



CHALLENGE



Scope and Sequence: 20-Hour Option

Activity	Description	Hours
Guided Experience	Engineering Notebook: Sessions 1-12	18
Session 1	Robot Lesson 1 and Project Spark 1	1.5
Session 2	Robot Lesson 2 and Project Spark 2	1.5
Session 3	Project Spark 1 and Robot Lesson 1	1.5
Session 4	Project Spark 2 and Robot Lesson 2	1.5
Session 5	Robot Lesson 3 and Pseudocode	1.5
Session 6	Robot Lesson 4 and Choose Problem	1.5
Session 7	Project Research and Robot Lesson 5	1.5
Session 8	Robot Lesson 5 and Project Development	1.5
Session 9	Project Continuation and Solve Missions	1.5
Session 10	Presentation Work and Solve Missions	1.5
Session 11	Prepare Robot and Project Presentations	1.5
Session 12	Practice Presentations and Robot Matches	1.5
Tournament	Present Solutions and Compete in Matches	2

Scope and Sequence: 30-Hour Option

Activity	Description	Hours
Getting Started	LEGO® Education SPIKE™ PRIME Activities	3
Activity 1	Start Here	1
Activity 2	Motors and Sensors	1
Activity 3	Make it Move	1
Guided Experience	Engineering Notebook: Sessions 1-8	12
Session 1	Robot Lesson 1 and Project Spark 1	1.5
Session 2	Robot Lesson 2 and Project Spark 2	1.5
Session 3	Project Spark 1 and Robot Lesson 1	1.5
Session 4	Project Spark 2 and Robot Lesson 2	1.5
Session 5	Robot Lesson 3 and Pseudocode	1.5
Session 6	Robot Lesson 4 and Choose Problem	1.5
Session 7	Project Research and Robot Lesson 5	1.5
Session 8	Robot Lesson 5 and Project Development	1.5
Extended Experience	Engineering Notebook: Sessions 9-12	13
Extended Session 9	Project Continuation and Solve Missions <ul style="list-style-type: none"> Extended time to solve missions and develop Innovation Project solution. 	4
Extended Session 10	Presentation Work and Solve Missions <ul style="list-style-type: none"> Extended time to solve missions and work on Innovation Project presentation. 	4
Extended Session 11	Prepare Robot and Project Presentations <ul style="list-style-type: none"> Extended time to prepare and complete Robot Design and Innovation Project presentations. 	3
Extended Session 12	Practice Presentations and Robot Matches <ul style="list-style-type: none"> Extended time to practice before tournament. 	2
Tournament	Present Solutions and Compete in Matches	2



CHALLENGE



Scope and Sequence: 40-Hour Option

Activity	Description	Hours
Robot Skill Learning	LEGO® Education Unit Plan(s) (<i>options at bottom</i>)	10
Guided Experience	Engineering Notebook: Sessions 1-12	18
Session 1	Robot Lesson 1 and Project Spark 1	1.5
Session 2	Robot Lesson 2 and Project Spark 2	1.5
Session 3	Project Spark 1 and Robot Lesson 1	1.5
Session 4	Project Spark 2 and Robot Lesson 2	1.5
Session 5	Robot Lesson 3 and Pseudocode	1.5
Session 6	Robot Lesson 4 and Choose Problem	1.5
Session 7	Project Research and Robot Lesson 5	1.5
Session 8	Robot Lesson 5 and Project Development	1.5
Session 9	Project Continuation and Solve Missions	1.5
Session 10	Presentation Work and Solve Missions	1.5
Session 11	Prepare Robot and Project Presentations	1.5
Session 12	Practice Presentations and Robot Matches	1.5
Continue Robot Skills	LEGO Education Unit Plan(s) (<i>options at bottom</i>)	10
Tournament	Present Solutions and Compete in Matches	2

LEGO Education SPIKE™ PRIME Unit Plans			
<u>Invention Squad</u> (6 Hours)	<u>Kickstart a Business</u> (9 Hours)	<u>Life Hacks</u> (6 Hours)	<u>Extra Resources</u> (4 Hours)
<ul style="list-style-type: none"> • Help! • Hopper Race • Super Cleanup • Broken • Design for Someone 	<ul style="list-style-type: none"> • Place Your Order • Out of Order • Track Your Packages • Keep It Safe • Keep It Really Safe! • Automate It! 	<ul style="list-style-type: none"> • Break Dance • Repeat 5 Times • Rain or Shine? • Wind Speed • Veggie Love • Brain Game • The Coach 	<ul style="list-style-type: none"> • Pass the Brick • Ideas, the LEGO way! • What is this? • Going the Distance • Goal!



