

**Grade 4 - Mathematics 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>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 energy examples on the mat 	Number		
	Algebra		
	Data		
	Spatial Sense		
	Financial Literacy		

- The standard is clearly addressed by program activities.
- This standard potentially could be addressed, either by actions taken when working with students or by conditions established by the program

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	SEL Skills & Mathematical Processes	<p>*problem solving: develop, select, and apply problem-solving strategies</p> <p>*communicating: express and understand mathematical thinking</p> <p>*selecting tools and strategies: select and use a variety of concrete, visual, and electronic learning tools and appropriate strategies to investigate mathematical ideas and to solve problems</p>	<ul style="list-style-type: none"> ● ● ●
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Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<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>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 	Number		
	Algebra		
	Data		
	Spatial Sense		

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**Grade 4 - Mathematics Curriculum Alignment
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	Financial Literacy		
	SEL Skills & Mathematical Processes	<p>*problem solving: develop, select, and apply problem-solving strategies</p> <p>*communicating: express and understand mathematical thinking</p> <p>*selecting tools and strategies: select and use a variety of concrete, visual, and electronic learning tools and appropriate strategies to investigate mathematical ideas and to solve problems</p>	<ul style="list-style-type: none"> ● ● ●

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<p>Session 3:</p> <p>Introduction – Let’s Have Fun</p> <ul style="list-style-type: none"> ● Teams talk about what fun is and provide examples of this Core Value <p>Team Outcomes</p> <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 <p>Share</p> <p>Have the team:</p> <ul style="list-style-type: none"> ● share what they did in the session 	Number		
	Algebra		
	Data		

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<ul style="list-style-type: none"> demonstrate how the energy storage model works explain how energy is stored and distributed show the different energy connections on the mat 	Spatial Sense		
	Financial Literacy		
	SEL Skills & Mathematical Processes	<p>*problem solving: develop, select, and apply problem-solving strategies</p> <p>*communicating: express and understand mathematical thinking</p> <p>*selecting tools and strategies: select and use a variety of concrete, visual, and electronic learning tools and appropriate strategies to investigate mathematical ideas and to solve problems</p>	<ul style="list-style-type: none"> • • •

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<p>Session 4:</p> <p>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 	Number		
	Algebra		

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<ul style="list-style-type: none"> The team will identify different ways energy is consumed Share Have the team: <ul style="list-style-type: none"> share what they did in the session demonstrate how the carousel works explain what an energy consumer is and provide examples show different examples of energy consumption on the mat 	Data		
	Spatial Sense		
	Financial Literacy		
	SEL Skills & Mathematical Processes	<i>problem solving:</i> develop, select, and apply problem-solving strategies <i>communicating:</i> express and understand mathematical thinking <i>selecting tools and strategies:</i> select and use a variety of concrete, visual, and electronic learning tools and appropriate strategies to investigate mathematical ideas and to solve problems	<ul style="list-style-type: none"> • • •

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
Session 5: Introduction – Be Inclusive <ul style="list-style-type: none"> The team will talk about what inclusion is and provide 	Number		

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**Grade 4 - Mathematics Curriculum Alignment
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<p>examples of this Core Value 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>Share 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 	Algebra	<p>C3.1 solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves sequential, concurrent, repeating, and nested events</p> <p>C3.2 read and alter existing code, including code that involves sequential, concurrent, repeating, and nested events, and describe how changes to the code affect the outcomes</p>	<ul style="list-style-type: none"> • •
	Data		
	Spatial Sense	E1.3 describe and perform translations and reflections on a grid, and predict the results of these transformations	-
	Financial Literacy		
	SEL Skills & Mathematical Processes	<p>*problem solving: develop, select, and apply problem-solving strategies</p> <p>*communicating: express and understand mathematical thinking</p> <p>*selecting tools and strategies: select and use a variety of concrete, visual, and electronic learning tools and appropriate strategies to investigate mathematical ideas and to solve problems</p>	<ul style="list-style-type: none"> • • •

