

**FIRST
LEGO
LEAGUE**

DISCOVER

TEAM MEETING GUIDE



Welcome!

In *FIRST*® LEGO® League Discover, children are introduced to the fundamentals of STEM while working together to solve fun challenges and building models using LEGO® DUPLO® bricks. Students gain habits of learning, confidence, and teamwork skills along the way.

FIRST LEGO League Discover is one of three divisions by age group of the *FIRST* LEGO League program and serves the youngest children. This program inspires young people to experiment and grow their confidence, critical thinking, and design skills through hands-on STEM learning. *FIRST* LEGO League was created through an

alliance between *FIRST*® and LEGO® Education.



FIRST® DIVESM and SUBMERGEDSM

Welcome to the *FIRST*® DIVESM season presented by Qualcomm. This year's *FIRST* LEGO League challenge is called SUBMERGEDSM.

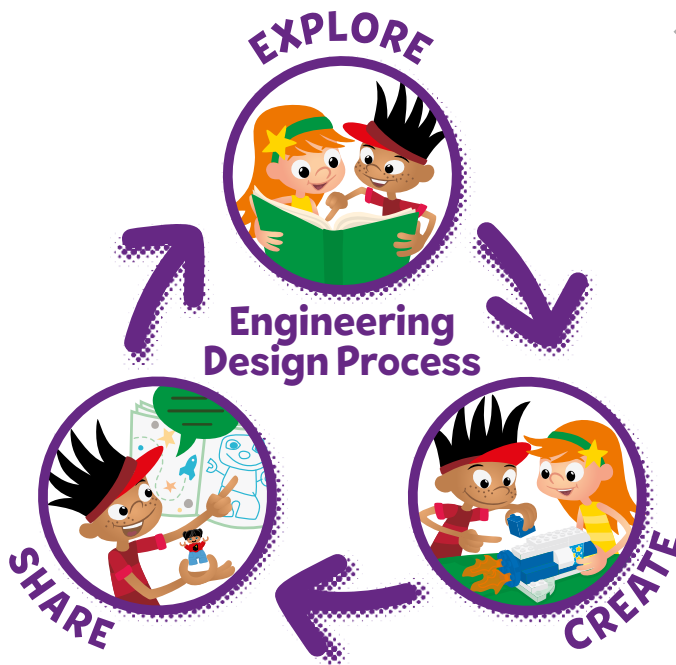
More than 80% of the ocean remains unexplored, offering curious minds deep opportunities to dive into expeditions. Children will explore beneath the ocean surface and learn how this

complex ecosystem is studied to support a healthy future for the plants and animals that live there.

Children will work together in teams using DUPLO pieces from STEAM Park by LEGO Education and the Discover set. Children should be encouraged to work with their teammates, listen to each other, take turns, and share ideas and pieces.



PRESENTED BY Qualcomm



Program Outcomes

The children will:

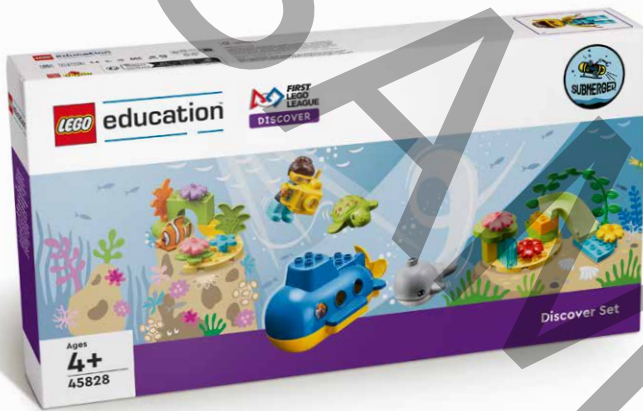
- Use and apply the *FIRST* Core Values, habits of learning, and engineering design process to create solutions.
- Explore the season theme and their ideas through collaboration, building, and playful learning.
- Create and test their ideas and solutions.
- Share and communicate what they have learned with each other and others.

