FIRST LEGO LEAGUE DISCOVER

TEAM MEETING GUIDE

SUBMERGED℠

FIRST

LEGO education

FIRST® LEGO® League Global Sponsors

The **LEGO** Foundation

LEGO education

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 LEGO LEAGUE

FIRST LEGO LEAGUE DISCOVER | FIRST LEGO LEAGUE EXPLORE | FIRST LEGO LEAGUE CHALLENGE

FIRST® DIVE℠ and SUBMERGED℠

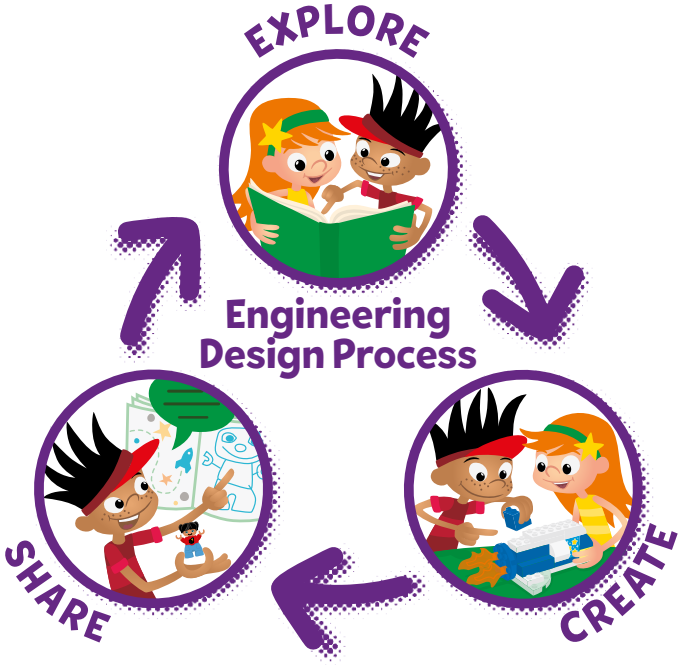
Welcome to the *FIRST*® DIVE℠ season presented by Qualcomm. This year's *FIRST* LEGO League challenge is called SUBMERGED℠.

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.

FIRST DIVE℠ PRESENTED BY Qualcomm

SUBMERGED℠



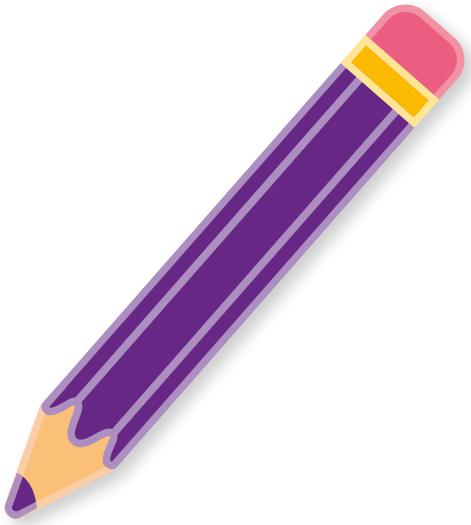
Program Outcomes

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.

Before You Begin!

Read this *Team Meeting Guide* before starting the sessions. Before each session, review the key vocabulary and tasks to understand what will be asked of the children. This guide contains useful information and facilitation tips to guide you through this experience.



- [ ] Ensure you have received all materials needed to implement the program. See pages 8-9 for what you need.
- [ ] Identify the space where you will implement the program and store materials between the sessions.
- [ ] Create a plan for facilitating the program. How often during the week will you meet? Will you complete a whole session at once or split the tasks across different times?
- [ ] Pick a date and location for the final celebration event (Session 10). Will you have it in your classroom and invite the children's families? The celebration event is outlined on page 10 with details on pages 25-26.
- [ ] Organize the children into small teams for the tasks. The recommended team size is four children.
- [ ] Unpack and organize your STEAM Park sets before starting Session 1.
- [ ] Play with STEAM Park to familiarize yourself and the children with the pieces. Try the lessons noted on page 9.
- [ ] Send the Discover More sets home with the children for family engagement.

Scan me for helpful resources

Playful Learning in Action

Research shows that when young children are engaged in playful STEM experiences, they ignite their natural curiosity, grow their knowledge, and develop habits of learning. When educators nurture these natural-born scientists, they build a bridge between the real world, STEM skills, and literacy.

FIRST® Core Values

The *FIRST*® Core Values are the cornerstones of the program. They are among the fundamental elements that distinguish *FIRST* LEGO® League from other programs of its kind. By embracing the Core Values, children use discovery and exploration of the theme and learn that helping one another is the foundation of teamwork.

Teamwork
We are stronger when we work together.

Inclusion
We respect each other and embrace our differences.

Impact
We apply what we learn to improve our world.

Fun
We enjoy and celebrate what we do!

Discovery
We explore new skills and ideas.

Innovation
We use creativity and persistence to solve problems.

Habits of Learning

In *FIRST* LEGO League Discover, children are given meaningful problems to solve. They work together to wonder and question, build and tinker, listen and share. By the end of their experience, children emerge more confident and better equipped to face future challenges.

It is important the children have fun. The more playful the sessions are, the more motivated and excited they will be. Don't worry if you don't know all the answers, and remember, there is no such thing as failure! If something goes wrong, you learn from it and try again.

Early STEM Skills

Children will develop early STEM skills including:

- **Science**: cause and effect, gravity, force, motion, and simple machines
- **Technology**: tools and investigating how things work
- **Engineering**: creating designs, building solutions, and solving problems
- **Math**: abstract and quantitative reasoning, attributes of objects, and shape identification

Family Engagement

Families who participate together in *FIRST*® LEGO® League discover the power of curiosity, creativity, and problem solving, building the foundation for lifelong confidence in STEM learning.

Each child should take home one Discover More set, which contains two sets of Six Bricks. Encourage the families to play the game at home. The set is theirs to keep. You can always order more for your future classes.

