

# Maker Collection Launch Guide Introduction

Welcome to the Demco Maker Collection. This series of guides will task students with solving new challenges and learning new maker platforms as they progress through three distinct levels of the Demco Maker Framework. As students succeed at each level, they gain the confidence needed to take more risks and become more innovative creators.

## Getting Started:

The Demco Maker Guides are flexible and easy to use as either station-directed or teacher-directed activities. The station-directed setup allows groups to explore challenges independently and reduces costs as students rotate through three different stations. As an alternative, teachers may direct the whole class through each activity. However, this requires triple the materials, supplies, and products/platforms. For this reason, we recommend a station setup for most cases.

## Station Setup:

To get started with our student-directed station setup, follow these simple steps:

- Step 1** Pick your favorite Level 1 category bundle.
- Step 2** Set up three distinct stations using the material list and printables found in the category-specific Station Setup Guide.
- Step 3** Introduce the challenges to your students and let them learn as they work through each station over multiple days.
- Step 4** Repeat for each Level 1 category and then proceed to Level 2.
- Step 5** Move on to Level 3 Design Challenges once all Level 2 activities have been completed. Please read the Level 3 Setup Guide carefully as these design challenges are run differently than previous challenges.

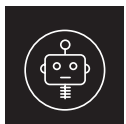
Note: For additional information or ideas, or tips on how to run each activity as a teacher-directed activity, please see full teacher guides.

## Categories:

Icons represent the various categories of activities in the Demco Maker Framework. Use the icons, found in the top right corner of each guide, to help you quickly identify the specific category that you need.



**Low-Tech Making:** The building platforms in this level are simple to use and therefore allow students to focus on the challenge. Make sure students build several versions as they create, test, fail, and recreate the perfect low-tech solution to their challenge.



**Robotics:** The learning potential in this category is significant. Students may choose an activity from several available at each station and then work through stations multiple times to try different activities, enabling them to learn each robotics platform thoroughly.



**Energy & Power:** Through these activities, students will learn that energy is more than just electricity. Instead, they will be challenged to launch airplanes, create motors, and send secret messages.

## Maker Framework Levels:

Each level will help your students gain confidence through success in making. To that end, students will be given more and more freedom in how they solve the challenges as they progress through each level.

### Level 1: Exploration

In Level 1, students will work through a structured activity that helps them explore and learn a new maker platform/product.

### Level 2: Amplification

Activities at this level challenge your students to use the foundational knowledge and skills learned in Level 1 to solve new challenges creatively. Students will be shown example projects and then challenged to creatively modify them to solve their specific challenge.

### Level 3: Origination

In this final level, students receive a Design Challenge that they will solve with original ideas. Each group develops an innovative solution using any materials or platforms that you have available. For example, for the Ultimate Launcher Challenge, some students may use littleBits to build a launcher while another group uses K'NEX and rubber bands, and a third group uses Strawbees.

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**Demco**  
maker's guide

	LOW-TECH MAKING				ROBOTICS				ENERGY & POWER															
<b>ACTIVITIES:</b>	Level 1: A littleBit of Creativity	Level 1: Tinker Time	Level 1: Mr. Maker: 4th Floor	Level 2: littleBits Artbot	Level 2: Build a _____	Level 2: Mr. Maker: 24th Floor	Level 3: Design-Think a Toy or Game	Level 1: All About Ozobot	Level 1: Robo Parade	Level 1: Hello, I'm Dash	Level 2: Coding with Ozobot	Level 2: Meeper Maze	Level 2: Coding with Dash	Level 3: Rescue Rally	Level 3: A Day in RoboVille	Level 1: Power Up in a Snap	Level 1: Starting With Morse Code	Level 1: Operation Launch	Level 2: Plane Fun!	Level 2: littleBits: Wind Turbine	Level 2: Motor Madness	Level 3: Ultimate Launcher Challenge	Level 3: Secret Agent Coder	
<b>PRODUCT PLATFORM:</b>																								
Dash Robot										x			x	x										
meeperBOT®									x			x		x										
Ozobot® Bit								x			x			x										
littleBits™ STEAM Student Set	x			x										x		x			x		x	x		
Snap Circuits® 300															x						x			x
K'NEX® Maker Kit			x			x	o							o	o				x			o	o	
Makedo® Tool Set		x		x		x									o			x						o
Strawbees® School Kit		x		x		x									o			x	x			x	o	
Strictly Briks®						x	o		x			x		o	o									
<b>ADDITIONAL MATERIALS NEEDED:</b> (These are also listed on the student and teacher guides for each activity)																								
iPad, tablet, or smartphone with apps loaded								x	x	x	x	x	x	x										
Student computer		x			x														x					
Assorted recyclables: cardboard boxes, tubes, containers, etc.		x		x	x		x					x		x					x					
Craft items/tools: scissors, rubber bands, tape, glue sticks, rulers, craft sticks			x	x	x	x	x					x	x						x	x	x	x	o	
Crayons, markers, colored pencils				x		x							x											
Red, green, blue, and black markers (use with Ozobots)								x			x													
Large sheets of white paper											x													
Blank paper				x																x				
Index cards					x																	x		
String/yarn					x																			
9V battery																				x				x
AA batteries																				x				
Ping-Pong balls																					x			
International Morse Code																					x			
Fan (with three power settings)																						o		
Vocabulary cards (see teacher guide)			x																					
Dice													x											
Miniature/action figure																								
Buckets—one per team, all the same size																								x
Plastic cups—various sizes																								x
Camera					o																			

x = Primary Use  
o = Secondary Use