Season Materials

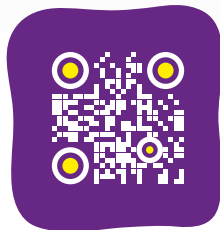
Discover Set (serves 4 children)

The Discover set consists of the Discover model, LEGO® DUPLO® figures, Six Bricks sets, mat, and building cards. The Discover model is intended to help children connect to the theme and provide a starting point for discussions. The mat is used as a collaboration space to bring the models together and to generate ideas for building.

Each Discover set includes four sets of Six Bricks for use in the classroom. There are enough sets to give one to each child. Each child will need one of each of the six colored bricks.



Building Cards



Scan me
and view the
Discover Set
Video



Six Bricks Sets*



Mat

Tip!

The back of the Discover set box can be used to extend the mat!

*The Six Bricks from the Discover set should remain in the classroom.



Engineering Notebooks (per child)

You will receive a set of *Engineering Notebooks*, which provide a place for children to record ideas and drawings. There

is one page to fill in for every other session. Provide one notebook to each child.



Discover More Set (per child)

The Discover More set is designed for children to take home and keep even after their Discover experience is complete. The families should keep the Discover More sets, and they don't need to

come back to the classroom. The set includes two sets of Six Bricks for an adult and child to participate in the activities and play a game together.

STEAM Park by LEGO® Education (serves 8 children)

All teams will use the STEAM Park set to explore STEAM concepts and form the basis of their team model. This set will be used throughout sessions, as well as at the celebration.

We suggest pre-teaching the following sessions from the teacher guide if the class or students are new to STEAM Park:

1. Functional Elements
2. Welcome to STEAM Park
3. Gears

There is also a *STEAM Park Teacher Guide* that contains lesson plans as well as other ideas and inspiration.



Scan me for
STEAM Park
lessons

Tip!

STEAM Park comes in a cardboard box. You could store STEAM Park in a plastic storage tub, which might be better with frequent use.



Sessions At-A-Glance



	Six Bricks Warm-Up 10 minutes	Explore Task 10 minutes	Create Task 25 minutes	Share Task 15 minutes
Session 1 Let's Discover	Discover Six Bricks I	Ocean Overview	Explore STEAM Park	Share Prompt
Session 2 Ocean Journey	Discover Six Bricks II	Ready for Adventure	Submarine Build	Engineering Notebook Page
Session 3 Sunlight Zone	What Can You Build?	Coral Reefs	Coral Reef Build	Share Prompt
Session 4 Artificial Reef	Build the Picture	Shipwrecks	Artificial Reef Build	Engineering Notebook Page
Session 5 Deep Ocean	Can You Remember?	Deep Ocean	Deep Ocean Vehicle Build	Share Prompt
Session 6 Ocean Research	Back-to-Back	Jobs and Tools	Attachment Build	Engineering Notebook Page
Session 7 Ocean Rescue	Build a Bridge	Animal Care	Animal Rescue	Share Prompt
Session 8 Ocean Facts	Future Ship	Ocean Review	Ocean Build	Engineering Notebook Page
Session 9 Future Ocean	It Takes a Team	Reflection	Future Ship Build	Share Prompt
Session 10 Let's Celebrate	CELEBRATION EVENT!			

Each session provides a deeper connection to support you in your teaching.

As you go through these sessions, don't worry if you don't know all the answers – allow the children to ask questions, make discoveries, and iterate on their designs.

Each session has a big question that can be shared to frame the session.

What do we know about oceans?

Six Bricks Warm-Up (10 minutes)

Discover Six Bricks 1 (see Appendix for full activity)

Locate the six brick sets in the SUBMERGEDSM Discover set. Provide each child with a set of Six Bricks. They will use these Six Bricks throughout the sessions to learn new skills and explore new ideas.

Explore Task (10 minutes)

Lead a discussion about the **oceans**. Let the students share anything they know about oceans around the world. Introduce the idea of an ocean **habitat**. Discuss what animals or plants live in different parts of the ocean.

