FIRST LEGO LEAGUE CHALLENGE

ENGINEERING NOTEBOOK

CARGO CONNECT

L21

FIRST

LEGO education
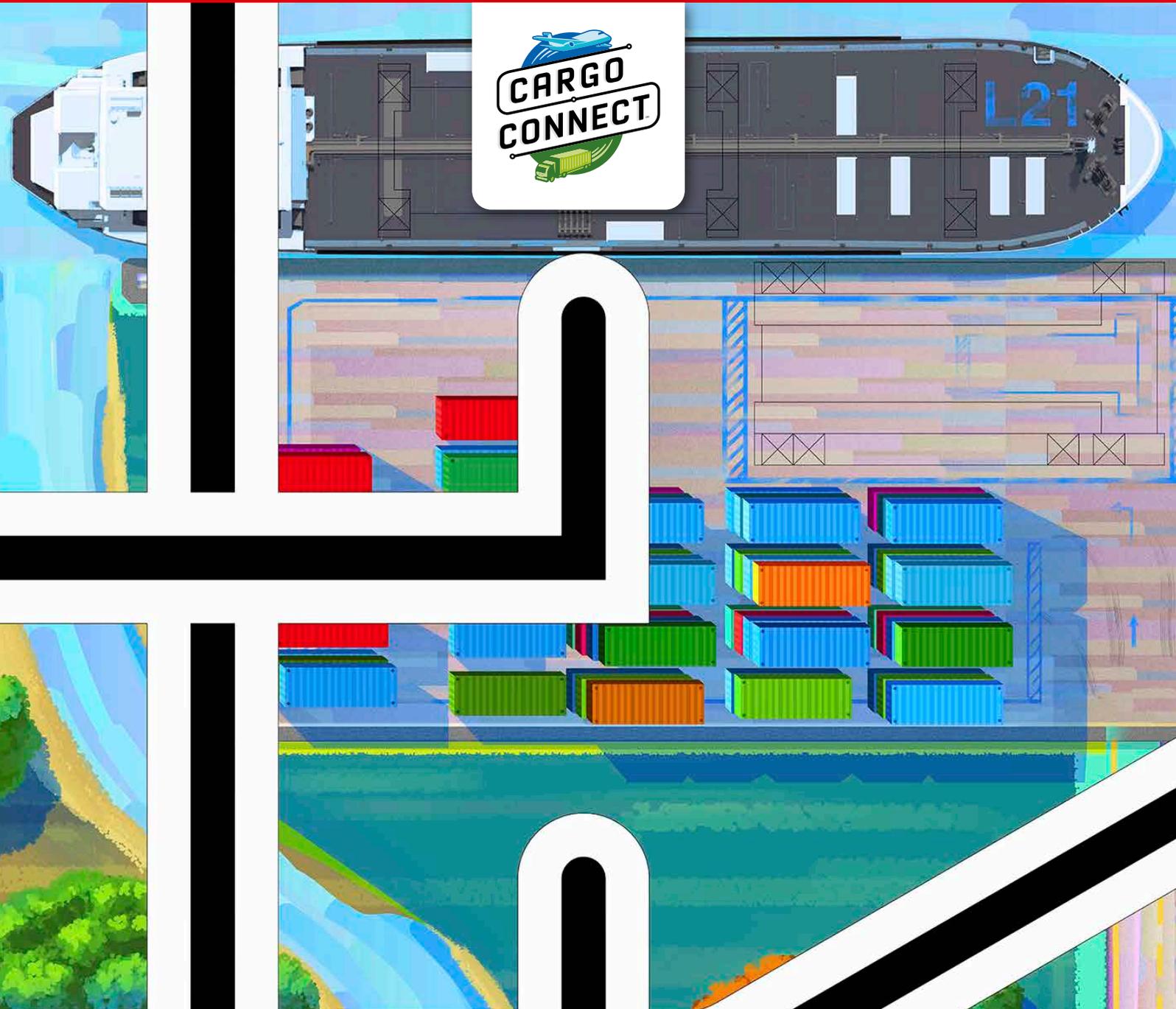
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Welcome!

Use the sessions in this *Engineering Notebook* as a guide for your team's journey through the *FIRST®* FORWARD℠ season and CARGO CONNECT℠ challenge. Use the Core Values and the **engineering design process** throughout your team journey. Have lots of fun as you develop new skills and work together. This notebook is a great resource to share at your judging event, but it isn't required.

Be sure to record what you learn and reflect on how your team collaborated to achieve your goals. Showcase your team's amazing work on your robot, Innovation Project, and Core Values at your event and judging session. Remember, what your team discovers is more important than what you win. Check out the Career Connections pages at the end of this guide for real-life examples of transportation jobs!

FIRST® Core Values

Teamwork — We found we were stronger when we worked together.

Inclusion — We embraced our differences and ensured we all felt welcomed.

Innovation — We used creativity and persistence to solve problems.

Fun — We enjoyed and celebrated what we did!

Discovery — We explored new skills and ideas.

