

Junior FIRST® LEGO® League Team Meeting Guide

CURRICULUM Grid Kindergarten

Code	Standard	Think About It!		Learn About It!				Build It!				Share It!		
		Session 1	Session 2	Session 1	Session 2	Session 3	Session 4	Session 1	Session 2	Session 3	Session 4	Session 1	Session 2	
English Language Arts (US Common Core Standards)														
Reading: Informational Text (RI)														
RI.K.1	With prompting and support, ask and answer questions about key details in a text.			■				■	■					
RI.K.2	With prompting and support, identify the main topic and retell key details of a text.		■	■	■			■		■				
RI.K.3	With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.		■	■				■	■	■				
RI.K.8	With prompting and support, identify the reasons an author gives to support points in a text.							■						
RI.K.9	With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).					■	■	■						
Reading Foundational Skills (RF)														
RF.K.4	Read emergent-reader texts with purpose and understanding.		■		■	■			■	■				■

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		Session 1	Session 2	Session 1	Session 2	Session 3	Session 4	Session 1	Session 2	Session 3	Session 4	Session 1	Session 2	
Writing (W)														
W.K.2	Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.		■		■	■							■	
W.K.6	With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.				■	■	■						■	
W.K.7	Participate in shared research and writing projects.			■	■	■	■	■						
W.K.8	With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.			■	■	■	■	■					■	■
Speaking and Listening (SL)														
SL.K.1	Participate in collaborative conversations with diverse partners about <i>kindergarten topics and texts</i> with peers and adults in small and larger groups.		■	■	■			■	■				■	■
SL.K.1a	Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion).	■	■	■	■			■	■	■			■	■
SL.K.1b	Continue a conversation through multiple exchanges.		■	■	■			■	■					■
SL.K.2	Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.				■	■	■						■	■
SL.K.4	Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.				■	■	■	■					■	■

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SL.K.6	Speak audibly and express thoughts, feelings, and ideas clearly.	■	■	■	■	■	■	■	■	■	■	■	■
Mathematics (US Common Core Standards)													
Counting and Cardinality (CC)													
K.CC.B.5	Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.	■			■					■	■	■	
K.CC.C.6	Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.	■			■					■	■	■	
Measurement and Data (MD)													
K.MD.A.1	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.									■	■		
K.MD.B.3	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count	■			■					■	■	■	
Geometry (G)													
K.G.A.1	Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as <i>above</i> , <i>below</i> , <i>beside</i> , <i>in front of</i> , <i>behind</i> , and <i>next to</i> .									■	■		
K.G.A.3	Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).									■			
K.G.B.5	Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.	■	■	■	■				■		■	■	

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Science (Next Generation Science Standards)														
Engineering Design (ETS) Performance Expectations:														
K-2-ETS1-1	Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.				■	■	■	■						
K-2-ETS1-2	Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.							■	■		■			
Engineering Design (ETS) Science and Engineering Practice:														
K-2-ETS1-1	Ask questions based on observation to find more information about the natural and/or designed world(s)				■	■	■	■						
K-2-ETS1-1	Define a simple problem that can be solved through the development of a new or improved object or tool.							■	■					
K-2-ETS1-2	Develop a simple model based on evidence to represent a proposed object or tool.							■	■					
K-2-ETS1-3	Analyze data from tests of an object or tool to determine if it works as intended.										■			
Engineering Design (ETS) Disciplinary Core Ideas:														
K-2-ETS1-1	A situation that people want to change or create can be approached as a problem to be solved through engineering.							■	■	■	■			
K-2-ETS1-1	Asking questions, making observations, and gathering information are helpful in thinking about problems.			■	■	■	■	■						
K-2-ETS1-1	Before beginning to design a solution, it is important to clearly understand the problem.							■						

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K-2-ETS1-2	Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem’s solution to other people.							■	■	■	■		
K-2-ETS1-3	Because there is always more than one possible solution to a problem, it is useful to compare and test designs.							■	■		■		

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CURRICULUM Grid First Grade

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English Language Arts (US Common Core Standards)														
Reading: Informational Text (RI)														
RI.1.1	Ask and answer questions about key details in a text.			■				■	■					
RI.1.2	Identify the main topic and retell key details of a text.		■	■	■			■		■				
RI.1.3	Describe the connection between two individuals, events, ideas, or pieces of information in a text.		■	■				■	■	■				
RI.1.7	Use the illustrations and details in a text to describe its key ideas.				■	■								
RI.1.8	Identify the reasons an author gives to support points in a text.							■						
RI.1.9	Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).				■	■		■						
Reading Foundational Skills (RF)														
RF.1.4	Read with sufficient accuracy and fluency to support comprehension.		■		■	■			■	■				■