Look at the pages of the Discover Story and discuss what can be seen in each of the illustrations. Ask the children what they notice.

Explain **FIRST**[®] LEGO[®] League Discover to the children and proceed to the next task.

Create Task (25 minutes)

Have the children build using the different pieces in STEAM Park. Encourage them to play freely and build anything they want that relates to the oceans or how they are **explored**. They could build something like a ship, an animal, or a habitat.

Share Task (15 minutes)

Have the children share and explain what they built and how the pieces relate to ocean exploration. They could share in pairs or in their teams if they aren't comfortable sharing with entire class. All the children's builds will be meaningful, and there is no one right answer to these sessions.

Outcomes

The children will play with STEAM Park, building creatively and trying new things.

The children will identify LEGO[®] pieces that relate to what they know about the oceans.

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Tips

1 Send home the Discover More set with each child for home learning and exploration. Check out [page 7](#) for how to use this set for family engagement.

2 Check out the Functional Elements lesson for examples.

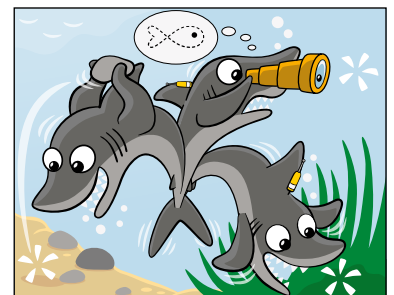


Scan for STEAM Park Lessons LEGO[®] Education

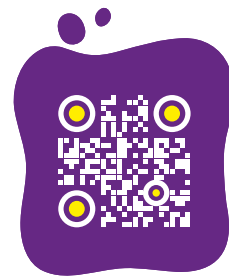
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Key Vocabulary

ocean, habitat, explore



Six Bricks Activities



Scan me to find more activities

In addition to the Six Bricks activities listed in this *Team Meeting Guide*, you can find more activities on learningthroughplay.com.

Discover Six Bricks I

Base Activity

1. Each child separates his or her bricks and spreads them out.
2. With closed eyes, they shuffle their bricks around.
3. Keeping their eyes closed, each child picks any brick and holds it up high.
4. Now they open their eyes and see what color they hold.

Part 2

5. Let them pick any brick, look at it carefully, and turn it around and over in their hands.

Guiding Questions:

- *What color brick do you have?*
- *Can you name all the different colors?*
- *Can you sort the bricks into warm and cold colors?*
- *Can you create a rainbow with your bricks?*
- *What color is your brick? How does it feel (rough, smooth, hard, soft, shiny, dull, etc.)?*
- *What spaces and shapes can you see on your brick? How many studs does each brick have?*

Children learn to:

- Play and become familiar with the bricks.
- Listen and respond to questions.
- Use descriptive language.



Discover Six Bricks II

Base Activity

1. Children lay out their bricks in any order (see the picture).
2. Then they put a finger on the red brick and move it left.
3. They turn the dark blue brick upside down (or on its side).
4. Children click the green brick on the red and cover all studs.

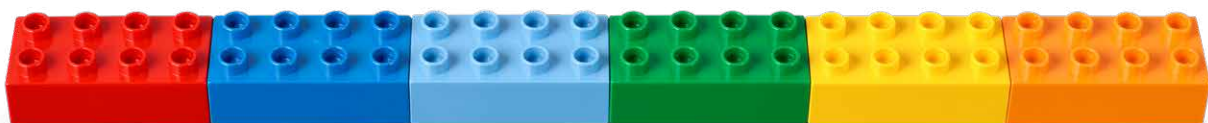
Vary the instructions you give such as colors, moving bricks left/right, and positions.