Scan me and view the Family Engagement Resources

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

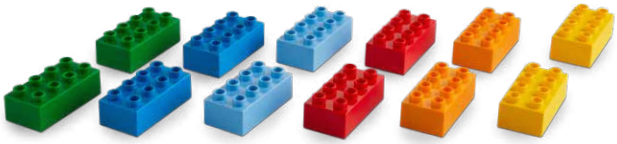
Tip!

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.

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

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

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.

What Is the Celebration EVENT?

The final session in the *FIRST*® LEGO® League Discover experience is a celebration event. All children should participate in the celebration. The children will love sharing with others what they have built and learned. It could be held in your usual session meeting space, a classroom, a library, or anywhere else that has appropriate room for the teams to spread out, build, and have fun.

Tip!

See pages 25-26 for more details on the event day.

BEFORE THE EVENT:

- Choose a time and space.
- Send invitations to families, caregivers, teachers, and friends.
- Find volunteer reviewers*.
- Print reviewing prompts (page 26) and certificates.
- Read Session 10 to understand what should happen during the celebration event.

DURING THE EVENT:

- Lay out the mats so teams can build on them. You could push them together so two teams can work together.
- Assign at least one adult reviewer with each pair of teams.
- Get the kids excited for the final challenge.
- Ensure the reviewers talk with the children.
- Hand out certificates at the end of the celebration.
- Have fun and celebrate the children's achievements.

AFTER THE EVENT:

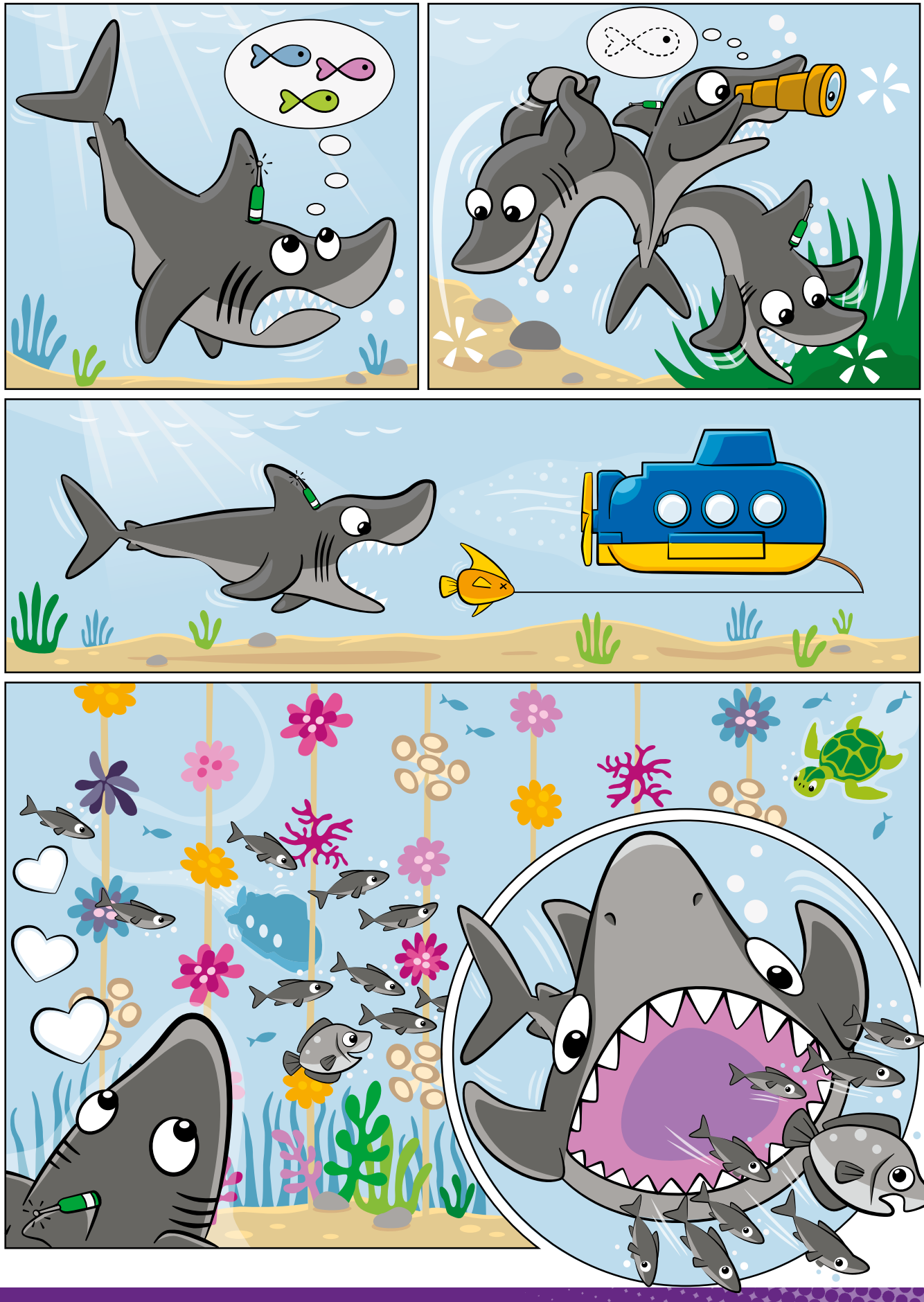
- Teach the other STEAM Park lessons.
- Continue to teach other STEAM activities related to the theme.
- Find opportunities to use the vocabulary learned through the experience.
- Have the children use their teamwork skills in other sessions.

* Reviewers are adults who listen to what the children have learned throughout their experience and provide encouraging feedback.