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Writing (W)														
W.1.2	Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.				■	■							■	
W.1.6	With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.				■	■	■						■	
W.1.7	Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions).				■	■	■	■						
W.1.8	With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.			■	■	■	■	■					■	■
Speaking and Listening (SL)														
SL.1.1	Participate in collaborative conversations with diverse partners about <i>grade 1 topics and texts</i> with peers and adults in small and larger groups.		■	■	■			■	■				■	■
SL.1.1a	Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).	■	■	■	■			■	■	■			■	
SL.1.1b	Build on others’ talk in conversations by responding to the comments of others through multiple exchanges.	■	■	■	■			■	■	■				■
SL.1.1c	Ask questions to clear up any confusion about the topics and texts under discussion.		■	■	■			■	■					■
SL.1.2	Ask and answer questions about key details in a text read aloud or information presented orally or through other media.				■	■	■						■	■
SL.1.3	Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.					■								■

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SL.1.4	Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.				■	■	■	■					■	■
SL.1.6	Produce complete sentences when appropriate to task and situation.	■	■	■	■	■	■	■	■	■	■	■	■	■
Mathematics (US Common Core Standards)														
Measurement and Data (MD)														
1.MD.A.2	Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. <i>Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.</i>											■	■	
1.MD.C.4	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.	■			■					■	■	■		
Geometry (G)														
1.G.A.1	Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.									■				
1.G.A.2	Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.								■	■	■	■		

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K-2-ETS1-3	Because there is always more than one possible solution to a problem, it is useful to compare and test designs.							■	■				
Science (Next Generation Science Standards)													
Engineering Design (ETS) Performance Expectations:													
K-2-ETS1-1	Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.				■	■	■	■					
K-2-ETS1-2	Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.							■	■		■		
Engineering Design (ETS) Science and Engineering Practice:													
K-2-ETS1-1	Ask questions based on observation to find more information about the natural and/or designed world(s).				■	■	■	■					
K-2-ETS1-1	Define a simple problem that can be solved through the development of a new or improved object or tool.							■	■				
K-2-ETS1-2	Develop a simple model based on evidence to represent a proposed object or tool.							■	■	■			
K-2-ETS1-3	Analyze data from tests of an object or tool to determine if it works as intended.										■		
Engineering Design (ETS) Disciplinary Core Ideas:													
K-2-ETS1-1	A situation that people want to change or create can be approached as a problem to be solved through engineering.							■	■	■	■		
K-2-ETS1-1	Asking questions, making observations, and gathering information are helpful in thinking about problems.			■	■	■	■	■					

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		Session 1	Session 2	Session 1	Session 2	Session 3	Session 4	Session 1	Session 2	Session 3	Session 4	Session 1	Session 2
K-2-ETS1-1	Before beginning to design a solution, it is important to clearly understand the problem.							■					
K-2-ETS1-2	Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem’s solution to other people.							■	■	■	■		
K-2-ETS1-3	Because there is always more than one possible solution to a problem, it is useful to compare and test designs.							■	■				

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CURRICULUM Grid Second Grade

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		Session 1	Session 2	Session 1	Session 2	Session 3	Session 4	Session 1	Session 2	Session 3	Session 4	Session 1	Session 2	
English Language Arts (US Common Core Standards)														
Reading: Informational Text (RI)														
RI.2.1	Ask and answer such questions as <i>who, what, where, when, why,</i> and <i>how</i> to demonstrate understanding of key details in a text.			■				■	■					
RI.2.2	Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.		■	■	■			■		■				
RI.2.3	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.		■	■				■	■	■				
RI.2.5	Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.					■	■			■				
RI.2.6	Identify the main purpose of a text, including what the author wants to answer, explain, or describe.					■		■	■					
RI.2.7	Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.					■	■							

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		Session 1	Session 2	Session 1	Session 2	Session 3	Session 4	Session 1	Session 2	Session 3	Session 4	Session 1	Session 2
RI.2.9	Compare and contrast the most important points presented by two texts on the same topic.				■	■	■						
Reading Foundational Skills (RF)													
RF.2.4	Read with sufficient accuracy and fluency to support comprehension.		■		■	■		■	■				■
Writing (W)													
W.2.2	Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.				■	■							■
W.2.6	With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers				■	■	■						■
W.2.7	Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).				■	■	■	■					
W.2.8	Recall information from experiences or gather information from provided sources to answer a question.				■	■	■	■					■ ■
Speaking and Listening (SL)													
SL.2.1	Participate in collaborative conversations with diverse partners about <i>grade 2 topics and texts</i> with peers and adults in small and larger groups		■	■	■			■	■				■ ■
SL.2.1a	Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).	■	■	■	■			■	■	■			■ ■
SL.2.1b	Build on others' talk in conversations by linking their comments to the remarks of others.	■	■	■	■			■	■	■			■
SL.2.2	Recount or describe key ideas or details from a text read aloud or information presented orally or through other media				■	■	■						■ ■

