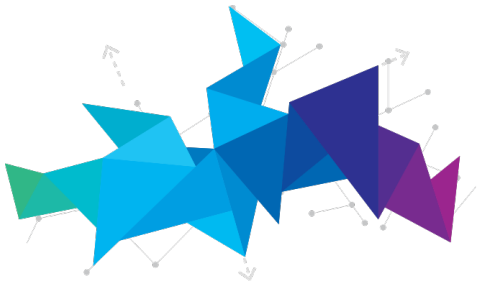
Curriculum Modules Explained



Activities for All

The following outlines the components you'll find in each of our curriculum modules. Try out our Intro to Arduino module to see all of these components in action – no databot™ or materials other than an active Internet connection and web browser is required!

Modules

databot™ curriculum modules are comprised of 6 sections, each presented as a separate page that you can download and print or access and use online. The following describes each of these sections and what to expect. Modules are designed to be easily accessible regardless of how you want to apply them or what learning environment you are working in. Each section can be done as a complete unit or "ala carte" if you just want to grab a quick activity to illustrate a concept or get students excited about a topic you are introducing.

Overview

The overview provides you with all the important background information on the module and what to expect. It includes:

- Target Age Range, Time to Execute, and Subject
- Learning Objectives for the Module
- Required Materials
- Important Terms
- Preparation for the Activity
- Educator Section that includes references, teacher prep, tips and tricks, guiding questions, and more.

Browse through the Module Overview to get a complete picture of the activities and learning objectives associated with the module.

PDQs 1 & 2

PDQ stands for Pretty Darn Quick!

These fast and fun activities are designed to be executed in 5-15 minutes and can serve a number of functions such as:

- Icebreakers. For groups of students new to each other in a camp, new classroom, after-school program etc. PDQs can provide short, fun, collaborative experiences that facilitate getting to know one another.
- Concept Enhancements. Quickly bring concepts to life using databot PDQs. Now, when you're introducing scientific concepts like Ultraviolet radiation or Carbon Dioxide you can inject a fast and fun hands-on demonstration that brings abstract concepts to life.
- Team Building. PDQs are perfect for collaborative learning where students will work together in small groups to devise experiments, gather data, and code clever projects that bring the numbers of science to life.

You will note in the PDQs and the longer "Experiment" activity that learning objectives, terminology, prep, and teacher support resources are all included to improve accessibility. Designed to fit a variety of learning environments including formal, non-formal, and informal, PDQs are an incredibly versatile tool to add to your teaching toolbox!

Experiment

The experiment is designed to be around 30 minutes in length and provides a deeper hands-on experience related to the topic. Together, the PDQs and Experiment will total about 50 minutes in length, designed to fit within a standard classroom period.

Code Challenge

databot™ is built on the Arduino open hardware/software platform and therefore provides a number of ways to take direct control of it and start programming. For educators who want to include a coding element, the optional coding extensions provide an inside look at the code that is running behind the scenes in an experiment, and challenge students to modify, extend, and make the code their own. Coding extensions are designed to take 20-30 minutes but can be easily modified to be much more extensive based on the desires of the instructor.

Collaboration

Each module includes a 20-30 minute classroom or group collaboration extension that enables educators to take advantage of peer-to-peer discussions and experimentation. Collaborative learning facilitates students engaging with one another as they ask questions, evaluate one another's ideas and review their collective work as a team.

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