FIRST LEGO LEAGUE

ENGINEERING NOTEBOOK

DEMO VERSION

FIRST

LEGO education

Using this Engineering Notebook

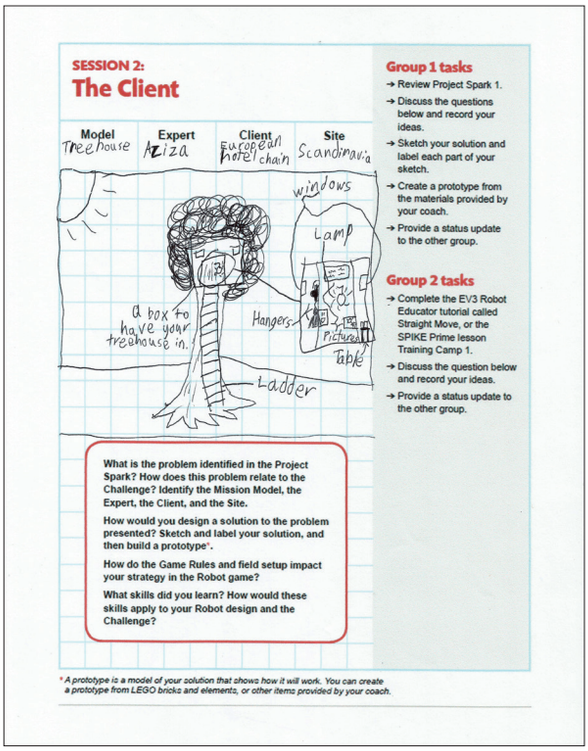
The Engineering Notebook guides you through each session. Use it to document your thoughts, sketches, and ideas. It serves as a proof of learning and is a great resource to use when presenting your Robot and Innovation Project solution. Also document Core Values concepts you see demonstrated by your team.

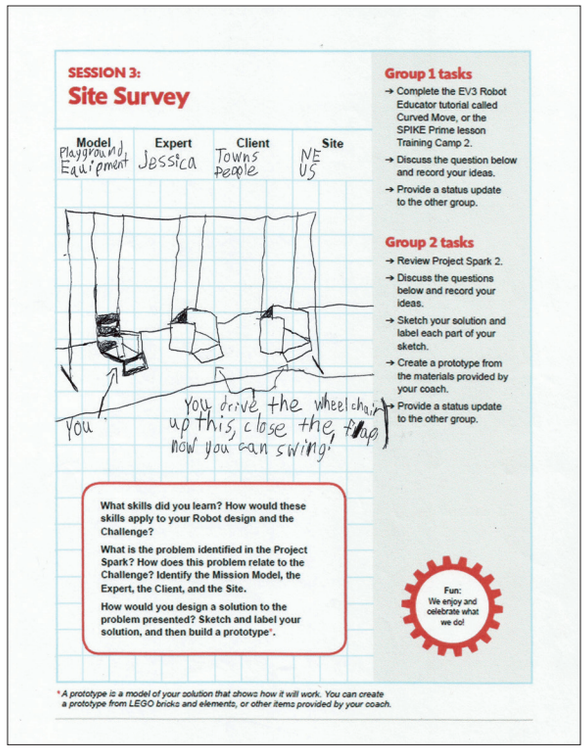
Each session has a series of tasks listed in by Group 1 and Group 2. Mark off each task as you complete them.

Here are some ideas of what could be captured in the Engineering Notebook.

- Sketches
- Designs
- Notes
- Calculations
- Pictures and drawings
- Processes
- Thoughts
- Code explanations
- Software development
- Discussions

On the next few pages, you will find out what you need to design, program and build your Robot for the Robot game. There is also an explanation of the missions for this year and the rules for playing the game. These are both really important to read carefully and understand.





Meet the Experts!

AZIZA

Civil engineer, Architect
Expertise: Making buildings fit surroundings
Creating sustainable buildings and public places
Goals: Help people enjoy beauty of nature

JESSICA

Architect
Expertise: Designing and constructing hospitals
Goals: Make buildings and public spaces that are accessible and functional for everyone by looking at the world through the eyes of people with different abilities

WEI

Civil Engineer, Environmental Engineer
Expertise: Designing building envelopes that allow the correct flow of air, heat and humidity
Goals: Create energy efficient buildings that keep people comfortable

LELLI

Structural Engineer, Professor
Expertise: Designing buildings and structures to resist earthquakes
Goals: Ensure that people and the things survive earthquakes by testing structural designs and inspecting how seismic damage occurs

SESSION 2:
The Client

Model	Expert	Client	Site

What is the problem identified in the Project Spark? How does this problem relate to the Challenge? Identify the Mission Model, the Expert, the Client, and the Site.

How would you design a solution to the problem presented? Sketch and label your solution, and then build a prototype*.

How do the Game Rules and field setup impact your strategy in the Robot game?

What skills did you learn? How would these skills apply to your Robot design and the Challenge?

Group 1 tasks

- ➔ Review Project Spark 1.
- ➔ Discuss the questions below and record your ideas.
- ➔ Sketch your solution and label each part of your sketch.
- ➔ Create a prototype from the materials provided by your coach.
- ➔ Provide a status update to the other group.

Group 2 tasks

- ➔ Complete the EV3 Robot Educator tutorial called Straight Move, or the SPIKE Prime lesson Training Camp 1.
- ➔ Discuss the question below and record your ideas.
- ➔ Provide a status update to the other group.

* *A prototype is a model of your solution that shows how it will work. You can create a prototype from LEGO bricks and elements, or other items provided by your coach.*