**Impact** — We applied what we learned to improve our world.

Gracious Professionalism® is a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the community. We express our Core Values through *Gracious Professionalism*, and this will be evaluated during Robot Game matches. The team can demonstrate *Coopertition®* by showing that learning is more important than winning and they can help others even as they compete.

FIRST® LEGO® League Challenge Overview

CORE VALUES

FIRST® **Core Values** will be evaluated during the Robot Game matches and during the Innovation Project and Robot Design presentations.
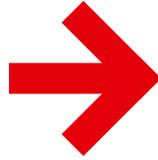
Your team will:

- Apply **teamwork** and **discovery** to explore the challenge.
- **Innovate** with new ideas about your robot and project.
- Show how your team and your solutions will have an **impact** and be **inclusive!**
- Celebrate by having **fun** in everything you do!

ROBOT DESIGN

Your team will prepare a short explanation on your Robot Design, programs, and strategy.

Your team will:

- Identify your mission strategy.
- Design your robot and programs using your work plan.
- Create your robot and coding solution to match your mission strategy.
- Iterate and test your robot and programs.
- Communicate your Robot Design process, your programs, and your robot solution.

ROBOT GAME

Your team will have three 2.5-minute matches to complete as many missions as possible.

Your team will:

- Build the mission models and follow the field setup to put the models on the mat.
- Review the missions and rules.
- Design and build a robot.
- Explore building and coding skills while practicing with your robot on the mat.
- Compete at an event!

INNOVATION PROJECT

Your team will prepare a 5-minute presentation to explain your Innovation Project.

Your team will:

- Identify and research a problem to solve.
- Design a solution to the problem that helps others or your community.
- Create a model or prototype of your solution.
- Share your ideas, collect feedback, and iterate on your solution.
- Communicate your solution at an event.

Team Journey
Using Engineering Design Process

Identify Ways to Solve the Challenge

CARGO CONNECT℠

Design Your Innovation Project

Discover and Use Core Values

Design Your Robot

Create your Innovation Project Solution

Iterate on Your Solutions

Create Your Robot Solution

Communicate Your Solutions at Your Event

Compete in Robot Game

Innovation Project

Everyone depends on the transportation of goods for their daily needs. As more demands are placed on the transportation systems, we will continue to face challenges unless we find new ways, or improve existing ways, to transport products from place to place.

How can you improve the transportation of products? Identify a specific problem within this theme that you want to solve. Then, create or improve a piece of equipment, a technology, or a method of transportation to solve your specific problem.

→ START It starts here, with your critical thinking and imagination leading the way to better transportation journeys for products. Your ideas could help change your community* – and even the world – in this CARGO CONNECT℠ challenge.

→ Identify a specific problem related to making the transportation journey of products better.

The Project Sparks (covered in Sessions 1-4) explore some problems related to the challenge. Your Innovation Project could come from a Project Spark, but it doesn't have to. It will help to focus on a particular product and how it is transported.

Think about how access, safety, efficiency, or connections relate to product journeys and see if you can improve any of them for a particular product that you are investigating.

→ Research your problem and your solution ideas.

What solutions already exist? Are there any experts who could help you? Think about the products that are transported in and out of your community. Research some of the journeys the products take to their final destinations.

→ Design and create a new piece of technology, equipment, or method of transportation that could improve the journey of the products.

This will be your Innovation Project solution. Make a model or prototype to show how your solution improves the way the products are transported.

→ Share your ideas, collect feedback, and iterate on your solution.

The more you iterate and develop your ideas, the more you will learn. What impact will your solution have on your community?

→ Create a creative and effective presentation that communicates your solution at an event.

Prepare a 5-minute presentation that clearly explains your Innovation Project solution and its impact on others. Make sure your whole team is involved.

*Community can be defined as just a town or city or a larger area like a state or country.

Robot Design and Robot Game

This year's CARGO CONNECT℠ challenge is for your robot to deliver cargo to different forms of transportation or target locations around the field. Your robot must activate mission models that represent transportation safety, efficiency, connection, and access.

START Design and create a robot that will complete missions in the Robot Game. Your innovative Robot Design, clear mission strategy, and functional programs are key in the CARGO CONNECT℠ challenge.

➜ Build your mission models and identify your mission strategy.

Each mission and model also provides inspiration for possible solutions to your Innovation Project. The missions fit into four categories: safety, efficiency, access, and connections.

➜ Design and create your autonomous robot and programs.

Create a work plan for your Robot Design. Build a robot and its attachments using LEGO® Education SPIKE™ Prime or any LEGO® MINDSTORMS® set. Code your robot to autonomously complete a series of missions in a 2.5-minute Robot Game to score points.

➜ Test and iterate on your robot solution to complete missions.

Iterate on your Robot Design and programs with continual testing and improvements.

➜ Compete in Robot Game matches.