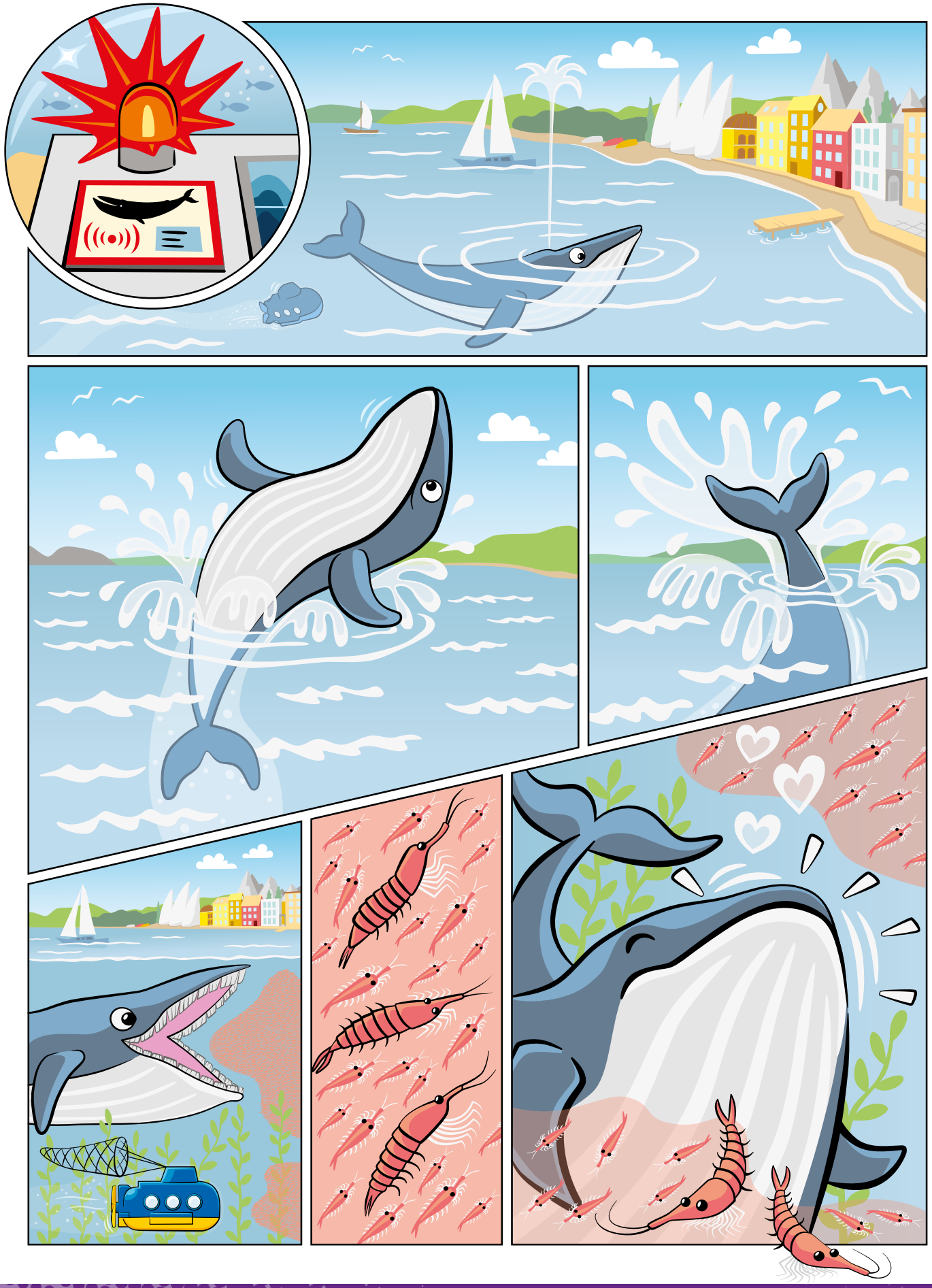
Sessions At-A-Glance

	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!			

Discover Story



Discover Story



Session 1 Let's Discover

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?

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.

Six Bricks Warm-Up (10 minutes)

Discover Six Bricks I *(see Appendix for full activity)*
Locate the six brick sets in the SUBMERGED℠ 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. 1

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. 2

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.

Tips

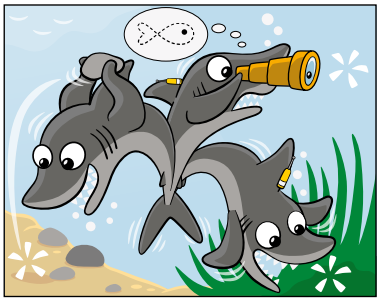
1 Send home the Discover More set with each child for home learning and exploration. Check out page 7 for how to use this set for family engagement.

2 Check out the Functional Elements lesson for examples.

Scan for STEAM Park Lessons LEGO® Education

Key Vocabulary

ocean, habitat, explore



Session 2 Ocean Journey

Look at the questions in the Explore task. Ask the students questions of different levels and complexity so that they further develop their thinking skills. This will lead them on their learning paths.

Outcomes

Teams will describe how to prepare for an ocean journey.

The children will document features of a ship in their *Engineering Notebooks*.

What do you need for an ocean journey?

Six Bricks Warm-Up (10 minutes)

Discover Six Bricks II *(see Appendix for full activity)*

Explore Task (10 minutes)

Show the Discover Story to the children again and point out the submarine on each page. Tell them they will be getting ready for a journey into the ocean to see what they can discover.

Ocean adventures start on the **seashore**. Discuss how a **crew** will get ready for their trip.

- What will their **ship** look like?
- What do ocean explorers need for their journey?

Create Task (25 minutes)

Have each team build the submarine from the Discover set, using the building cards. They can place the submarine on the mat to start their journey. In the following sessions, the children will explore different ocean depths and the creatures that live there.

Have teams use the STEAM Park set to build additional pieces of their ocean journey. Have them look at the mat and think about where they could explore as ocean adventurers. As with Session 1, encourage them to build freely, using their creativity and imagination to create new and amazing designs.

Share Task (15 minutes)

In their *Engineering Notebooks*, have the children write about or draw a picture of the ship they will travel on during their imaginary ocean journey. The children can also share and describe what they built.

Tips

1. The Discover Story is also found on the back of the mat.
2. Building cards in the Discover set provide visual instructions to make the different parts of the Discover model.

Key Vocabulary

seashore, crew, ship

Session 3 Sunlight Zone

This session introduces problem-solving tasks. Problem-solving is a habit of learning children should practice. Encourage the teams to persevere in the creation of their solutions. Teams can communicate and share their solutions with others.

Outcomes

Teams will explore how scientists learn about living things in the sunlight zone.

Teams will build a coral reef and talk about animals that live there.

