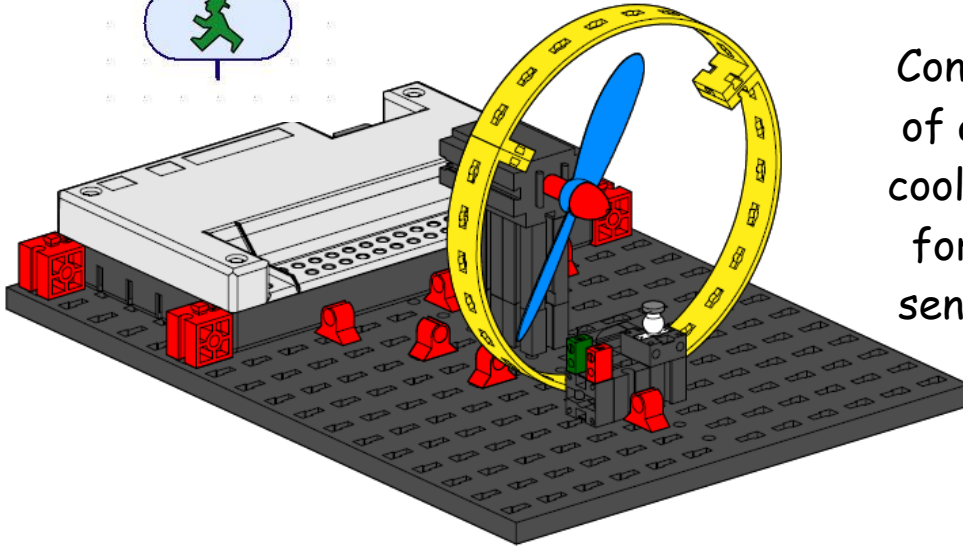


# Robotics

Science 8



## Model 5: Temperature Control



Control the temperature of a room with a fan for cooling and a lens tip bulb for heating. A thermal sensor will control them.

### Assemble the model:

Step 1: Build the Temperature Control Model as shown in these assembly instructions.

Step 2: Wire the thermal sensor to the **AX input** on the interface and program it with an "analog branch" (see Quick Guide).

Step 3: Wire the lens tip light and the motor to the **outputs M1 - M4** on the interface.

### Programming Tasks:

Task 1: Program the model so that the thermal sensor will turn on the heater (lens tip lamp) until an upper temperature value is reached. When that temperature is reached, the blower (fan) should turn on until the sensor is cooled to a lower temperature value.