Your robot starts in the launch area, tries missions in the order chosen by the team, and then returns anywhere into Home. Your team can modify your robot when it is in Home before launching it again. Your team will play multiple matches, but only the highest score matters.
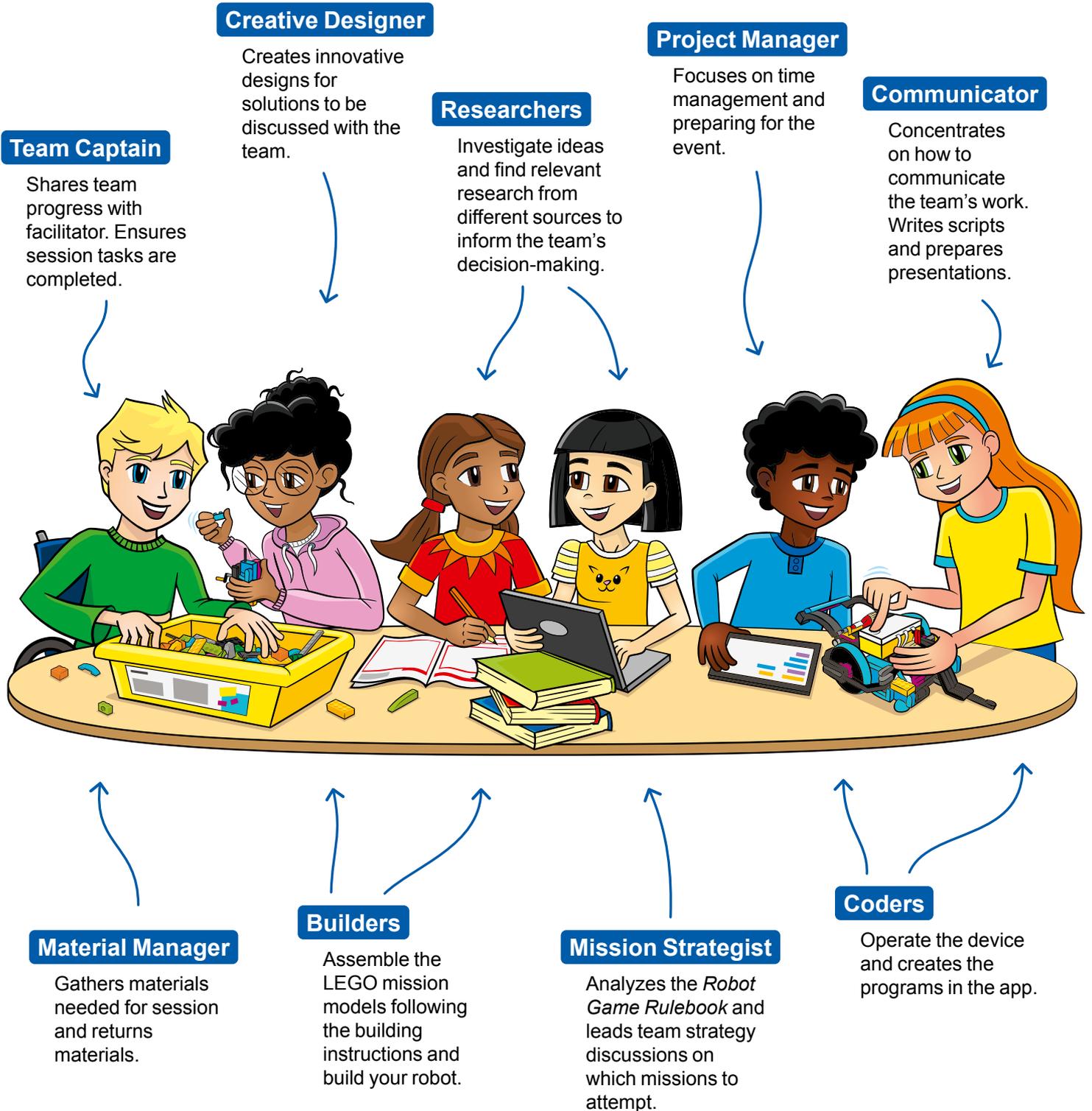
➜ Communicate your Robot Design solution at judging.

Prepare a short explanation that clearly explains the process your team used to create your robot and programs and how they work. Make sure your whole team is involved.

Team Roles

Here are sample roles your team can use during the sessions. Everyone on the team should experience each role throughout their *FIRST*® LEGO® League Challenge experience. The goal is to build your team to be confident and capable in all aspects of *FIRST* LEGO League Challenge.

Creative Designer
Creates innovative designs for solutions to be discussed with the team.

Researchers
Investigate ideas and find relevant research from different sources to inform the team's decision-making.

Project Manager
Focuses on time management and preparing for the event.

Communicator
Concentrates on how to communicate the team's work. Writes scripts and prepares presentations.

Team Captain
Shares team progress with facilitator. Ensures session tasks are completed.

Material Manager
Gathers materials needed for session and returns materials.

Builders
Assemble the LEGO mission models following the building instructions and build your robot.

Mission Strategist
Analyzes the *Robot Game Rulebook* and leads team strategy discussions on which missions to attempt.

Coders
Operate the device and creates the programs in the app.

→ Introduction
(10 minutes)

☐ Read pages 4-9 explaining how *FIRST*® LEGO® League Challenge works.