How can we protect coral reefs?

Six Bricks Warm-Up (10 minutes)

What Can You Build? *(see Appendix for full activity)*

Explore Task (10 minutes)

The **sunlight zone** of the ocean, which includes **coral reefs**, is full of life. Coral reefs can be damaged easily, and scientists must be careful when exploring these special places.

Fish and other animals make coral reefs their home. Ask the children if there is anything in their home that is fragile and needs to be protected. Show examples of natural reefs around the world (i.e., the Great Barrier Reef). Share examples of the living things that can be found in a coral reef.

Create Task (25 minutes) 1

Have the children assemble the coral reef and seagrass meadow from the Discover set and place them on the mat. They can use the building cards to help them get started.

Have each team expand their coral reef by adding examples of **ocean life** or other underwater structures. They could build seaweed, fish, whales, or snails. Use the Discover set and allow them to add pieces from the STEAM Park set to encourage creative building.

Share Task (15 minutes) 2

Have each team share what they chose to include in their reef. They could explain different features of their reef and how they would carefully move through the water to learn about the animals that live there.

Tips

1. Children may be inspired to create their own designs different than what's on the building cards.
2. Encourage the teams to talk about their reef, the animals found there, and how they will observe them.

Key Vocabulary

sunlight zone, coral reef, ocean life

Session 4 Artificial Reef

Provide real-world examples, including photos and videos, when introducing the tasks. Set expectations for use of voice when sharing ideas. Expect productive talk, movement, and interactions between children. Circulate and redirect children to the task as needed.

Outcomes

Teams will understand why artificial reefs can be helpful to the environment.

The children will document their artificial reef in their *Engineering Notebooks*.

Why do people create artificial reefs?

Six Bricks Warm-Up (10 minutes)

Build the Picture *(see Appendix for full activity)*

Explore Task (10 minutes)

Ask the children to recall the previous session about coral reefs and the animals that live there.

Artificial reefs are created for many reasons but most often to create new places to live for ocean life. **Shipwrecks** and other large objects can provide **shelter** for fish and other animals. An artificial reef can be seen on the second page of the Discover Story. Give examples of materials used to create artificial reefs (i.e., rocks, concrete, metal).

Create Task (25 minutes) 1

Have each team build an artificial reef using the STEAM Park set. The team should build their artificial reef on the mat. The team can refer to the Discover Story to help get them started.

The children should work together to create their reef. They can use their imagination to think about what it is made of, where in the ocean it is located, and what types of ocean life live there. If additional water-themed pieces are needed, they may use the Discover set. 2

Share Task (15 minutes)

In their *Engineering Notebooks*, have the children write about or draw a picture of their artificial reef. At the end of the session, have the children share what they built in the Create Task.

Tips

1. Allow the children to be creative and use any elements that will help complete their reef design.
2. The team could divide responsibilities between the different parts of the reef they build.

Key Vocabulary

artificial reef, shipwreck, shelter

Session 5 Deep Ocean

Take what the teams have learned and challenge them to take it one stage further. Take notice in this session how they can apply knowledge of the functional elements in STEAM Park set. Check out the Functional Elements lesson for more guidance.

Outcomes

Teams will use imagination and creativity to create a deep-sea vehicle.

Teams will apply knowledge of functional pieces to create a model with moving parts.

How would you explore the deepest parts of the ocean?

Six Bricks Warm-Up (10 minutes)

Can You Remember? *(see Appendix for full activity)*

Explore Task (10 minutes)

Introduce the idea of exploring the **deepest** parts of the ocean. Use the following questions to guide your discussion:

- How can you safely explore the bottom of the ocean (i.e., **submarines**, 1 autonomous underwater vehicles [AUV])?
- How do you learn about the environment (i.e., water testing, thermometers, pictures)?
- Why is it important to learn about the bottom of the ocean?

Create Task (25 minutes)

Have the children build a submarine or other type of deep-sea vehicle that can travel to the deepest part of the ocean using the STEAM Park set. Children may also choose to modify the submarine included in the Discover set.

Have each team pick out the **functional** pieces in the STEAM Park set and show how they move. The vehicle should make use of functional pieces that will help it move carefully through the water. The vehicle and its moving pieces should be placed on the part of the mat that represents the greatest depths.

Share Task (15 minutes) 2

Have the teams describe the movement in their models. The teams could share together to give them more confidence in talking in front of people. They can talk about the design of their vehicle, what features it has, and what they hope to discover at the bottom of the ocean.

Tips

1. The children could reference the Discover Story to generate ideas.
2. The team could keep their vehicles assembled for use in the next session.

Key Vocabulary

deep, submarine, functional

Scan for STEAM Park Functional Elements lesson

Session 6 Ocean Research

Provide real-world examples, including photos and videos, of people who have jobs related to studying the oceans. Be sure to include examples of the technology, tools, and vehicles used in their jobs.

Who are the people that explore the oceans?

Six Bricks Warm-Up (10 minutes)

Back-to-Back *(see Appendix for full activity)*

Explore Task (10 minutes) 1

Have the children think about the different jobs people have when they work on an ocean exploration team.

You could ask the children:

- What does a ship **captain** do?
- What does a **marine biologist** do?
- What **tools** do these people use in their jobs?

Have some children act out different jobs related to ocean exploration and select others to guess what they are pretending to do. Then repeat, swapping the children acting and guessing.

Create Task (25 minutes)

Tell each team they need to design a way to collect something from the bottom of the ocean. They may modify their ship from the previous session or create a ship attachment. Remind the children of the different jobs to give them ideas about what they want to collect (i.e., water, rock, plant).

The teams could use pieces from the Discover set and STEAM Park and the various LEGO® DUPLO® figures to represent different workers, their tools, and equipment. 2

Share Task (15 minutes)

In their *Engineering Notebooks*, have the children write or draw a picture of a person in a job previously discussed. They can also draw a picture of the tools, objects or vehicles needed for the job.

Outcomes

Teams will learn about different jobs that are connected to ocean exploration.

Teams will identify tools, objects or vehicles used in ocean jobs.