CHALLENGE



Scope and Sequence: 60-Hour Option

Activity	Description	Hours
Robot Skill Learning	LEGO® Education Unit Plans (<i>options at bottom</i>)	15
Guided Experience	Engineering Notebook: Sessions 1-12	18
Session 1	Robot Lesson 1 and Project Spark 1	1.5
Session 2	Robot Lesson 2 and Project Spark 2	1.5
Session 3	Project Spark 1 and Robot Lesson 1	1.5
Session 4	Project Spark 2 and Robot Lesson 2	1.5
Session 5	Robot Lesson 3 and Pseudocode	1.5
Session 6	Robot Lesson 4 and Choose Problem	1.5
Session 7	Project Research and Robot Lesson 5	1.5
Session 8	Robot Lesson 5 and Project Development	1.5
Session 9	Project Continuation and Solve Missions	1.5
Session 10	Presentation Work and Solve Missions	1.5
Session 11	Prepare Robot and Project Presentations	1.5
Session 12	Practice Presentations and Robot Matches	1.5
STEM Learning	FIRST @ Home Lessons (<i>listed at bottom</i>)	25
Tournament	Present Solutions and Compete in Matches	2

LEGO Education SPIKE™ PRIME Unit Plans

<u>Invention Squad</u> (6 Hours)	<u>Kickstart a Business</u> (9 Hours)	<u>Life Hacks</u> (6 Hours)	<u>Extra Resources</u> (4 Hours)
<ul style="list-style-type: none"> • Help! • Hopper Race • Super Cleanup • Broken • Design for Someone 	<ul style="list-style-type: none"> • Place Your Order • Out of Order • Track Your Packages • Keep It Safe • Keep It Really Safe! • Automate It! 	<ul style="list-style-type: none"> • Break Dance • Repeat 5 Times • Rain or Shine? • Wind Speed • Veggie Love • Brain Game • The Coach 	<ul style="list-style-type: none"> • Pass the Brick • Ideas, the LEGO way! • What is this? • Going the Distance • Goal!

FIRST @ Home Lessons

Core Values Activities (3 Hours)	Coding Activities (3 Hours)	3D and CAD Activities (3 Hours)
Electronics and Mechanics Activities (3 Hours)	Engineering Design Activities (3 Hours)	Capstone and Additional Activities (10 Hours)



CHALLENGE



Scope and Sequence: 80-Hour Option

Activity	Description	Hours
Robot Skill Learning	LEGO® Education Unit Plans (<i>options at bottom</i>)	25
Guided Experience	Engineering Notebook: Sessions 1-12	28
Session 1	Robot Lesson 1 and Project Spark 1	1.5
Session 2	Robot Lesson 2 and Project Spark 2	1.5
Session 3	Project Spark 1 and Robot Lesson 1	1.5
Session 4	Project Spark 2 and Robot Lesson 2	1.5
Session 5	Robot Lesson 3 and Pseudocode	1.5
Session 6	Robot Lesson 4 and Choose Problem	1.5
Session 7	Project Research and Robot Lesson 5	1.5
Session 8	Robot Lesson 5 and Project Development	1.5
Extended Session 9	Extended Time: Solve missions and develop project solution	3
Extended Session 10	Extended Time: Solve missions and Project Presentation Work	3
Extended Session 11	Extended Time: Develop Robot and Project Presentations	2
Extended Session 12	Extended Practice Presentation Time and Robot Matches	2
STEM Learning	FIRST @ Home Lessons (<i>listed at bottom</i>)	25
Tournament	Present Solutions and Compete in Matches	2

LEGO Education SPIKE™ PRIME Unit Plans

<u>Invention Squad</u> (6 Hours)	<u>Kickstart a Business</u> (9 Hours)	<u>Life Hacks</u> (6 Hours)	<u>Extra Resources</u> (4 Hours)
<ul style="list-style-type: none"> • Help! • Hopper Race • Super Cleanup • Broken • Design for Someone 	<ul style="list-style-type: none"> • Place Your Order • Out of Order • Track Your Packages • Keep It Safe • Keep It Really Safe! • Automate It! 	<ul style="list-style-type: none"> • Break Dance • Repeat 5 Times • Rain or Shine? • Wind Speed • Veggie Love • Brain Game • The Coach 	<ul style="list-style-type: none"> • Pass the Brick • Ideas, the LEGO way! • What is this? • Going the Distance • Goal!

FIRST @ Home Lessons

Core Values Activities (3 Hours)	Coding Activities (3 Hours)	3D and CAD Activities (3 Hours)
Electronics and Mechanics Activities (3 Hours)	Engineering Design Activities (3 Hours)	Capstone and Additional Activities (10 Hours)