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**Grade 4 - Mathematics Curriculum Alignment
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<p>Session 6:</p> <p>Introduction – Have an Impact</p> <ul style="list-style-type: none"> Teams will talk about what impact is and provide examples of this Core Value <p>Team Outcomes</p> <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 <p>Share</p> <p>Have the team:</p> <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 	Number		
	Algebra	<p>C3.1 solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves sequential, concurrent, repeating, and nested events</p> <p>C3.2 read and alter existing code, including code that involves sequential, concurrent, repeating, and nested events, and describe how changes to the code affect the outcomes</p>	<ul style="list-style-type: none"> • •
	Data		
	Spatial Sense	E1.3 describe and perform translations and reflections on a grid, and predict the results of these transformations	-
	Financial Literacy		
	SEL Skills & Mathematical Processes	<p>*problem solving: develop, select, and apply problem-solving strategies</p> <p>*communicating: express and understand mathematical thinking</p> <p>*selecting tools and strategies: select and use a variety of concrete, visual, and electronic learning tools and appropriate strategies to investigate mathematical ideas and to solve problems</p>	<ul style="list-style-type: none"> • • •

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**Grade 4 - Mathematics Curriculum Alignment
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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 <p>Share</p> <p>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 	Number		
	Algebra	C3.1 solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves sequential, concurrent, repeating, and nested events C3.2 read and alter existing code, including code that involves sequential, concurrent, repeating, and nested events, and describe how changes to the code affect the outcomes	<ul style="list-style-type: none"> • •
	Data		
	Spatial Sense	E1.3 describe and perform translations and reflections on a grid, and predict the results of these transformations	-
	Financial Literacy		

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	SEL Skills & Mathematical Processes	<p>*problem solving: develop, select, and apply problem-solving strategies</p> <p>*communicating: express and understand mathematical thinking</p> <p>*selecting tools and strategies: select and use a variety of concrete, visual, and electronic learning tools and appropriate strategies to investigate mathematical ideas and to solve problems</p>	<ul style="list-style-type: none"> ● ● ●
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Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<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 <p>Share</p> <p>Have the team:</p> <ul style="list-style-type: none"> ● Share what they did at the end of each session 	Number		
	Algebra	<p>C3.1 solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves sequential, concurrent, repeating, and nested events</p> <p>C3.2 read and alter existing code, including code that involves sequential, concurrent, repeating, and nested events, and describe how changes to the code affect the outcomes</p>	<ul style="list-style-type: none"> ● ●
	Data		
	Spatial Sense		

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<ul style="list-style-type: none"> Explain the program and how it motorizes either the wind turbine or carousel Review the list of required parts and identify them on the team model Demonstrate how the team model works 	Financial Literacy		
	SEL Skills & Mathematical Processes	<p><i>problem solving:</i> develop, select, and apply problem-solving strategies</p> <p><i>communicating:</i> express and understand mathematical thinking</p> <p><i>selecting tools and strategies:</i> select and use a variety of concrete, visual, and electronic learning tools and appropriate strategies to investigate mathematical ideas and to solve problems</p>	<ul style="list-style-type: none">

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<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 	Number		
	Algebra		
	Data		

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create their team poster Share Have the team: <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 	Spatial Sense		
	Financial Literacy		
	SEL Skills & Mathematical Processes	<i>*problem solving:</i> develop, select, and apply problem-solving strategies <i>*communicating:</i> express and understand mathematical thinking <i>*selecting tools and strategies:</i> select and use a variety of concrete, visual, and electronic learning tools and appropriate strategies to investigate mathematical ideas and to solve problems	<ul style="list-style-type: none"> ● ● ●

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
Session 12: Introduction – Impact Build <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 Team Outcomes	Number		
	Algebra		

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<ul style="list-style-type: none"> ● The team will reflect on their SUPERPOWERED experience ● The team will create a plan for what to share at their final event <p>Share</p> <p>Have the team:</p> <ul style="list-style-type: none"> ● Practice their team poster presentation ● Practice their team model presentation 	Data		
	Spatial Sense		
	Financial Literacy		
	SEL Skills & Mathematical Processes	<p><i>problem solving:</i> develop, select, and apply problem-solving strategies</p> <p><i>communicating:</i> express and understand mathematical thinking</p> <p><i>selecting tools and strategies:</i> select and use a variety of concrete, visual, and electronic learning tools and appropriate strategies to investigate mathematical ideas and to solve problems</p>	<ul style="list-style-type: none"> ● ● ●

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