Tips

1. Give examples of additional tools or jobs during the discussion.
2. Teams could talk about the different jobs in their model by acting them out.

Key Vocabulary

captain, marine biologist, tools

Session 7 Ocean Rescue

Think about how the STEM content is explored in this lesson. When the children ask a question, prompt them with a question back to guide their learning instead of giving them the answer. The children should be able to share facts from multiple sessions.

Outcomes

Teams will explore how people are involved in the rescue of ocean animals.

The children will demonstrate empathy toward oceans and ocean animals.

How can you help rescue an ocean animal?

Six Bricks Warm-Up (10 minutes)

Build a Bridge *(see Appendix for full activity)*

Explore Task (10 minutes)

Have a discussion about the different animals included in the Discover set. Ask the children to talk about where the animals live in the ocean (i.e., coral reefs, deep sea). Explain that animals in the wild are sometimes injured or lost and are in need of **rescue**.

You could ask the children:

- Have you ever needed to help an animal?
- What kind of expert knows how to help animals? (i.e., marine biologists, **veterinarians**)

Create Task (25 minutes)

Ask the children to think about how they would rescue a turtle or other ocean animal. Have them build a safe place for the animal while it is being transported to a veterinarian. They should include people and animals in their build.

After, have the teams build a way to release the healthy animal back into the ocean. They could use a **ramp** or the functional elements from the STEAM Park set.

Share Task (15 minutes)

Have the teams share their solution and show what they have built to safely move their animals. Each team could also share a story about the rescue of the animal.

Tips

1. Use the DUPLO figures in the STEAM Park set.
2. Check out the STEAM Park lesson on ramps for ideas.

Key Vocabulary

rescue, veterinarian, ramp

1

Scan for STEAM Park Park Ramps lessons

2

Session 8 Ocean Facts

This session is devoted to sharing knowledge. Encourage children to focus on creating something they want to teach others about and refrain from putting limits on what they build.

Can you share what you learned about the oceans?

Six Bricks Warm-Up (10 minutes)

Future Ship *(see Appendix for full activity)*

Explore Task (10 minutes) 1

Discuss the different topics the teams have learned throughout the sessions. Encourage children to share facts they learned about the oceans. Ask the children if there is anything we could improve in the way we explore the oceans (i.e., better navigation, artificial reefs, tools to collect **information**).

You could ask the children:

- How would you make it safer to travel to different parts of the ocean?
- Why is it important to take care of the oceans?
- What other questions do you have about the **unknown** parts of the oceans?

Create Task (25 minutes) 2

Assign a team an area of the Discover mat to focus on for the create task (i.e., coral reef, deep ocean). Tell the team they need to build something in their assigned area to help teach others about what they learned. Use pieces from the Discover and STEAM Park sets to create more possibilities.

Their model can be a ship, a reef, a habitat or anything else they can imagine. They should be able to talk about their model and how it fits into the area of the ocean they were assigned. They can **iterate** on their designs as the teams form new ideas.

Have the teams share what they built with the other children.

Share Task (15 minutes)

In their *Engineering Notebooks*, have the children write or draw about their assigned area of the ocean. They could write about a change or iteration they made on their model.

Outcomes

The teams will apply knowledge and experience from the previous sessions.

The teams will teach others about what they have learned about the oceans.

Tips

1. Review the Discover Story and vocabulary words to help the conversation.
2. Teams can choose an area that interests them or try multiple areas if time allows.

Key Vocabulary

information, unknown, iterate

Session 9 Future Ocean

Teams have learned about what it takes to go on an ocean journey and what ocean exploration can reveal. This session will challenge teams to think about how innovation can help to explore the oceans in the future.

Outcomes

Teams will reflect on their experiences throughout the sessions.

Teams will build an innovative vehicle that will help people learn about the oceans.

How will people explore the oceans in the future?

Six Bricks Warm-Up (10 minutes)

It Takes a Team *(see Appendix for full activity)*

Explore Task (10 minutes) 1

Ask the children to **reflect** on their experiences throughout the sessions.

Discuss the different places that ocean explorers visit and the challenges with each environment (i.e., low visibility, cold temperatures). Ask the children to think about creative ways to overcome challenges when exploring the ocean on their own ship.

You could ask the children:

- How would you improve a submarine so it can visit a reef and not damage any coral?
- What kind of tool or equipment would a diver need to stay warm underwater?

Tips

1. Encourage children to recall different sessions by using visuals like the mat or Discover Story.
2. Have the children tell a story about exploring the ocean.

Key Vocabulary

reflect, innovate, future

Create Task (25 minutes)

Tell the teams to apply everything they have learned this season to build an **innovative** and **futuristic** ocean exploration vehicle. They should think about the entire ocean journey from the seashore to the deepest depths. Who are the people on the vehicle and what do they want to learn? What kinds of animals will they encounter? How will their vehicle navigate in the dark?

The teams can use pieces from the Discover set and STEAM Park. Have them decide where their model should go on the mat.

Share Task (15 minutes)

Have the children share what they have built with the whole class. Have them explain their vehicle and what the exploration team wants to learn.

THE CELEBRATION EVENT IS NEXT!

2

Session 10 Celebrate!

Preparing the Teams (10 minutes) 1

Welcome the children and any guests to the celebration and tell them what they will do during the event. The teams will use their ideas to build a model that represents the ship they would use to explore the oceans. They will also share their *Engineering Notebooks* with reviewers. The reviewing prompts used by the adults will help ensure teams can relate what they do at the event to the sessions they have completed.

Final Challenge (30+ minutes)

At the event, challenge the teams to build the following models on the Discover mat:

- The complete Discover set
- A ship or other ocean vessel with at least one tool or piece of equipment. They can build the futuristic ship they created in Session 9. It's okay if they use some of the Discover set in their ship model.

After 10 minutes, the children can continue to work with their team, or teams can be paired to work together. Have the team update their models using one or more of the following prompts:

- Build a container to safely rescue an injured animal.
- Navigate your ship to a new area of the mat (or another teams mat) and collect a scientific sample along the way.
- Modify your ship model so that it includes one or more functional pieces.