☐ Now that you have read about CARGO CONNECT℠, you are ready to get started.

→ Tasks
(50 minutes)

☐ Open the SPIKE™ Prime or EV3 Classroom app. Find your lesson.

Robot Trainer Unit: Moves and Turns

Complete the Getting Started activities before this session.

Getting Started: Start Here, Motors and Sensors

☐ Identify the building and coding skills you learned in the lesson that will help you solve missions.

→ Reflection Questions

• Can you use your fantastic coding skills to navigate your robot to a model on the mat?

• Can your robot already complete any of the missions?

What are the four parts of *FIRST* LEGO League Challenge?

Our Notes:

Read over the *Robot Game Rulebook* for all the details on the missions.
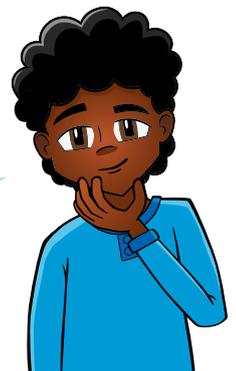
Efficiency

Project Spark

Being more efficient with the way we transport cargo is beneficial for many reasons.
How can you make the journey of cargo more efficient?

Think about…
• The cost of transporting cargo.
• The time it takes to transport cargo.
• The energy used to transport cargo.
• Ensuring cargo arrives undamaged.

The models you built this session relate to missions in the Robot Game that represent improving the efficiency of transporting cargo.

Our Ideas:

➜ **Tasks**
(50 minutes)

☐ Read the Project Spark.

☐ Build the Efficiency models in Bags 1-4 using Building Instruction Books 1-4.

☐ Check out the *Robot Game Rulebook*. This will be a great resource throughout the sessions.

☐ Review the missions that relate to the models you built.

☐ Discuss how the mission models are linked to the Project Spark.

☐ Brainstorm and record your ideas that relate to this Project Spark.

➜ **Share**
(10 minutes)

☐ Get together at the mat.

☐ Place each model where it belongs. Refer to the Field Setup section in the *Robot Game Rulebook*.

☐ Show the robot skills you learned.

☐ Show how the models work and explain how they relate to the Project Spark.

☐ Discuss the reflection questions.

☐ Clean up your space.

➜ **Reflection Questions**

• Do any of the mission models make you think of good ideas for the Innovation Project?

• What could you create that would improve the efficiency of transporting a particular product?

Use the QR code on the mat to find the building instructions.

→ Introduction
(10 minutes)

☐ Think about **Inclusion** and your team.

☐ Record examples of how your team makes sure everyone is respected and their voices are heard.

> **Inclusion**: We respect each other and embrace our differences.

Our Notes:

→ Tasks
(50 minutes)

☐ Open the SPIKE™ Prime or EV3 Classroom app. Find your lesson.

Robot Trainer Unit: Objects and Obstacles

Competition Ready Unit: Training Camp 1: Driving Around

☐ Determine what coding and building skills you can apply in the Robot Game.

→ Reflection Questions

• How can you aim your robot toward a model?

• How can you make your robot go the right distance to reach a model?

How does a machine operator safely load and unload cargo?

Safety

Project Spark

How does safety affect how cargo is transported?
How can you make transporting cargo safer?

Think about…
• People driving different forms of transportation.
• Loading and unloading cargo.
• Different forms of transportation used to transport cargo.
• The infrastructure used in transportation.

The models you built this session relate to missions in the Robot Game that represent improving the safety of transporting cargo.

Diagram of our solution:

How would a safety specialist do a safety check before transporting large cargo?

→ Introduction
(10 minutes)

☐ Now that you're familiar with *FIRST*® LEGO® League Challenge, discuss the goals you want to achieve for the season.

☐ Talk about what processes your team will follow and determine responsibilities.

→ Tasks
(50 minutes)

☐ Open the SPIKE™ Prime or EV3 Classroom app. Find your lesson.

Robot Trainer Unit: Grab and Release

Competition Ready Unit: Training Camp 2: Playing with Objects

☐ Recognize the skills you learned that will be beneficial in completing missions.

→ Reflection Questions

• Can you code your robot to navigate to a model on the mat?

• What objects does your robot need to avoid?

Our Team Goals:

Our Notes:

Access

Project Spark

How can you ensure cargo is transported to where it needs to go, especially when the location is difficult to access? Well-maintained infrastructure and innovative ways to reach isolated areas should be considered.

Think about…
• Maintenance of roads, tracks, and transportation systems.
• Repair of infrastructure.
• Creation of new transportation networks to improve access.
• Innovative new forms of transportation.

The models you built this session relate to missions in the Robot Game that represent improving access to delivery destinations.

Our Ideas:

How does a courier deliver packages to isolated areas?

→ Introduction
(10 minutes)

☐ Think about **Discovery** and your team.

☐ Record examples of how your team has learned new skills and ideas.

Discovery: We explore new skills and ideas.

→ Tasks
(50 minutes)

☐ Open the SPIKE™ Prime or EV3 Classroom app. Find your lesson.

