



Measuring temperature and relative humidity- KookaBlockly

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Overview

This tutorial/lesson plan describes how to create two [KookaBlockly](#) programmes to measure Relative Humidity (RH) and Temperature using the [DHT11 peripheral](#) and the [Kookaberry](#) microcontroller STEM platform.

One programme records constantly: the other at the press of a Kookaberry button.

PDF documents for both programmes, as well as the resources and learning outcomes component, can be downloaded from the sidebar to the right

Age

This plan is targeted at students in years 5&6 (Stage 3) but can be introduced in Stage 3 and as a bridging course between visual and text-based programming languages in Stage 4. This is because KookaBlockly allows students to see the text-based python code behind the blocks.

Time

This plan (without extensions) should take 1 hour of classroom time per programme.

Learning Outcomes

- Observe how data can be represented by numbers and symbols [*screen display*]
- Write and edit a programme in a visual programming language [*KookaBlockly*]



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- Recognise that steps in algorithms need to be accurate and precise [*position of text on screen*]
- Learn about, use and control an output device [*DHT11 peripheral*]
- Learn how to trouble shoot through trial and error whilst programming in real time [*vary position of text on screen*]
- Learn how to use variables in programs [*RH and T are two independent variables*]
- Learn how to input and change user data in a programme [*selection of correct variable description*]
- Save and rename files across multiple locations [*Add a .kby suffix*]

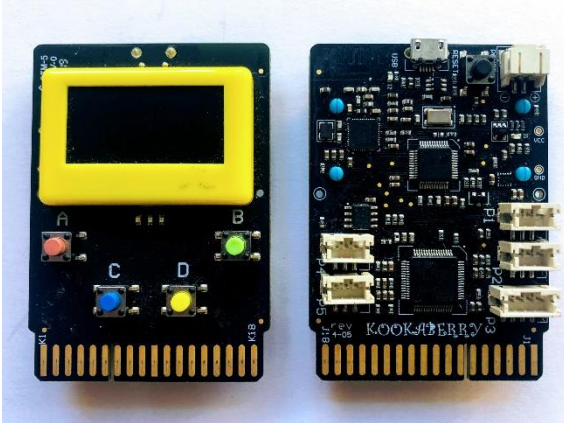
A map of learning outcomes can be downloaded from the sidebar to the right [*Note: Awaiting release of new National Technologies Curriculum*]

Learning Extensions

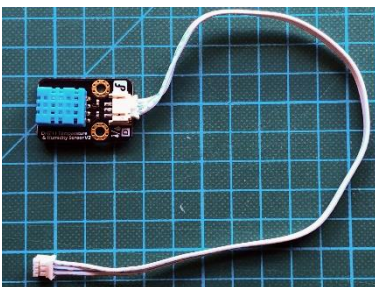
1. Add an output on P2 if T falls below a specified limit.

Resources

Kookaberry & USB lead



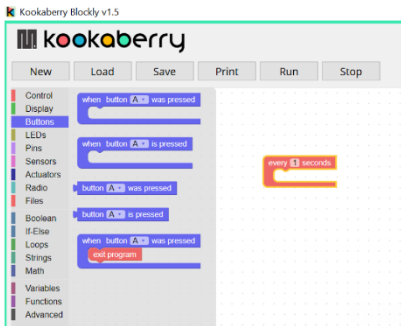
DHT11 Module plus 3pin JST peripheral lead





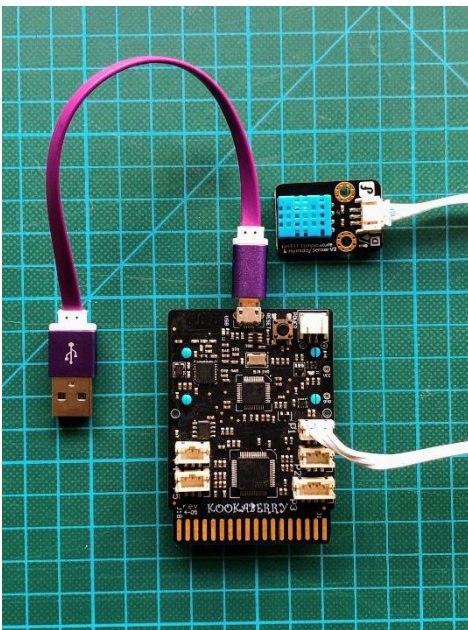
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KookaBlockly Visual Editor



Connecting up

Connect the Kookaberry to your PC or Mac, and plug the [DHT11 peripheral](#) into socket P1 on your Kookaberry



DHT11 Continuous

See separate PDF

DHT11 Buttons

See separate PDF