Reviewing the Teams (during the event) 2

The reviewers should visit the teams during the final challenge, talking with them, asking questions and viewing their *Engineering Notebooks*. They can use the reviewing prompts on the next page to start a conversation. Encourage the reviewers to interact with the children. They should ask about what the teams have done throughout the program.

Celebrate (10+ minutes) 3

While the building, problem-solving, and reviewing are the most important part of how the event works, you should allow plenty of time to celebrate each team's achievements in front of everyone at the event. You could extend this time and allow time for the children to share and present what they learned.

Tips

1. It is important teams can relate what they do at the event to the sessions they have completed.
2. If possible, assign at least one adult to each pair of teams. They can help the teams stay on task and talk with them. The reviewers will decide on awards for each team. Reviewing prompts are on page 26.
3. For the celebration, print certificates for every child. Have the children come up one at a time, or in their team, to be recognized and applauded. A great *FIRST*® LEGO® League Discover event always ends in a celebration.

Reviewing Prompts

These prompts are designed for adults to start conversations with the children at the celebration event.

Reviewers could say to the teams:

Final Challenge

Tell me about…

- Your design and build.
- Why you built it that way.
- What pieces you included in your model.
- How you decided what you wanted to build.
- How it works.
- The STEAM Park pieces you used to make something move.
- How you solved the challenge.
- How you decided how to change your team models after hearing other ideas.
- What you learned from the other team.

Working as a Team

Tell me about…

- How you worked together.
- The job you had on your team.
- How you shared ideas in your team.
- How you worked as a team.

Awards

Every team should win an award, and more than one team can win the same award.

Choose from this list of official *FIRST*® LEGO® League Discover awards:

- Incredible Innovators
- Cooperative Creators
- Excellent Explainers
- Brilliant Builders
- Enthusiastic Engineers

… or create your own!

Scan me to find award and script templates!

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

Children learn to:

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

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?*

Discover Six Bricks II

Children learn to:

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

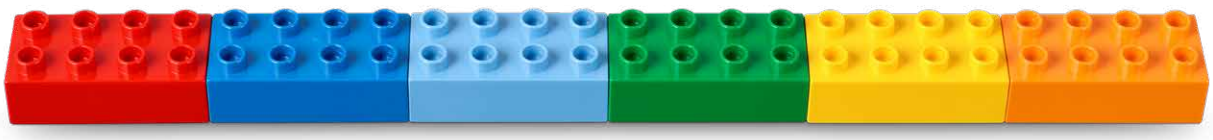
Base Activity

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…?)



Six Bricks Activities

What Can You Build?

Children learn to:
- Invent and describe characters (for stories).
- Create stories in groups.
- Ask questions and suggest answers.

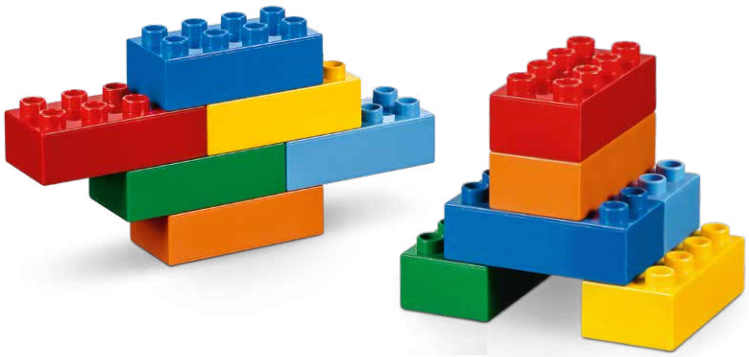
Base Activity

1. In groups of 4, children mix their bricks together.
2. Have the children use their bricks to build a model that represents something they would find in the ocean.
3. Then have them take turns and describe the model and explain where in the ocean it can be found.

This activity can also be linked to a theme, story, or book.

Guiding Questions:

- *Where can you find this in the ocean?*
- *Does it make any sound?*
- *Is it alive?*



Build the Picture

Children learn to:
- Engage in creative problem-solving.
- Develop own ways of carrying tasks.
- Use strategies learned earlier (representing).

Base Activity

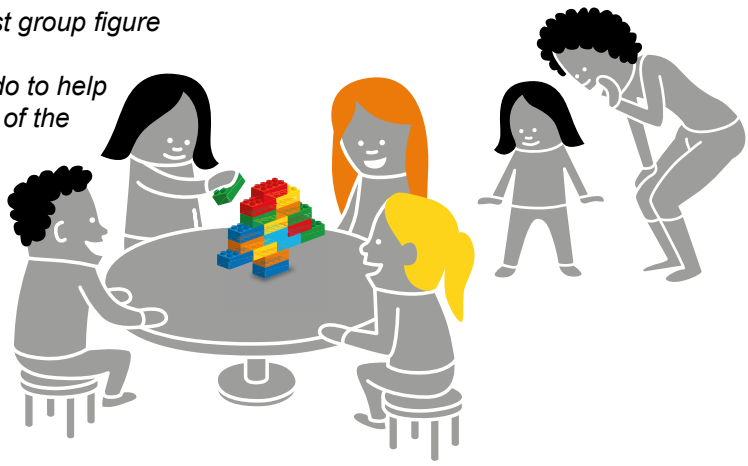
1. In groups of 4, children mix their bricks together and choose a leader.
2. The adult whispers a word related to a reef (e.g., fish, coral) to the leader.
3. Back with their group, the leader quickly builds a representation of that word for the others to guess.
4. The group may not ask questions but can call out words. The leader can say when they get it right.

Part 2

5. Choose a new leader and repeat the activity with a new word.
6. Continue until all children in the group have been a leader.

Guiding Questions:

- *How did the first group figure out the word?*
- *What can you do to help the next leader of the group?*



Can You Remember?

