy

Solution Remote control 2:

remote control 2.sb3

Solutions and notes
Programming tasks Model 10: Buggy

Solution Remote control 3:
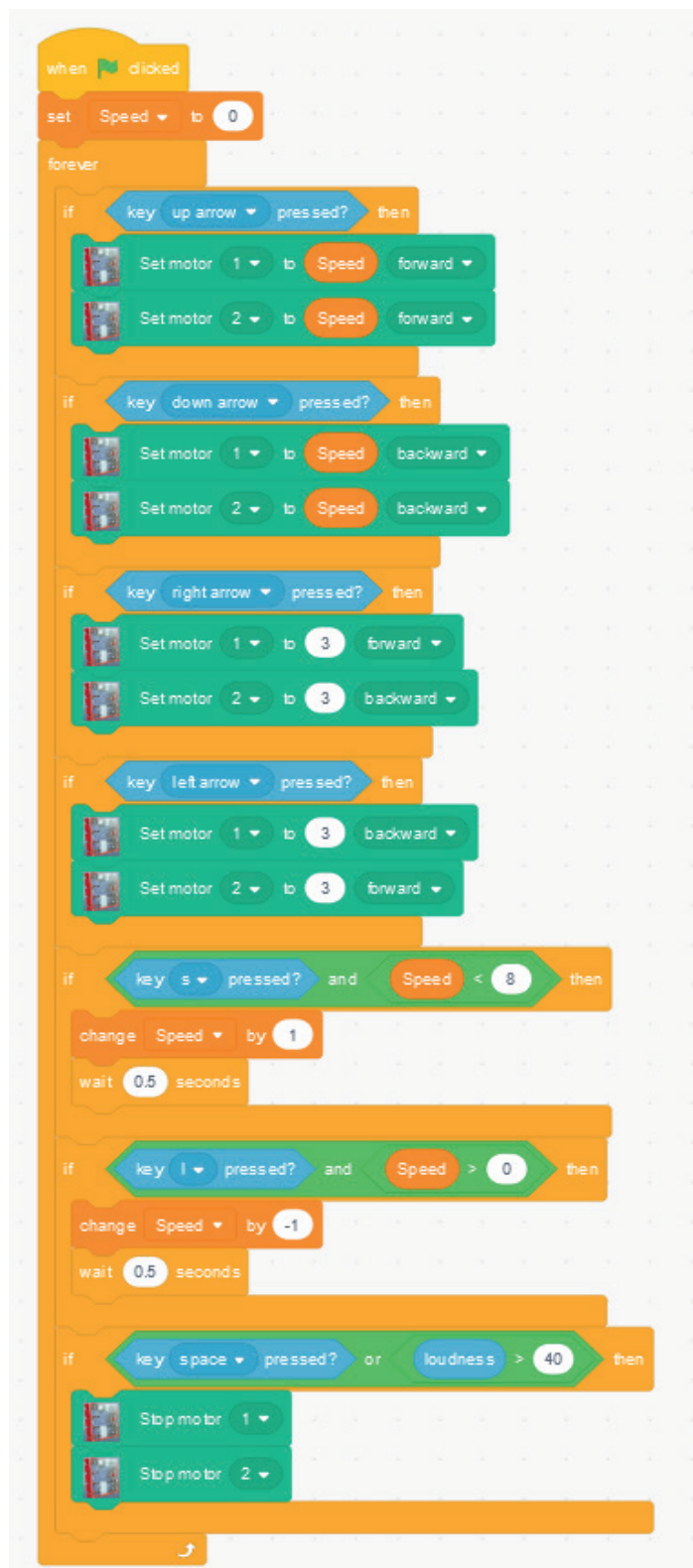

remote control 3.sb3

Solutions and notes
Programming tasks Model 10: Buggy

Solution Emergency stop:

Emergency stop.sb3

Solutions and notes
Programming tasks Model 10: Buggy

remote control with voice output.sb3