

Grade 3 - Science Curriculum Alignment
2022-23 FIRST LEGO League Explore Team Meeting Guide

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<p>Session 1:</p> <p>Introduction - Let's Discover</p> <ul style="list-style-type: none"> ● Students discuss the Core Value of discovery and provide examples. <p>Team Outcomes</p> <ul style="list-style-type: none"> ● The team will use discovery to explore the SUPERPOWERED theme and explain what is an energy journey ● The team will identify different energy examples on the mat 	<p>STEM Skills and Connections</p>	<p>*A1.1 use a scientific research process and associated skills to conduct investigations</p> <p>*A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems</p> <p>*A1.4 follow established health and safety procedures during science and technology investigations</p> <p>*A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes</p> <p>A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems</p> <p>A3.2 investigate how science and technology can be used with other subject areas to address real-world problems</p>	<ul style="list-style-type: none"> ● ● ● ● ● ●
<p>Share</p> <ul style="list-style-type: none"> ● Students share what they did in the session ● Students explain what an energy journey is and its different parts ● Students show the different 	<p>Understanding Life Systems</p>		

- The standard is clearly addressed by program activities.
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energy examples on the mat	Understanding Structures and Mechanisms		
	Understanding Matter and Energy		
	Understanding Earth and Space Systems		

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<p>Session 2:</p> <p>Introduction – Go Team</p> <ul style="list-style-type: none"> Students talk about what teamwork is and provide examples of this Core Value <p>Team Outcomes</p> <ul style="list-style-type: none"> The team will build the wind turbine and explore how it works The team will identify different energy sources 	<p>STEM Skills and Connections</p>	<p>*A1.1 use a scientific research process and associated skills to conduct investigations</p> <p>*A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems</p> <p>*A1.4 follow established health and safety procedures during science and technology investigations</p> <p>*A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes</p> <p>*A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems</p> <p>*A3.2 investigate how science and technology can be used with other subject areas to address real-world problems</p>	<ul style="list-style-type: none"> • • • • • •
<p>Share</p> <p>Have the team:</p> <ul style="list-style-type: none"> share what they did in the session demonstrate how the wind turbine works explain what an energy source is and provide examples show the different energy sources on the mat 	<p>Understanding Life Systems</p>		
	<p>Understanding Structures and Mechanisms</p>		

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	Understanding Matter and Energy	C2.2 describe different ways a force can be exerted on an object C2.3 describe how different forces applied to an object, including forces of varying magnitude, can cause the object to start, stop, or change its direction, speed, or shape	- -
	Understanding Earth and Space Systems		

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
Session 3: Introduction – Let’s Have Fun <ul style="list-style-type: none"> Teams talk about what fun is and provide examples of this Core Value Team Outcomes <ul style="list-style-type: none"> Teams will build the energy storage model and explore how it works Teams will identify different ways energy is stored and distributed 	STEM Skills and Connections	*A1.1 use a scientific research process and associated skills to conduct investigations *A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems *A1.4 follow established health and safety procedures during science and technology investigations *A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes *A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems *A3.2 investigate how science and technology can be used with other subject areas to address real-world problems	<ul style="list-style-type: none"> • • • • • •

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<p>Share Have the team:</p> <ul style="list-style-type: none"> ● share what they did in the session ● demonstrate how the energy storage model works ● explain how energy is stored and distributed ● show the different energy connections on the mat 	Understanding Life Systems		
	Understanding Structures and Mechanisms		
	Understanding Matter and Energy		

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	Understanding Earth and Space Systems		
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<p>Session 4: Introduction – Let’s Innovate</p> <ul style="list-style-type: none"> Students talk about what innovation is and the team provides examples of this Core Value <p>Team Outcomes</p> <ul style="list-style-type: none"> The team will build the carousel and connect it to the energy storage model The team will identify different ways energy is consumed 	STEM Skills and Connections	<p>*A1.1 use a scientific research process and associated skills to conduct investigations</p> <p>*A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems</p> <p>*A1.4 follow established health and safety procedures during science and technology investigations</p> <p>*A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes</p> <p>*A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems</p> <p>*A3.2 investigate how science and technology can be used with other subject areas to address real-world problems</p>	<ul style="list-style-type: none"> • • • • • •
<p>Share Have the team:</p> <ul style="list-style-type: none"> share what they did in the session demonstrate how the carousel 	Understanding Life Systems		