Children learn to:

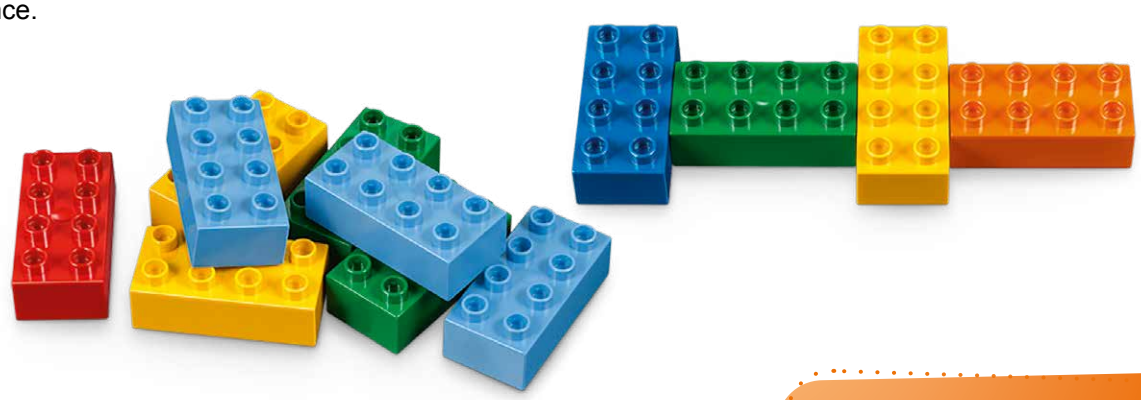
- Hold information in their memory.
- Keep attention and resist distraction.
- Speak about how they have done something.

Base Activity

1. The adult takes any two bricks and secretly builds one on top of the other, covering all the studs.
2. Hold them up for the children to see for five seconds and then hide them away.
3. The children copy the brick sequence.

Guiding Questions:

- *Match your sequence to mine. Are they the same?*
- *If it is different, how can you make it the same?*



Back-to-Back

Children learn to:

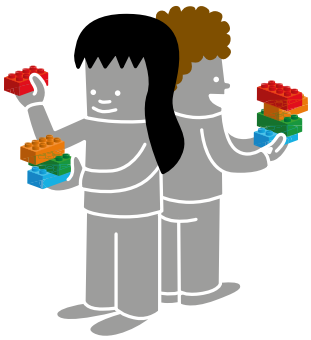
- Use descriptive language.
- Think from another person's perspective.
- Speak about their own and others' behavior and consequences.

Base Activity

1. Children sit or stand in pairs with the same four bricks.
2. One child builds a model and then explains to the partner how to build the same model.
3. The partner builds without looking or asking questions.
4. The pairs compare their models and discuss how it went.
5. Children then swap roles and repeat the activity.

Guiding Questions:

- *How did you explain how to build the model?*
- *What instructions were the most helpful?*



Six Bricks Activities

Build a Bridge

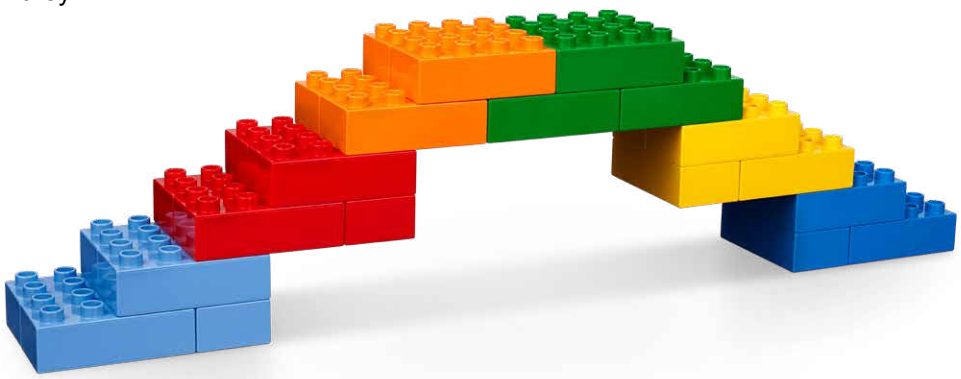
Children learn to:
- Engage in creative problem-solving.
- Negotiate when and how to carry out tasks.
- Make reasoned choices and decisions.

Base Activity

1. In groups of 4, children combine their bricks and think of ways to build a bridge. The bridge can be built on the Discover Mat to connect two areas.
2. Give the children time to discuss and plan which areas they will connect and how they will connect them.

Guiding Questions:

- *Why did you choose to connect the two areas of the Discover Mat?*
- *Did your original plan work? What ideas did you change?*
- *How did you work together with your team?*



Future Ship

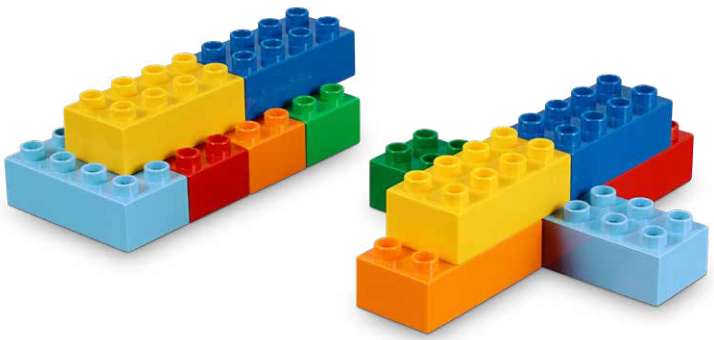
Children learn to:
- Engage in creative problem-solving.
- Imagine and tell stories.
- Use strategies learned earlier (representing).

Base Activity

1. Children use their six bricks to build a vehicle of the future that might be used in the ocean.
2. Then, they take turns describing their vehicle. They can explain who uses the vehicle and what purpose it serves to explore the oceans.