Robot Trainer Unit: Colors and Lines

Competition Ready Unit: Training Camp 3: Reacting to Lines

☐ Determine what building and coding skills will help you in the Robot Game.

Our Notes:

→ Reflection Questions

• What attachment could you create for your robot?

• How would you code an attachment?

How does a warehouse worker ensure cargo is sorted correctly in the sorting center?

Connections

Project Spark

Transporting cargo across different forms of transportation can have a great impact on the overall journey. How can we improve the connections between different forms of transportation?

Think about…
• Mechanisms for sorting goods.
• Devices for unloading or loading cargo.
• Tracking cargo on its journey.
• Communication with the consumer.

The models you built this session relate to missions in the Robot Game that represent improving connections between different forms of transportation.

Diagram of our solution:

How does a freight driver know what routes to use when transporting cargo?

→ Introduction
(10 minutes)

☐ Now that you have been working together as a team, create a team name!

☐ Design a poster of your team name as a logo.

☐ Be sure each person gets to contribute to the poster!

→ Tasks
(50 minutes)

☐ Open the SPIKE™ Prime or EV3 Classroom app. Find your lesson.

Robot Trainer Unit: The Guided Mission

Competition Ready Unit: The Guided Mission

☐ Read over the guided mission.

☐ Have fun practicing this guided mission until it works perfectly!

→ Reflection Questions

• What does the guided mission show you about *Coopertition*®?

• How do you plan to talk with the other team at the Robot Game about the guided mission?

Logo Design:

Guided Mission:

Helicopters can be used to transport cargo to areas that are difficult to reach. They are used to help others, bringing important packages like food.

Like all the mission models on the *FIRST*® LEGO® League Challenge competition field, the Air Drop in Mission 8 (M08) might inspire you to think of a solution for your Innovation Project.

To help you learn about using the color sensor to follow lines on the mat, we have created a guided mission lesson.

In the app, you will:

• Download the program that solves this mission.

• Start your robot in the right position in the launch area.

• Run your robot and watch it complete the mission and score the points.

• Think about how to incorporate the Air Drop mission into one of your runs for the Robot Game.

• Continue to practice your new skills by revisiting previous lessons or moving onto the Advanced Driving Base lesson.

Investigations

Research Findings:

Problem Statement:

➜ **Share**
   (10 minutes)

☐ Get your team together at the mat.

☐ Show how your robot scores points on the guided mission.

☐ Discuss the problem your team have identified and think about next steps.

☐ Discuss the reflection questions.

☐ Clean up your space.

➜ **Reflection Questions**

• Which transportation problem can you explain clearly?

• Is there someone you can talk to that is an expert on the problem?

→ Introduction
(10 minutes)

☐ Think about **Teamwork** and your team.

☐ Record examples of how your team has learned to work together.

→ Tasks
(50 minutes)

☐ Watch the Missions part of the season video again.

☐ Start to think about your mission strategy.

☐ Design an effective work plan.

☐ Discuss which missions your team will attempt first.

☐ Complete the **Pseudocode** page.

☐ Think about how the program will make your robot act.

☐ Revisit the earlier lessons or do the optional lesson listed below.

☐ Amend the guided mission code so it works on the advanced driving base.

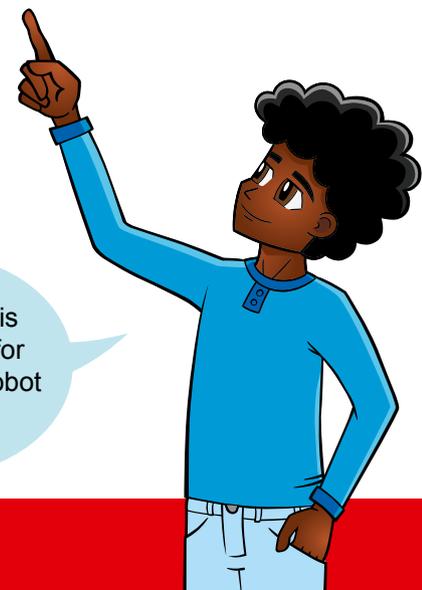**Robot Trainer Unit: Angles and Patterns**

Competition Ready Unit: Assembling an Advanced Driving Base

→ Reflection Questions

• What does your robot need to do to complete the first mission you have chosen?

• What is your Robot Game strategy to complete missions?

Teamwork: We are stronger when we work together.

Strategy:

Pseudocode is written steps for your planned robot program.

Pseudocode

Mission Name: **Mission Number:**

CODING STEPS

Write out the moves the robot should make to complete the mission.