#### Programming Tips:

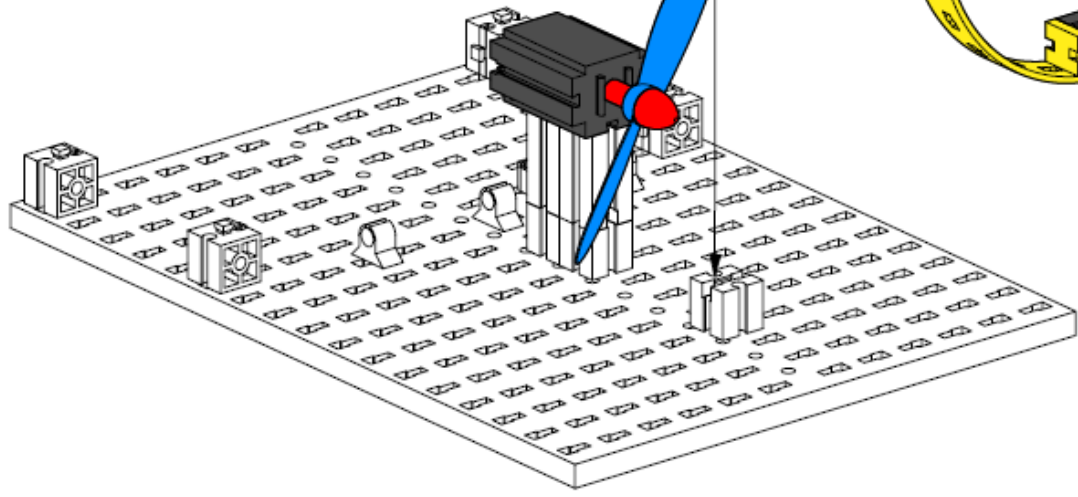
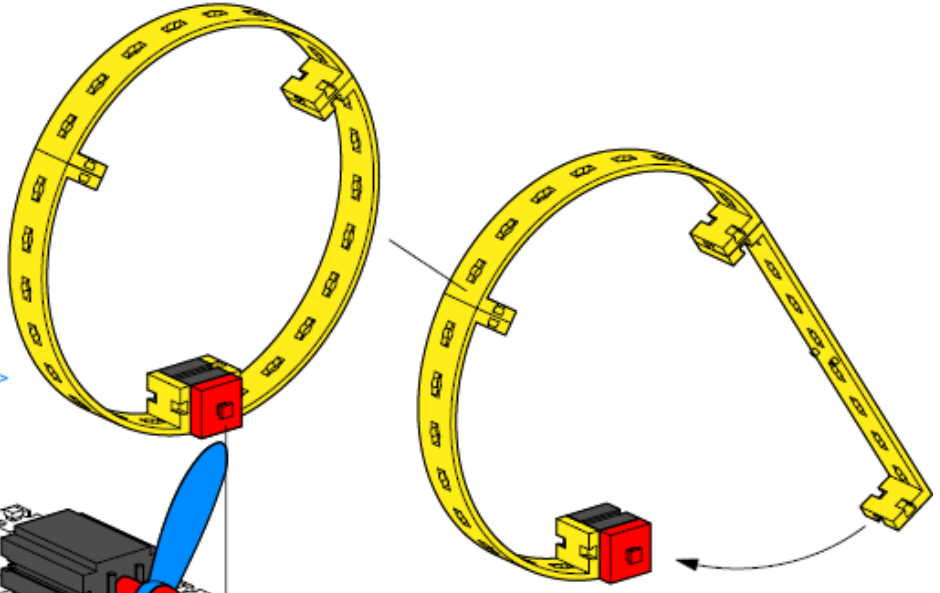
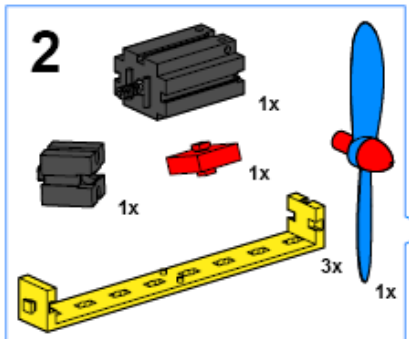
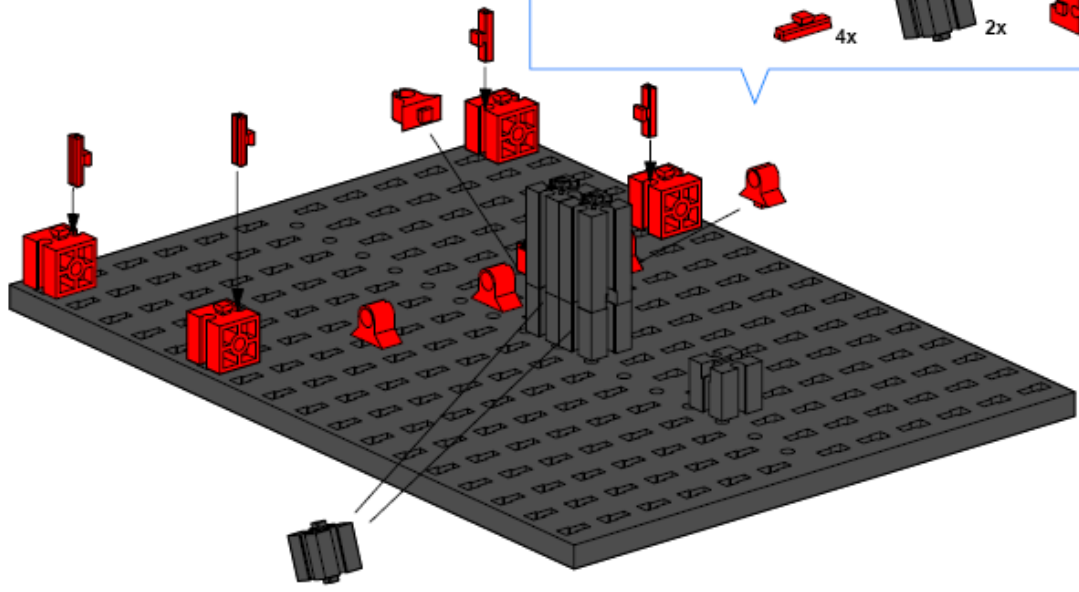
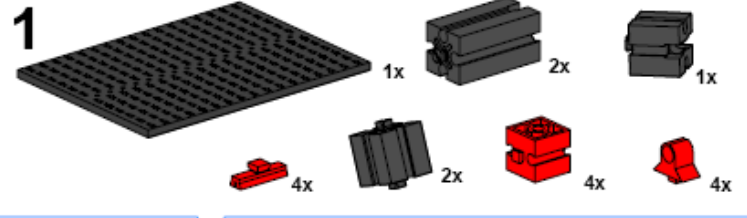
You will need to set the temperature limits in the analog branch element. The lower temperature value will be the larger number and the higher temperature value will be the smaller number (this is because the thermal sensor measures resistance which decreases as temperature increases). The temperature limits need to be set so that the model is either heating or cooling most of the time, not just sitting there.

