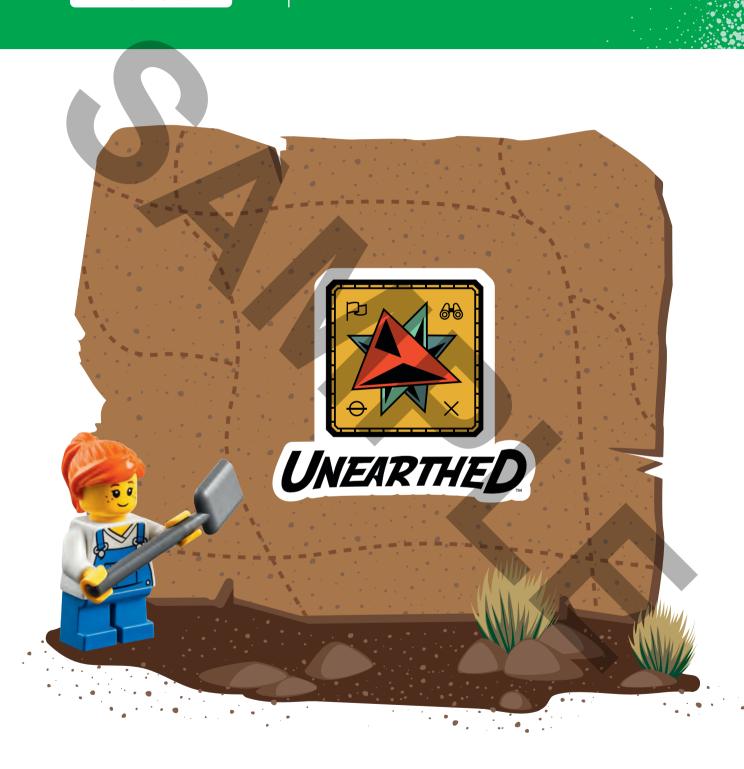
FIRST.
LEGO
LEAGUE
EXPLORE

TEAM MEETING GUIDE







Introduction

Welcome!

In FIRST® LEGO® League Explore, teams focus on the fundamentals of engineering as they explore real-world problems, learn to design and code, and create unique solutions made with LEGO® bricks and powered by LEGO® Education SPIKE™ Essential.

FIRST LEGO League Explore is one of three divisions by age group of the FIRST LEGO League program. This program inspires young people to experiment and grow their confidence, critical thinking, and design skills through hands-on learning. FIRST LEGO League was created through an alliance between FIRST® and LEGO® Education.









FIRST® AGETM and UNEARTHEDTM

Welcome to the *FIRST*® AGETM season presented by Qualcomm. Robots. LEGO bricks. Game pieces. Tools. Team T-shirts. Volunteer pins. Engineering notebooks. Pizza boxes. Banners. Remove the people from a *FIRST*® community event, and these are some of the objects you might see left behind. They are the **artifacts** future archaeologists can use to put together the pieces of the *FIRST* story.

Archaeology helps us **uncover cultural histories** through the study of artifacts. The field

provides insight into how living beings have interacted with our planet and each other throughout history. It reconstructs the stories of our communities so we can learn from our past.

During our archaeology-inspired season, FIRST teams and supporters will use STEM and collaboration skills to unearth new findings about ourselves and our collective communities to help build a better world.

Dig in with FIRST!





Explore, Create, Test, & Share

Explore: This season, children will be asked to investigate the past as if they are a team of archaeologists. They should review the Explore story found in the Engineering Notebook for clues about how archaeologists learn about people and cultures from a long time ago. Encourage children to ask questions about the theme and make real-world connections to the models they build.

Create & Test: The children will build and explore an archaeological dig site, tools used to uncover mysterious artifacts, and more. They will also explore coding as they motorize parts of their team model toward the end of their experience. Encourage children to build freely and change their models as they have new ideas or when they've learned something new.

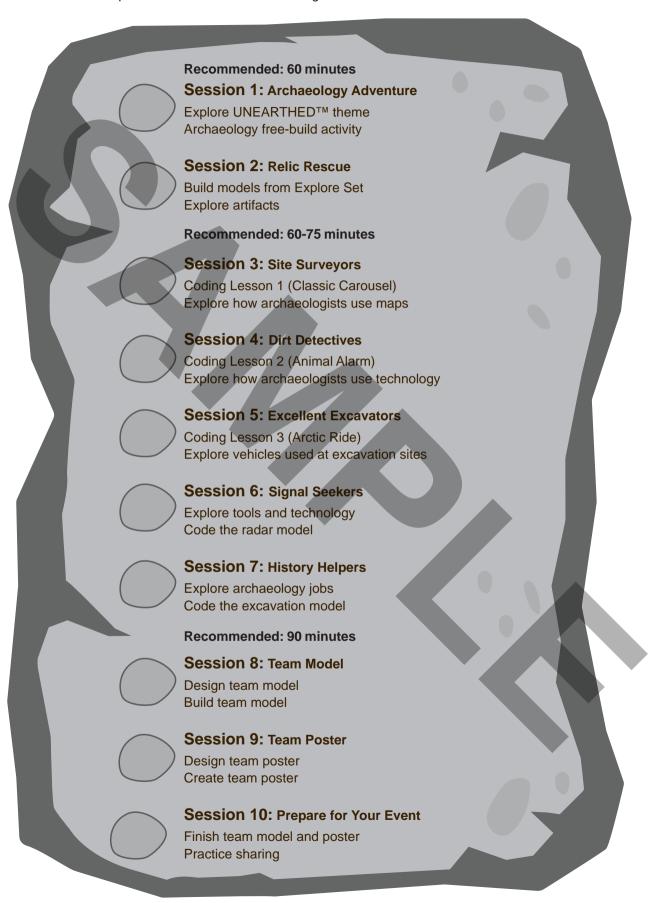
Share: The children will record their ideas and designs in their *Engineering Notebooks*. They will share their models and what they learned with others. Finally, they will participate in a festival to share their team posters and team

models with reviewers, families, and friends. Most importantly they will . . .