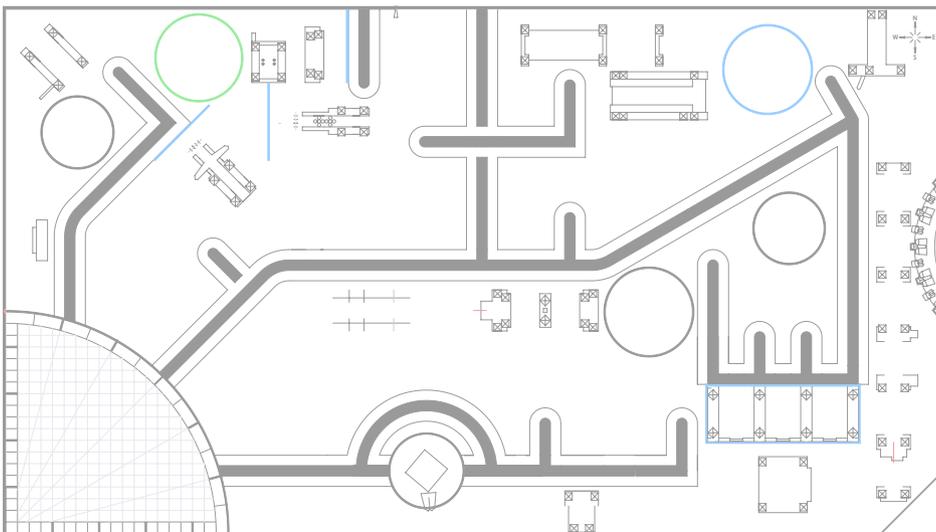|	
Move 1	**Move 6**
Move 2	**Move 7**
Move 3	**Move 8**
Move 4	**Move 9**
Move 5	**Move 10**

ROBOT PATH DIAGRAM

Draw the route your robot will take to complete the mission.

Go to the app and start a new project. Explore which coding blocks will make the robot move like the planned coding steps that you wrote above.

Complete this page in Session 6.

Teamwork

→ Introduction
(10 minutes)

☐ Research the problem you chose and any existing solutions.

☐ Generate solution ideas. Remember, your solution should be a piece of equipment or technology.

☐ Make a plan for how you will develop your solution. Use the Planning page as a tool.

☐ Be sure to use a variety of sources and keep track of them on **the Innovation Project Planning** page.

→ Share
(10 minutes)

☐ Get together at the mat.

☐ Review your **Pseudocode** page. Make changes to the page if necessary.

☐ Explain what you discovered in your research. Discuss any solution ideas.

☐ Discuss the reflection questions.

☐ Clean up your space.

→ Reflection Questions

• Are there existing solutions to your identified problem that you could improve?

• Do you have brand-new solution ideas to your problem?

PROBLEM AND SOLUTION ANALYSIS

Record important information here.

Guiding Questions:

• What information are you looking for?

• Does this source have information relevant to your project?

• Can you use different types of sources such as credible Internet websites, books, and experts?

• Is this a good and accurate source of information?

Innovation Project Planning

PROCESS

Describe the process you followed to develop your solution.

SOURCES

Write down where you got your information and details such as the title, author, and website.

1.

2.

3.

Complete this page in Session 6.

→ Introduction
(10 minutes)

☐ Think about *Gracious Professionalism*®.

☐ Write ways your team will demonstrate this in everything you do.

☐ Look over pages 21 and 31 in the *Robot Game Rulebook* to see how *Gracious Professionalism*® is evaluated during the tournament.

→ Tasks
(50 minutes)

☐ Design and create your robot that can attempt the missions in the Robot Game. You can also improve the existing robot used in the previous sessions.

☐ Create a program for each new mission you attempt. You could combine mission solutions into one program.

☐ Test and improve your robot and its programs.

☐ Develop your coding skills by revisiting the lessons in the app.

☐ Revisit previous lessons, advance through the rest of the unit, or work on solving the missions.

→ Reflection Questions

• Can you follow how the code on your device is making your robot move?

• How can you iterate and improve on the existing Robot Design used in previous sessions?

Gracious Professionalism: We show high-quality work, highlight the value of others, and respect others and the community.

Robot Design:

You could modify the existing robot you've used in past sessions.

Solutions

PROJECT DRAWING

PROJECT DESCRIPTION

→ Introduction
(10 minutes)

☐ Reflect on *Coopertition®*.

☐ Note ways your team will demonstrate this at an event.

Coopertition®: We show that learning is more important than winning. We help others even as we compete.

→ Tasks
(50 minutes)

☐ Decide which mission to attempt next.

☐ Think about your mission strategy and work plan.

☐ Build any attachments you need to complete missions.

☐ Iterate and refine your program so your robot completes the mission reliably.

☐ Be sure to document your design process and testing for each mission!

Design Process:

→ Reflection Questions

• Is the program for each mission saved on your electronic device?

• In what order will you run the missions in the Robot Game?

How would a robotic engineer design robots to make transporting cargo more efficient?

Planning

Plan to Share:

Our Improvements:

→ **Tasks**
(50 minutes)

☐ Make a plan to share about your solution with others!

☐ Evaluate your present solution.

☐ Iterate and improve to make it better based on feedback.

☐ Determine if you can do any testing of your solution.

☐ Use the elements from Bag 16 to build a model that represents your Innovation Project solution.

→ **Share**
(10 minutes)

☐ Get together at the mat.

☐ Show any new missions you have been working on.

☐ Discuss how you will share about your solution with others.