Task 2: Modify your program to include a measuring device and text display to show the current value of the analog input. (a readout of the room's current temperature)

# Assembly Instructions

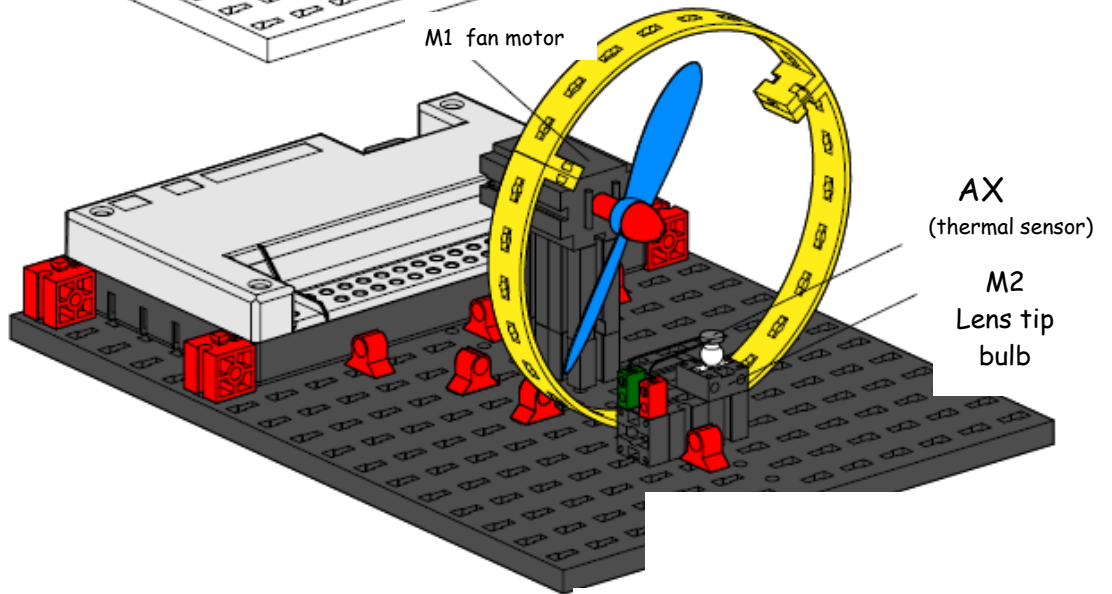
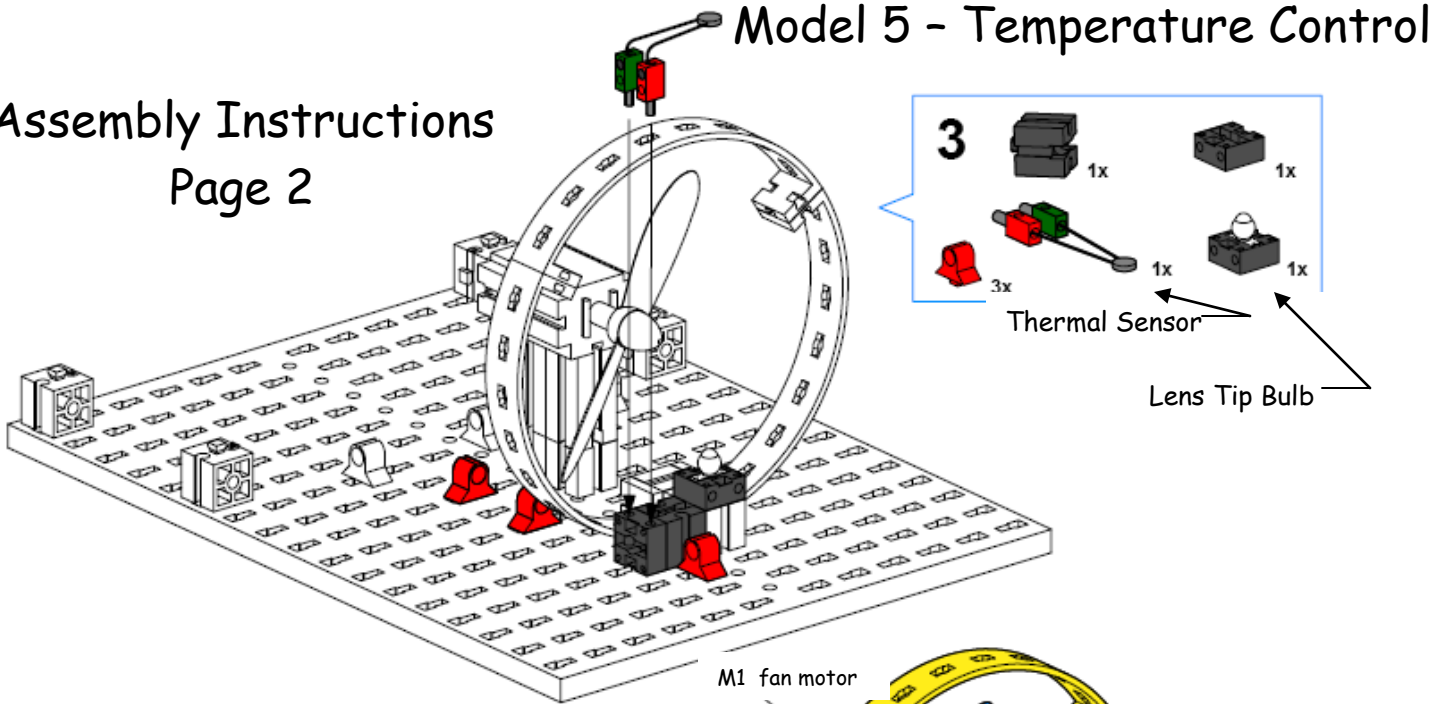
## Page 1

# Model 5 - Temperature Control



# Model 5 - Temperature Control

## Assembly Instructions Page 2



## Wiring Diagram

Note: our interface looks a little different from this picture.