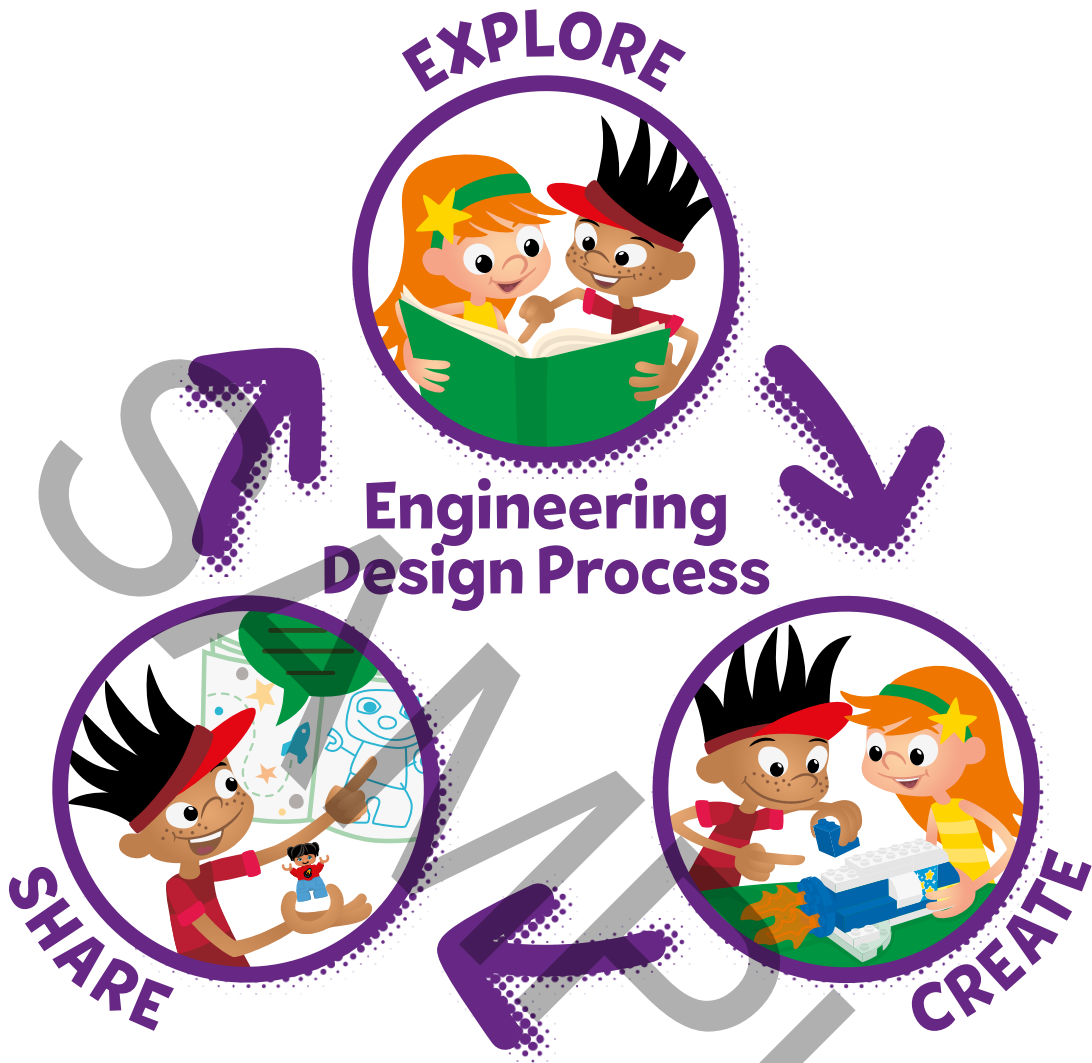
Guiding Questions:

- *How did you keep attention?* (Encourage some of the children to explain in turn.)
- *How can we make this activity harder?* (Give more instructions, say them faster...?)

Children learn to:

- Use spatial skills to orient themselves.
- Keep attention and resist distraction.
- Initiate activities.





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DISCOVER

ENGINEERING NOTEBOOK



Share what you have learned about the oceans!



Draw and write your ideas:

SAMPLE

Four sets of horizontal dotted lines for writing.

You are a great builder! What do you want to share about the ocean models you and your team created?