☐ Discuss the reflection questions.

☐ Clean up your space.

→ **Reflection Questions**

• How can you realistically implement your Innovation Project solution?

• Could your project solution be manufactured and what would it cost?

Session 9 — Innovate

➜ Introduction
(10 minutes)

☐ Think about **Innovation** and your team.

☐ Record examples of how your team has been creative and solved problems.

➜ Tasks
(100 minutes)

☐ Code your robot to complete Innovation Project mission (M01) using the model you created.

☐ Think about your mission strategy on the mat and the missions you will solve.

☐ Continue to create a solution for each mission as time allows.

☐ Test, iterate, and improve your robot and Innovation Project solutions. Be sure to document all this.

➜ Share
(10 minutes)

☐ Get together at the mat.

☐ Show the work completed on the Innovation Project and Robot Game.

☐ Look over the Core Values rubric. Talk about how you will demonstrate Core Values at the event.

☐ Clean up your space.

➜ Reflection Questions

• What features on your robot show good mechanical design?

• Have you made changes to your project solution based on advice from others during sharing?

Innovation: We use creativity and persistence to solve problems.

Iterations and Improvements:

How does an engineer create innovative designs?

Session 10 — Iterate

Impact: We apply what we learn to improve our world.

Presentation Script:

→ **Introduction**
(10 minutes)

☐ Think about **Impact** and your team.

☐ Record examples of how your team has had a positive influence on you and others.

→ **Tasks**
(100 minutes)

☐ Plan out your project presentation. Refer to the Innovation Project rubric for what to cover.

☐ Write out your Innovation Project presentation script.

☐ Make any props or displays that you need. Be engaging and creative!

☐ Continue to create, test, and iterate on your robot solution.

☐ Practice a 2.5-minute Robot Game with all your completed missions.

→ **Share**
(10 minutes)

☐ Get together at the mat.

☐ Share the project presentation work completed.

☐ Share what missions you have completed.

☐ Discuss how everyone will be involved in the presentation.

☐ Discuss the reflection questions and clean up your space.

How will your Innovation Project solution have an impact on others?

→ **Reflection Questions**

• How did you decide which missions to attempt?

• How can your Innovation Project solution help your community?

→ Introduction
(10 minutes)

☐ Create a sports playing card for each person on the team. You can use these to highlight each person on the team at your event.

☐ Explain about yourself and how you enjoy *FIRST*® LEGO® League Challenge!

→ Tasks
(100 minutes)

☐ Continue working on your Innovation Project presentation.

☐ Plan and write out your Robot Design explanation. Refer to the Robot Design rubric for what to cover.

☐ Make sure everyone can communicate about your design process and programs.

☐ Determine what each person on the team will say.

☐ Practice your full presentation.

→ Share
(10 minutes)

☐ Get together at the mat.

☐ Discuss the presentation and each person's role.

☐ Run a practice 2.5-minute match and explain what missions are done.

☐ Discuss the reflection questions.

☐ Decide what else needs to be done and clean up your space.

→ Reflection Questions

• Do you have a plan for what to do if one mission does not work?

• Does everyone have a speaking part in the presentation?

About My Team:

Explanation Script:

Review the Judging Session Flow Chart to see how you will present your Robot Design and Innovation Project.

Fun: We enjoy and celebrate what we do!

Presentation Feedback:

→ **Introduction**
(10 minutes)

☐ Reflect on how your team has had **Fun**.

☐ Record examples of how your team has had fun throughout this experience.

→ **Tasks**
(100 minutes)

☐ Rehearse your full presentation communicating your robot and project solutions.

☐ Demonstrate Core Values when you present!

☐ Have practice 2.5-minute Robot Game matches.

☐ Review the Prepare for Your Event page 32.

→ **Share**
(10 minutes)

☐ Review all the Core Values, Innovation Project, and Robot Game rubrics.

☐ Provide helpful feedback after the presentation to each other based on the rubrics.

☐ Discuss the reflection questions.

☐ Clean up your space.

→ **Reflection Questions**

• Are all the different LEGO® pieces you need to attach to your robot for each mission ready?

