FIRST LEGO LEAGUE DISCOVER

FIRST® LEGO® League Discover – Learning Progression

The *FIRST*® LEGO® League Discover learning progression below outlines the differences in student learning outcomes for the program by grade level. It articulates the sequencing of learning that is expected with participation in that grade level. It could also occur as a result of multiple years of participation in *FIRST* programming. Written as a checklist that reflects clearly articulated learning expectations from the perspective of the student to articulate learning while preparing students for more challenging and sophisticated concepts at the next level. The basic idea is to make sure that students are learning age-appropriate material, knowledge, and skills that are neither too advanced nor too rudimentary. This progression could be repurposed as a student-facing document to be used as a reflection of learning upon completion of the *FIRST* LEGO League Discover experience.

I have DISCOVERED these skills – checklist for *FIRST*® LEGO® League Discover

	Pre-Kindergarten YEAR 1	Kindergarten YEAR 2	Grade 1 YEAR 3
Science	☐ I engage in STEM (science, technology, engineering, and math) talk, and observe objects, materials, and events. I ask questions to gather information and make predictions.	☐ I discover how different actions of push and pull change the motion of an object and when objects collide, they can change motion.	☐ I recognize that bigger pushes and pulls make things speed up or slow down. I can gather evidence from simple tests.
Math	☐ Using my LEGO® DUPLO® bricks, I can understand numbers and quantities, and describe, compare, and compose shapes along with exploring the position of objects in space.	☐ I can describe attributes of an object such as length and weight. I can compare objects as having more or less than by describing the difference.	☐ I can show that I understand how to measure something and build or draw shapes that have certain shapes using two-dimensional and three-dimensional shapes.
Language and Communication	☐ I understand some STEM words and phrases, and I can use them in conversation when responding to simple questions. I can identify my feelings about each session and show how what I have built means to me.	☐ I can ask and answer questions about important details in the Engineering Notebook using new STEM words. I can use details when telling people about my models and what I have built in each session.	☐ I can write and understand new STEM words that describe actions that I completed or observed. I can use drawings to help add details to what I share about what I have built and share my ideas clearly.
Engineering Design	☐ I generate ideas to solve a problem and choose a variety of ways to plan my design and build a solution.	☐ I can analyze two objects that solve the same problem and compare the strengths and weakness of how each performs.	☐ I can create a simple sketch, drawing, or physical model to illustrate how it functions and articulate how my Discover model functions to solve the problem.
Computational Thinking	☐ I associate a sequence of events that I take to complete daily routines and tasks.	☐ I break down more complex problems into smaller pieces and design simple steps to solve problems.	☐ I can recognize patterns and make connections between similar problems. I focus on the important steps in each session and identify information I need to solve the problem.

Contact firsteducation@firstinspires.org for additional information.

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