Season at a Glance

Session tasks can be split over two or more team meetings.



What Does the Team Need?

LEGO® Education Set

The LEGO® Education SPIKE™ Essential set, with its motor, sensor, and hub, is the set referenced throughout the sessions in this guide.

Note: Other LEGO Education sets are also allowed and can be used to complete the activities, although specific instructions may vary.



UNEARTHED™ Explore Set

Each team will need one Explore Set, which includes the Explore model, mat, building instructions, and prototyping pieces.

Leave the LEGO pieces in their numbered bags until the team reaches the sessions that need them.



Engineering Notebooks

Each team member needs their own *Engineering Notebook* to record their ideas and progress. The *Engineering Notebook* contains session tasks, jobs and technology, and relevant information to guide them through the sessions.

Electronic Device



Your team will need at least one compatible Bluetooth-enabled device like a laptop, tablet, or computer to run the LEGO® Education SPIKE™ App.

Scan the QR code to view system requirements and download the SPIKE App.



Team Poster Supplies

Each team will need a poster board and various art supplies in Sessions 9-10 to complete their team poster. These supplies can also be used in earlier sessions to record team progress.







	Radar	Excavation Site	Excavation Site Hub and Motor Pieces	Prototyping Pieces
Book	1	2	2	-
Bag	1	2-5	6	7-12

Session 1

Outcomes

- The team will use discovery to explore the UNEARTHED[™] theme and share what they know about archaeology.
- The team will build things related to archaeology.

Introduction

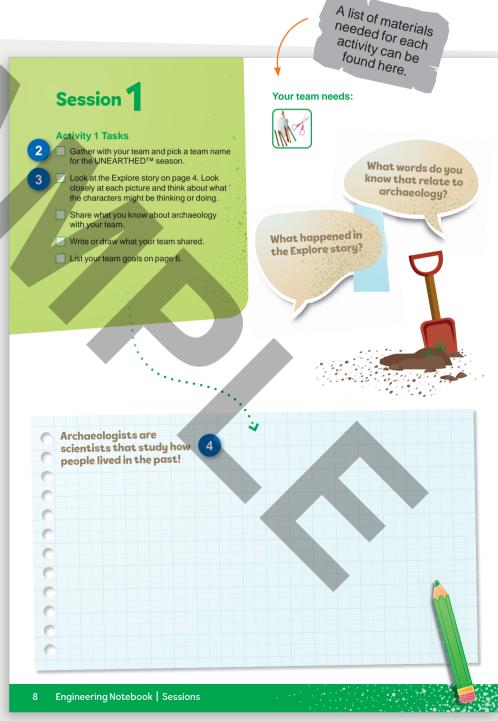
Let's Discover!

- Introduce the FIRST® Core Values. Read the definition for *discovery* to the team from page 5.
- Have the team provide examples of how they have used **discovery**.

Get the teams excited to start their UNEARTHED™ journey!

Guiding Questions

- What do you know about archaeology?
- What does an archaeologist do?
- What do you think is happening in the Explore story?
- 1 Use the Multimedia Resources to find example photos, websites, and other activities related to the sessions.
- 2 Help the children select a team name. This is how the team will be recognized at the festival. They can record their name in their Engineering Notebook.
- 3 The Explore story on page 4 is a wordless comic referenced throughout the sessions to inspire creativity and spark discussions about the season's theme.
- 4 Writing and drawing space is provided throughout the Engineering Notebook for each team member to capture their ideas.





Have the team set some goals for the season. They can share what they hope to learn about archaeology or about

Archaeology Adventure

Share

Have the team:

- Talk about what they think happened in the Explore story.
- Share what they know about archaeology.
- Share what they built to tell their story.

Each session has guiding questions to help you facilitate discussion with the team.

Your team needs:







The prototyping pieces from the Explore set are in Bags 7-12. They will be used in building activities.

Sometimes archaeologists don't have all the information they need to rebuild an artifact. Technology can be used to imagine what artifacts looked like in the past



Archaeology Adventure

Activity 2 Tasks

- Divide your team into two groups and share the prototyping pieces.
- Build a small artifact. What did your teammates build?
- Put the artifact on the mat.
- Draw a picture of the artifact you built.

Challenge

- Take the artifact apart and trade your pieces and drawing with another group.
- You are an archaeologist who made an amazing discovery. The artifact you found is in many pieces and needs to be put back together. A drawing of the artifact was found. Will it help you put it back together?
- Rebuild the artifact based on the drawing. Did your group rebuild the artifact correctly?

Guiding Questions

- What do you see on the mat?
- How do archaeologists know where to dig?
- What do archaeologists look for?

Session Tips

- 5 The prototyping pieces in Bags 7-12 are used throughout the sessions to build solutions to the design challenges. If you have other LEGO® bricks available, you can use those to give the team more options.
- Help the team trade their artifact models with the other group. You could limit the number of bricks used to simplify the activity.
- 7 Encourage the children to share what they built and to explain how it is related to the theme of archaeology.

Clean Up

- Anything built with the prototyping pieces should be taken apart.
- Keep the prototyping pieces in a dedicated container as they will be used frequently throughout the experience.

UNEARTHED™