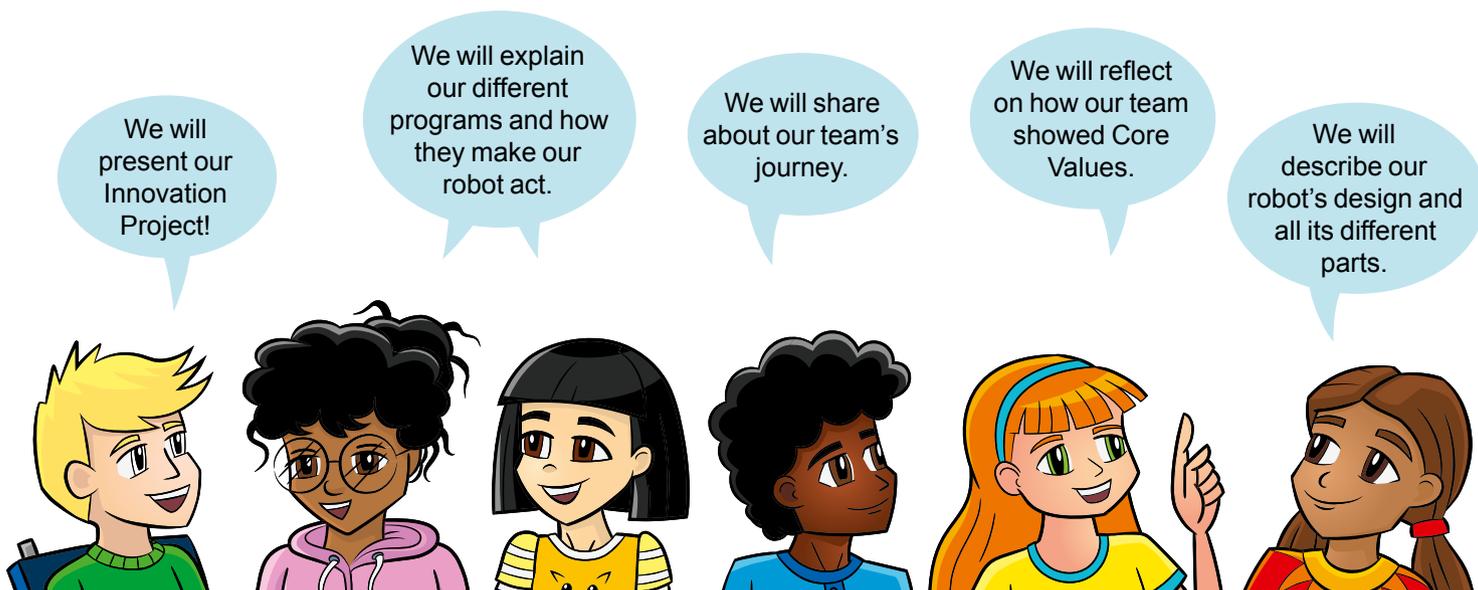• Is everyone ready to speak loudly, smile, and have fun?

Have more time? Continue solving missions and working on your Innovation Project before your event!

Prepare for Your Event

☐ **Think about your team.**
How will each person on the team participate in the presentation and show their knowledge?

☐ **Reflect on the Core Values your team has used.**
Can you provide examples of your team using Core Values? How can you demonstrate *Gracious Professionalism®* and Core Values at the Robot Game table and judging session?

☐ **Think about your Robot Design.**
How will you explain the design process and work plan used to create and test your robot?

☐ **Talk about the programs you've created for your robot.**
How do your programs match your mission strategy? How do your programs make your robot act?

☐ **Think about all the work you've done on the Innovation Project.**
How will you present the problem you researched? How will you explain the process used to create and iterate on your project solutions?

What to Expect at Your Event

• Your team should have fun and show team spirit and enthusiasm at the event. Be sure to show Core Values into everything you do.

• Your whole team will meet with the judges in a single judging session to share your team's journey throughout the season. Think about what you have achieved and what challenges you have faced and overcome.

• You will share about your team's Innovation Project, Robot Design, and how your team incorporated Core Values throughout your experience during the judging session. *Gracious Professionalism®* will be evaluated at the Robot Game table.

• The judges will use the rubrics to evaluate your work, so make sure you are familiar with them.

• During the Robot Game, two team members will run your robot at the mat during each 2.5-minute robot match. You can tag in other team members for different missions.

We will present our Innovation Project!

We will explain our different programs and how they make our robot act.

We will share about our team's journey.

We will reflect on how our team showed Core Values.

We will describe our robot's design and all its different parts.

Your notes

Career Connections

Cargo Engineer

Role:
Designs ways to safely and efficiently transport cargo.

Links to Session 8

Freight Driver

Role:
Moves cargo from one location to another.

Links to Session 4

Warehouse Worker

Role:
Sorts products and place into boxes for shipping.

Links to Session 4

Exploration
(Recommend completing after Session 4 or 8)

Look at the careers on these pages. Choose a job role, research it, and answer the questions.

- Explain the job. What are some of this job's daily tasks?
- What education or training is required?
- What is this job's yearly salary?
- What other companies could people in this job work for?

Fields of Study

- Transportation & materials moving
- Logistics and supply chain management
- Manufacturing & service operations
- Warehouse operations
- Aviation maintenance

Safety Specialist

Role:
Employs safety practices and ensures compliance.

Links to Session 2

Machine Operator

Role:
Monitors and maintains warehouse sorting machines.

Links to Session 2

Courier

Role:
Transports and delivers packages to customers.

Links to Session 3

Reflection
(Recommend completing after Session 12)

Look at the careers on these pages. Think about these jobs and what interests you.

- What skills are needed in these jobs?
- What interests you about these jobs?
- Can you think of other jobs that relate to the transportation of cargo?
- Can you explore one of these careers for more information?

Related Transportation Jobs

- Automation engineer
- Last-mile manager
- Delivery execution manager
- Machine learning specialist
- Transportation specialist
- Transportation analyst