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SL.2.3	Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.					■								■
SL.2.5	Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.												■	
SL.2.6	Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.	■	■	■	■	■	■	■	■	■	■	■	■	■
Mathematics (US Common Core Standards)														
Measurement and Data (MD)														
2.MD.A.1	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.									■	■	■		
2.MD.A.3	Estimate lengths using units of inches, feet, centimeters, and meters.									■	■	■		
Science (Next Generation Science Standards)														
Engineering Design (ETS)														
Performance Expectations:														
K-2-ETS1-1	Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.				■	■	■	■						
K-2-ETS1-2	Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.							■	■			■		
Engineering Design (ETS)														
Science and Engineering Practice:														
K-2-ETS1-1	Ask questions based on observation to find more information about the natural and/or designed world(s).				■	■	■	■						

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		Session 1	Session 2	Session 1	Session 2	Session 3	Session 4	Session 1	Session 2	Session 3	Session 4	Session 1	Session 2
K-2-ETS1-1	Define a simple problem that can be solved through the development of a new or improved object or tool.							■	■				
K-2-ETS1-2	Develop a simple model based on evidence to represent a proposed object or tool.							■	■	■			
K-2-ETS1-3	Analyze data from tests of an object or tool to determine if it works as intended.										■		
Engineering Design (ETS) Disciplinary Core Ideas:													
K-2-ETS1-1	A situation that people want to change or create can be approached as a problem to be solved through engineering.							■	■	■	■		
K-2-ETS1-1	Asking questions, making observations, and gathering information are helpful in thinking about problems.			■	■	■	■	■					
K-2-ETS1-1	Before beginning to design a solution, it is important to clearly understand the problem.							■					
K-2-ETS1-2	Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem’s solution to other people.				■			■	■	■	■		
K-2-ETS1-3	Because there is always more than one possible solution to a problem, it is useful to compare and test designs.							■	■		■		

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CURRICULUM Grid Third Grade

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English Language Arts (US Common Core Standards)														
Reading: Informational Text (RI)														
RI.3.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.			■			■							
RI.3.2	Determine the main idea of a text; recount the key details and explain how they support the main idea.		■	■	■		■		■					
RI.3.3	Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.		■	■			■	■	■					
RI.3.5	Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.				■		■	■						
RI.3.6	Distinguish their own point of view from that of the author of a text.					■	■							
RI.3.7	Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).				■	■		■						

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RI.3.9	Compare and contrast the most important points and key details presented in two texts on the same topic.				■	■	■		■				
Reading Foundational Skills (RF)													
RF.3.4	Read with sufficient accuracy and fluency to support comprehension.		■		■	■		■	■				■
Writing (W)													
W.3.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.				■	■							■
W.3.2.a	Introduce a topic and group related information together; include illustrations when useful to aiding comprehension.				■	■							■
W.3.2.b	Develop the topic with facts, definitions, and details.				■	■							
W.3.6	With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others).				■	■	■						■
W.3.7	Conduct short research projects that build knowledge about a topic.				■	■	■	■					
W.3.8	Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.				■	■	■						■ ■
Speaking and Listening (SL)													
SL.3.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 3 topics and texts</i> , building on others' ideas and expressing their own clearly.		■	■	■			■	■				■

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SL.3.1.a	Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.						■						■
SL.3.1.b	Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).	■	■	■	■			■	■	■		■	■
SL.3.1.c	Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.	■	■	■	■			■	■	■			■
SL.3.1.d	Explain their own ideas and understanding in light of the discussion.		■	■	■								■
SL.3.2	Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.				■	■	■					■	■
SL.3.3	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.					■							■
SL.3.5	Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.			■									■
SL.3.6	Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification.	■	■	■	■	■	■	■	■	■	■	■	■

Science (Next Generation Science Standards)

**Engineering Design (ETS)
Performance Expectations:**

3-5 ETS1-1	Define a simple design problem that can be solved through the development of an object, tool, process, or system and includes several criteria for success and constraints on materials, time, or cost.								■	■			
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3-5-ETS1-2	Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design problem.								■				
3-5-ETS1-3	Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials is considered.										■		
Engineering Design (ETS) Science and Engineering Practice:													
3-5 ETS1-1	Define a simple design problem that can be solved through the development of an object, tool, process, or system and includes several criteria for success and constraints on materials, time, or cost.							■	■				
3-5-ETS1-3	Plan and conduct an investigation collaboratively to produce data the serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials is considered.										■		
3-5-ETS1-2	Generate and compare multiple solutions to a problem based on how well they meet the criteria and constrains of the design problem.							■	■				
Engineering Design (ETS) Disciplinary Core Ideas:													
3-5 ETS1-1	Possible solutions to a problem are limited by available materials and resources (constraints). The success of a design solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each takes the constraints into account.								■				
3-5-ETS1-2	Research on a problem should be carried out before beginning to design a solution. Testing a solution involves investigating how well it performs under a range of likely conditions.								■				

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3-5-ETS1-2	At whatever stage, communicating with peers about proposed solutions is an important part of the design process, and shared ideas can lead to improved designs.							■	■	■	■		
3-5-ETS1-3	Tests are often designed to identify failure points or difficulties, which suggest the element of a design that need to be improved.										■		
3-5-ETS1-3	Different solutions need to be tested in order to determine which of them best solves the problem, given the criteria and the constraints.									■	■		