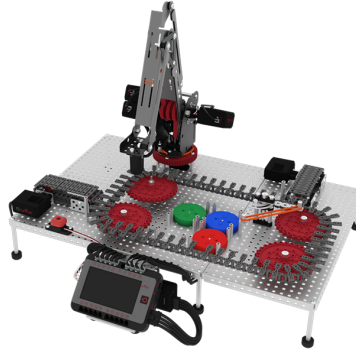


V5 Workcell Preview: Lab 9 - Using a Conveyor System

Grade(s): 9-12 | Time: 1.5 weeks



Description

Students will be introduced to conveyor systems on the Workcell and build a project to divert a red disk off of the conveyor system. Students will be introduced to using blocks from the 'Motion' category in their VEXcode V5 project to control the diverter and different conveyors with their associated motors. Students will also be reading about material handling systems and manufacturing system types.

Essential Question(s)

- What is a conveyor and how it is used to move objects?

Understanding(s)

Students will understand:

- How to code the individual motors of the conveyors and diverter in VEXcode V5.

Objective(s)

- Identify that the diverter is a device to move an object "on to" or "off of" a conveyor system.
- Identify that a conveyor is a type of system which can consist of belts, rollers, chains, moving mesh, or other components which moves materials from one place to another.
- Identify how to use the [Spin] block in VEXcode V5.
- Identify how to use the [Stop motor] block in VEXcode V5.
- Identify how to use the [Spin to position] block in VEXcode V5.
- Identify how to use the [Wait] block in VEXcode V5.
- Identify how to launch VEXcode V5.
- Identify how to open an example project in VEXcode V5.
- Identify how to name and save a VEXcode V5 project.
- Identify how to download and run a VEXcode V5 project.
- Identify how to add blocks to a VEXcode V5 project.

Vocabulary

Conveyors

A type of system which can consist of belts, rollers, chains, moving mesh, or other components which moves materials from one place to another.

Diverter

A device to move an object “on to” or “off of” a conveyor system.

Materials Needed

Quantity	Materials Needed
1 per group	V5 Workcell
1 per group	Build Instructions
1 per group	VEXcode V5
1 per group	Engineering Notebook
1 per group	Device to run VEXcode V5
1 per group	Micro-USB cable
2 per group	Colored Disks (1x red, 1x green)
1 per group	Seek Checklist
1 per student	Safety Glasses
1 set per group	Tools for cutting metal (saw, clamps, etc.)

Educational Standard(s)

- Next Generation Science Standards (NGSS) HS-ETS1-2: Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
- Next Generation Science Standards (NGSS) HS-ETS1-4: Models (e.g., physical, mathematical, computer models) can be used to simulate systems and interactions—including energy, matter, and information flows—within and between systems at different scales.
- Computer Science Teacher Association (CSTA) CSTA 3A-AP-18: Create artifacts by using procedures within a program, combinations of data and procedures, or independent but interrelated programs.
- Computer Science Teacher Association (CSTA) CSTA 3A-AP-13: Create prototypes that use algorithms to solve computational problems by leveraging prior student knowledge and personal interests.

Go to [this page](#) in the Knowledge Base to see a cumulative list of VEX V5 Workcell STEM Labs standards.