Guiding Questions:

- *How will your vehicle be used in the ocean?*
- *How does your vehicle move?*
- *Who is the person that operates the vehicle?*
- *Do you have any questions*
- *to ask your friends about their model?*



It Takes a Team

Children learn to:

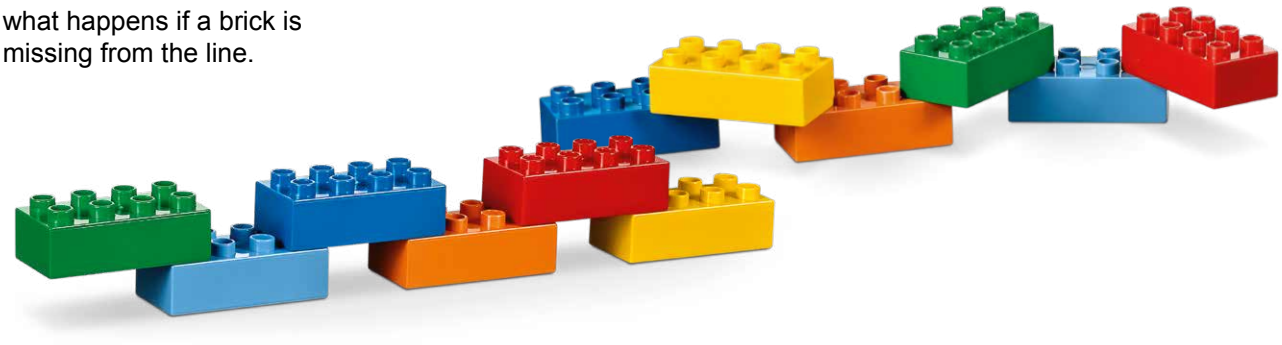
- Use strategies learned earlier (patterns).
- Negotiate when and how to carry out a task.
- Imagine and tell stories.

Base Activity

1. In groups of 4, have the children mix their bricks together.
2. The children should work together to build a long line of connected blocks to represent a person that is part of a team and how they support each other to achieve success.
3. The children should think about what happens if a brick is missing from the line.

Guiding Questions:

- *What job does each brick represent?*
- *How do the different jobs work together?*
- *What would happen if there was a break in the line?*



Supporting Resources

Season Resources

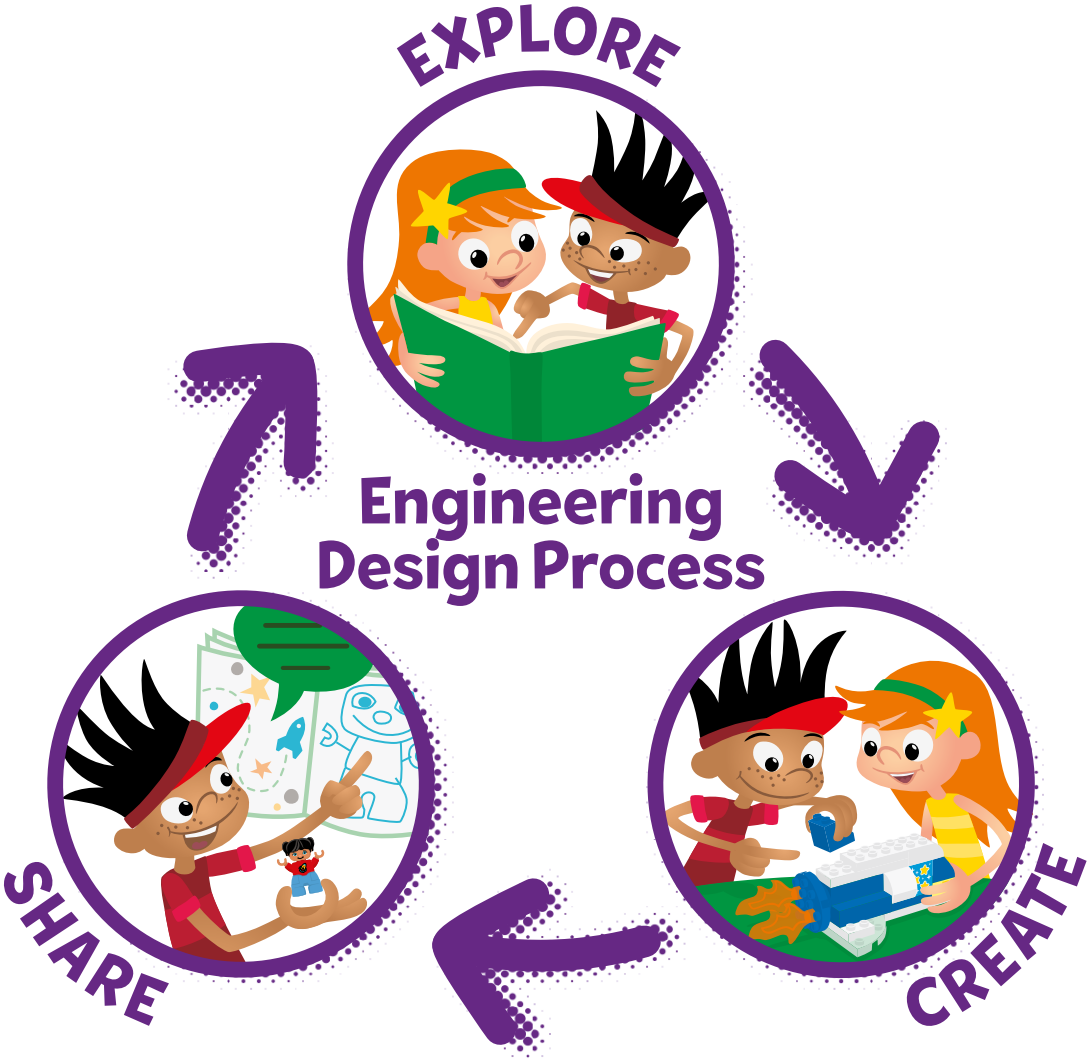
Each year, *FIRST*® releases resources specific to the season theme. On the Season Resources page, you will find digital versions of the guidebooks, videos, certificates, and a multitude of support resources including Session Slides and Multimedia Resources.

Kahoot! Series

The *FIRST*® LEGO® League Discover Kahoot! series covers topics such as *FIRST* Core Values, Engineering Design Process, Computational Thinking, and more. These Kahoot! activities are a great way to engage the students in a fun way and introduce them to what *FIRST* LEGO League Discover is and its main components. Be sure to subscribe to the *FIRST* community on the Kahoot! page to stay tuned for updates.

During each session, we recommend that children be encouraged to rebuild their models and play with them after they're built. Ask children to create a short role-play scene with their models or figures.

If you have additional time in a session or want to challenge the children further, you could explore these supporting resources.



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