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works <ul style="list-style-type: none"> ● explain what an energy consumer is and provide examples ● show different examples of energy consumption on the mat 	Understanding Structures and Mechanisms		
	Understanding Matter and Energy		
	Understanding Earth and Space Systems		

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<p>Session 5:</p> <p>Introduction – Be Inclusive</p> <ul style="list-style-type: none"> The team will talk about what inclusion is and provide examples of this Core Value <p>Team Outcomes</p> <ul style="list-style-type: none"> The team will build the LEGO model from the lesson and explore motor coding blocks The team will apply their coding and building skills to change the existing model into a wind turbine 	<p>STEM Skills and Connections</p>	<p>*A1.1 use a scientific research process and associated skills to conduct investigations</p> <p>*A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems</p> <p>*A1.4 follow established health and safety procedures during science and technology investigations</p> <p>*A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes</p> <p>*A2.1 write and execute code in investigations and when modelling concepts, with a focus on testing, debugging, and refining programs</p> <p>*A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems</p> <p>*A3.2 investigate how science and technology can be used with other subject areas to address real-world problems</p>	<ul style="list-style-type: none"> • • • • • • •
<p>Share</p> <p>Have the team:</p> <ul style="list-style-type: none"> Share what they did in the session Show the motor coding skills they learned Demonstrate how they modified the model and code to capture the maximum amount of energy 	<p>Understanding Life Systems</p>		
	<p>Understanding Structures and Mechanisms</p>		

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	Understanding Matter and Energy	C2.2 describe different ways a force can be exerted on an object C2.3 describe how different forces applied to an object, including forces of varying magnitude, can cause the object to start, stop, or change its direction, speed, or shape C2.4 identify ways in which forces are used in their daily lives	- - -
	Understanding Earth and Space Systems		

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Session 6: Introduction – Have an Impact <ul style="list-style-type: none"> Teams will talk about what impact is and provide examples of this Core Value Team Outcomes <ul style="list-style-type: none"> The team build the LEGO model from the lesson and explore light and sound blocks The team will build the motor and hub build and motorize the Explore model 	STEM Skills and Connections	*A1.1 use a scientific research process and associated skills to conduct investigations *A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems *A1.4 follow established health and safety procedures during science and technology investigations *A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes *A2.1 write and execute code in investigations and when modelling concepts, with a focus on testing, debugging, and refining programs *A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems	<ul style="list-style-type: none"> • • • • • •

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		*A3.2 investigate how science and technology can be used with other subject areas to address real-world problems	●
Share Have the team: <ul style="list-style-type: none"> ● Share what they did in the session ● Show the light and sound coding skills they learned ● Build and code the motor and hub build and motorize part of the Explore model 	Understanding Life Systems		
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<p>Session 7:</p> <p>Introduction – Discovery Build</p> <ul style="list-style-type: none"> ● The team will provide examples of how they have used discovery throughout the sessions ● The team will create a build from the prototyping pieces represent this Core Value <p>Team Outcomes</p> <ul style="list-style-type: none"> ● The team will build the LEGO model from the lesson and code the robot to drive ● The team will apply their coding and building skills to change the existing robot into an electric car 	STEM Skills and Connections	<p>*A1.1 use a scientific research process and associated skills to conduct investigations</p> <p>*A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems</p> <p>*A1.4 follow established health and safety procedures during science and technology investigations</p> <p>*A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes</p> <p>*A2.1 write and execute code in investigations and when modelling concepts, with a focus on testing, debugging, and refining programs</p> <p>*A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems</p> <p>*A3.2 investigate how science and technology can be used with other subject areas to address real-world problems</p>	<ul style="list-style-type: none"> ● ● ● ● ● ●