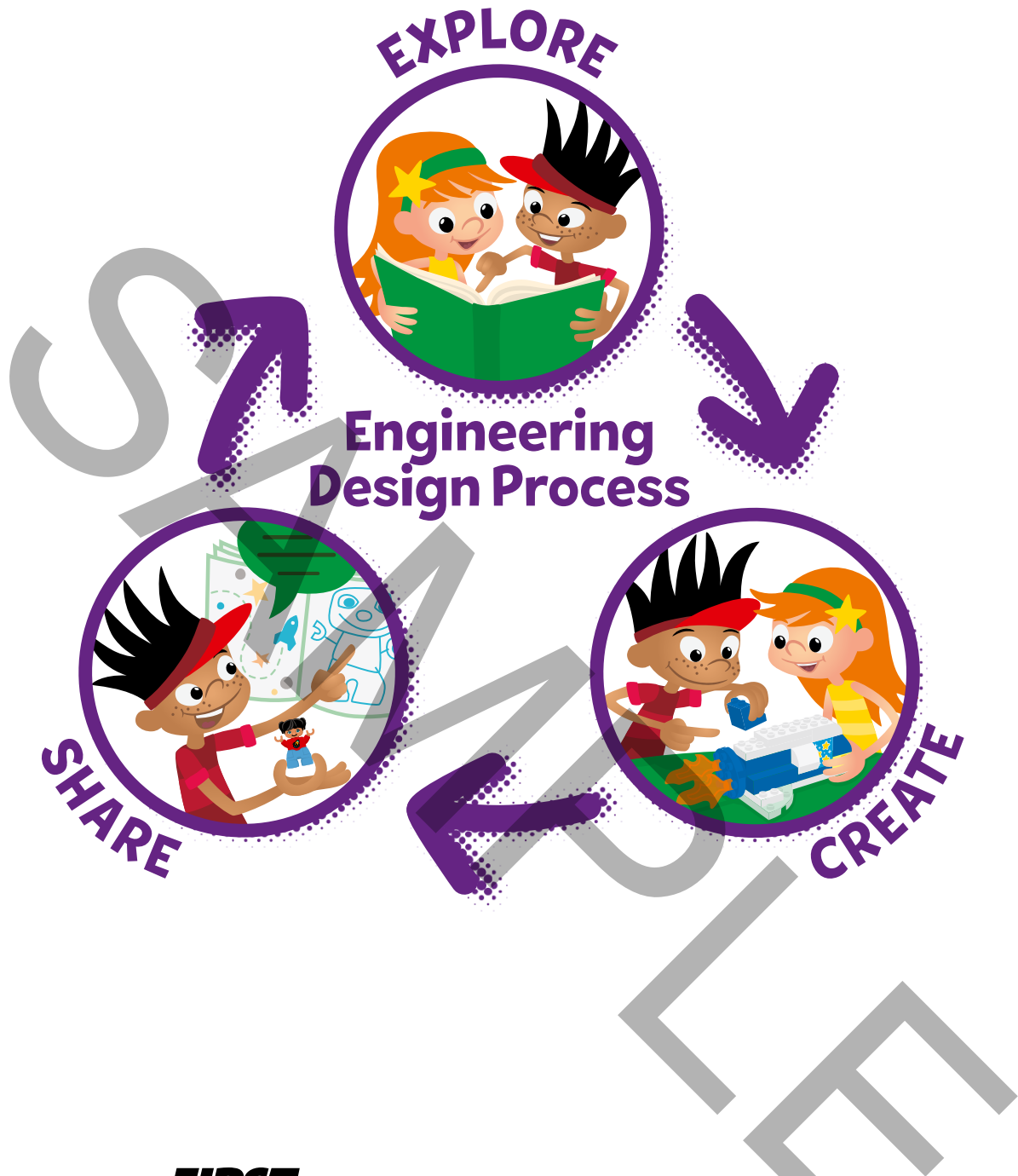


I will share...

SAMPLE



Four horizontal dotted lines for writing.



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