

STEAM Park

Teacher Guide Introduction

Who is the material For?

The STEAM Park Teacher Guide is for preschool teachers. It is designed to help teachers develop children's science, technology, engineering, art, and math (STEAM) skills, including understanding cause and effect relationships, making predictions and observations, problem-solving, and creating representations.

What is it For?

Throughout the lessons, children will explore the world around them as they use functional elements to build interactive models.

Using the Teacher Guide, preschool teachers can facilitate exciting lessons in which children learn to think like scientists as they build models, and experiment and test ideas to answer questions such as:

- Which items will sink? Which items will float?
- What will happen if I roll the car down the ramp?
- How can I make a chain reaction?

How are the learning objectives achieved?

Throughout the lessons, strategic questions will guide children through the process of applying science, technology, engineering, art, and math skills. Furthermore, the LEGO® DUPLO® building activities will reinforce the children's creativity.

The Teacher Guide includes two Getting Started lessons designed to introduce the children to the basic ways they will be using the STEAM Park set. Introducing these activities first will give the children a solid foundation for completing the other six lessons. Subsequent lessons may be selected according to what is most relevant and appropriate for the children.

Appendix with Images

The appendix contains three types of printables: templates, graphs, and inspiration photos showing lesson-related models. The inspiration photos can be used to help the children connect to the lesson, and may also be used as building inspiration when children are constructing their own models.

Customizing to Your Class Needs

The STEAM Park lessons can be tailored to your needs and the needs of your class. One STEAM Park set can be used with up to six children at a time, working in pairs. Children need a lot of practice before they become proficient at building with a partner, and this is a good way to promote collaboration. The activities can be done in centers or stations around the classroom, or in small groups.

Lesson Structure

Each lesson is structured according to a natural learning flow called the *LEGO Education 4C Approach*, which promotes successful learning experiences. The Connect and Construct phases, which are the first two phases of each lesson, can be done in one 20-minute session. To ensure that young children are actively engaged, the Contemplate and Continue phases can be completed during a later session.



Connect

During the Connect phase, short stories and discussions will spark children's curiosity and activate their existing knowledge while preparing them for a new learning experience.

Construct

In this phase, the children will participate in a hands-on building activity. As their hands create models of people, places, objects, and ideas, their minds will organize and store new information related to these structures.

Contemplate

During the Contemplate phase, children are given the opportunity to reflect on what they have done, and to talk about and share insights they have gained during the Construct phase of the lesson.

Continue

New challenges in this phase build upon the concepts children learned previously in the lesson. These extension activities enable children to apply their newly-acquired knowledge.

Did you notice?

The science, math, and technology guidelines from the National Association for the Education of Young Children (NAEYC) have been used to develop the STEAM Park lessons. Please refer to the separate STEAM Park Teacher Guide learning grid for an overview of these education guidelines. The learning goals listed at the end of each lesson can be used to determine whether or not each child is developing the relevant skills. These bullet points target specific skills or pieces of information that are practiced or presented during each lesson.