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<p>Share Have the team:</p> <ul style="list-style-type: none"> ● Share what they did in the session ● Show how they have applied coding skills learned in previous sessions to make a mobile robot ● Demonstrate how their electric car drives on the mat 	Understanding Life Systems		
	Understanding Structures and Mechanisms		
	Understanding Matter and Energy	<p>C2.2 describe different ways a force can be exerted on an object</p> <p>C2.3 describe how different forces applied to an object, including forces of varying magnitude, can cause the object to start, stop, or change its direction, speed, or shape</p>	<p>-</p> <p>-</p>
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<p>Sessions 8 & 9:</p> <p>Introduction – Teamwork and Fun Builds</p> <ul style="list-style-type: none"> ● The team will provide examples of how they have used teamwork and fun throughout the sessions ● The team will create a build from the prototyping pieces representing this Core Value <p>Team Outcomes</p> <ul style="list-style-type: none"> ● The team will draw their team model design and labels its required parts ● The team will create their team model of a better energy journey for their community 	STEM Skills and Connections	<p>*A1.1 use a scientific research process and associated skills to conduct investigations</p> <p>*A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems</p> <p>*A1.4 follow established health and safety procedures during science and technology investigations</p> <p>*A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes</p> <p>*A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems</p> <p>*A3.2 investigate how science and technology can be used with other subject areas to address real-world problems</p>	<ul style="list-style-type: none"> ● ● ● ● ● ●
<p>Share</p> <p>Have the team:</p> <ul style="list-style-type: none"> ● Share what they did at the end of each session ● Explain the program and how it motorizes either the wind turbine or carousel 	Understanding Life Systems		

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<ul style="list-style-type: none"> ● Review the list of required parts and identify them on the team model ● Demonstrate how the team model works 	Understanding Structures and Mechanisms		
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<p>Sessions 10 & 11:</p> <p>Introduction – Innovation and Inclusion Builds</p> <ul style="list-style-type: none"> • The team will provide examples of how they have used innovation (Session 10) and inclusion (Session 11) • The team will create a build from the prototyping pieces representing this Core Value <p>Team Outcomes</p> <ul style="list-style-type: none"> • The team will create a plan for what they will include on their team poster • The team will design and create their team poster 	<p>STEM Skills and Connections</p>	<p>*A1.1 use a scientific research process and associated skills to conduct investigations</p> <p>*A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems</p> <p>*A1.4 follow established health and safety procedures during science and technology investigations</p> <p>*A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes</p> <p>*A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems</p> <p>*A3.2 investigate how science and technology can be used with other subject areas to address real-world problems</p>	<ul style="list-style-type: none"> • • • • • •
<p>Share</p> <p>Have the team:</p> <ul style="list-style-type: none"> • Share what they did at the end of each session • Show their team poster design • Explain their team journey • Demonstrate how they will present their team poster 	<p>Understanding Life Systems</p>		
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<p>Session 12:</p> <p>Introduction – Impact Build</p> <ul style="list-style-type: none"> Have the team provide examples of how they have had an impact throughout the sessions Have the team create a build from the prototyping pieces representing this Core Value <p>Team Outcomes</p> <ul style="list-style-type: none"> The team will reflect on their SUPERPOWERED 	STEM Skills and Connections	<p>*A1.1 use a scientific research process and associated skills to conduct investigations</p> <p>*A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems</p> <p>*A1.4 follow established health and safety procedures during science and technology investigations</p> <p>*A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes</p> <p>*A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems</p> <p>*A3.2 investigate how science and technology can be used with other subject areas to address real-world problems</p>	<ul style="list-style-type: none"> • • • • • •

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<p>experience</p> <ul style="list-style-type: none"> • The team will create a plan for what to share at their final event 			
<p>Share Have the team:</p> <ul style="list-style-type: none"> • Practice their team poster presentation • Practice their team model presentation 	<p>Understanding Life Systems</p>		
	<p>Understanding Structures and Mechanisms</p>		
	<p>Understanding Matter and Energy</p>		

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