

Southern Maine Gearbots Junior League

2017-18 SEASON SCHEDULE – 11 WEEKS

Season Schedule Overview

In August of each year, JrFLL announces the Annual Challenge, however FLLJr programs may be conducted at any time during the year.

Southern Maine Gearbots holds our Jr. League Challenge each winter, starting in early January, running for eleven weeks, and culminating in our District Meet typically held the last Saturday of March or the first Saturday of April. This year our District Meet will be held April 7. The District Meet is a wonderful opportunity for teams to share what they have accomplished and see what other teams have done during the season. Also at the District Meet, Junior teams have an opportunity to see Senior Teams with their robots in action performing Senior Robotic Track Challenges. It is a great day for everyone to come together and share their accomplishments and challenges!

Most coaches find that team meetings run more smoothly with a bit of advanced planning. Southern Maine Gearbots provides a comprehensive [Junior League Schedule](#), for an 11 week season, with weekly meetings lasting approximately 1.5 hours.

Feel free to use this schedule as it is provided-or modify it to meet the needs of your team and the requirements of your meeting place. The following diagram shows an overview of what to expect for any given weekly Session.

NOTE: Many of the referenced files are available online at: <http://www.smgearbots.org/coach-resources/>

A Week at a Glance

Activities/Resources:

Lists activities for the session and resources needed for those activities. Resource references may be found in the footnotes.

Description/Comments:

Provides an outline of the activities and resources for the session. Includes detailed information on activities, approaches to using the materials in the Coaches' Guide, guidelines on how much time to spend on any particular task, and much more!

Session Week, Time & Topic: Sessions run each week for 1.5 hours.

Week 1 – 1½ hours

Introductions

Suggested Time:

Provides a suggestion for the amount of time to spend on a particular activity. You may choose to modify an activity, or adjust the time allowed, based on the needs of your team and season.

Footnotes:

Provides list of references for information and activities found in this weeks' session. Footnotes for later weeks may not continue to refer to materials already referenced.

Time	Activity/Resources	Description/Comments
10-15 min.	Introduction & Team Building Exercise <u>Jr. FLL Core Values¹</u> <u>Gracious Professionalism!</u> <u>Session Warm-Ups²</u>	<ul style="list-style-type: none"> Welcome children and parents to the Gearbots program. Introduce the concepts of the program, especially team work and working together to solve problems and build projects. Coaches should review the <u>Jr. FLL Core Values</u> from the <u>Coaches' Guide</u>. Get started with the <u>Circle Name Game</u> Team Warm-Up (i.e., sit in a circle and go around, tell us your name and something about yourself combined with an action, whether you've done Gearbots before, favorite color, or share your favorite LEGO element – a single piece!)
10 min.	<u>Build to Express Challenge</u> <u>What Makes a Good Team Member?</u>	<ul style="list-style-type: none"> BUILD: Using the Build to Express kits, have the children put together a LEGO minifigure that represents what to them makes a good team member. Then, have them add more LEGO elements to tell something about how they could be a good team member.

¹ Jr.FLL Core Values – Gracious Professionalism!

² Guide on the Side, Session Warm-Ups, Circle Name Game

³ Challenge Coaches' Guide, Annual Seasonal Challenge

⁴ Southern Maine Gearbots: LEGO Brick Terminology. Learn to speak LEGO! – BASIC TERMS, pgs 1-2

⁵ SMGearbots Guide on the Side – Teambuilding

Week 1 – 1½ hours

Introductions

Time	Activity/Resources	Description/Comments
10-15 min.	Introduction & Team Building Exercise <u>FLLJr Core Values</u> ¹ Gracious Professionalism! <u>Session Warm-Ups</u> ²	<ul style="list-style-type: none"> • Welcome children and parents to the Gearbots program. Introduce the concepts of the program, especially team work and working together to solve problems and build projects. Coaches should review the <u>FLLJr Core Values</u> from the <u>2017-18 Aqua Adventure Coaches' Guide</u>. • Get started with the <u>Circle Name Game</u> Team Warm-Up (i.e., sit in a circle and go around, tell us your name and something about yourself combined with an action, whether you've done Gearbots before, favorite color, or share your favorite LEGO element – a single piece!)
10 min.	Build to Express Challenge <u>What Makes a Good Team Member?</u>	<ul style="list-style-type: none"> • BUILD: Using the Build to Express kits, have the children put together a LEGO minifigure that represents what to them makes a good team member. • Then, have them add more LEGO elements to tell something about how they could be a good team member.
15 min.	Discuss Team and Challenge <u>Aqua Adventure Challenge</u> ³	<ul style="list-style-type: none"> • FOCUS: Give an overview of what the <i>Aqua Adventure</i> challenge will be like from the <u>2017-2018 FLLJr Aqua Adventure Challenge</u> overview document. Children will be responsible for making decisions, building models by themselves, choosing a team name and colors, etc. • DISCUSS: From the <u>Coaches' Guide</u>, introduce the <i>Aqua Adventure Challenge</i>, including <u>Explore</u>, <u>Create & Test</u> with the model and <u>Show Me</u> poster, and <u>Share</u> at the District Meet.
5-10 min.	<u>Lego Brick Terminology</u> ⁴ Learn to speak LEGO! – BASIC TERMS	<ul style="list-style-type: none"> • Ask the Children if they're familiar with how LEGO bricks are named, introduce concepts, the different elements and parts that will be used. Make it interactive! • There is a LOT here to cover. Take it slow. Do a little each week. Add new terminology as you add new components.
35 min.	Team Building Activities: <u>Guide on the Side – Teambuilding</u> ⁵	<ul style="list-style-type: none"> • Select and work through one of the LEGO team building activities from <u>Guide on the Side – Teambuilding</u>. See how the Children do with it and have fun! • Work on using LEGO Terminology during activities.
5 min.	Wrap-Up and Review <u>FLLJr Core Values</u> ¹ Gracious Professionalism!	<ul style="list-style-type: none"> • Team should put away all pieces and clean up area. • Members should be encouraged to close the team meetings with the <u>FLLJr Core Values</u>. • Coach can wrap up meeting activities and remind students of what they learned today.

¹ FLLJr Core Values – Gracious Professionalism!² Guide on the Side, Session Warm-Ups, Circle Name Game³ 2017-18 Aqua Adventure Coaches' Guide, 2017-2018 FLLJr Aqua Adventure Challenge⁴ Southern Maine Gearbots: LEGO Brick Terminology, Learn to speak LEGO! – BASIC TERMS, pgs 1-2⁵ SMGearbots Guide on the Side – Teambuilding

Week 2 – 1½ hours

Team Building

Time	Activity/Resources	Description/Comments
5 min.	<u>Session Warm-Ups</u> ⁶ OR Free play with B2E Kits	<ul style="list-style-type: none"> • Join the team together for the <u>Water Use Ball Toss!</u> • B2E: Give the children an opportunity to explore Build to Express kits while waiting for team mates to show up.
50 min.	<p>Discuss Team and Challenge</p> <p><u>Meet Eliza the Honey Bee!</u>⁷</p> <p>“PlayPump” Team Building Challenge</p> <p><u>Homework Ideas:</u> <u>PlayPump Model Plans</u>⁸</p>	<ul style="list-style-type: none"> • FOCUS: You will begin introducing the challenge topic and concepts from Session 2 through 5. • READ: “The PlayPump Story” • DISCUSS: Ask the team if they can describe from the illustration how the water flows and look in the story for clues. From left to right, the merry go round 1) draws water from the ground, 2) pumps it up to the water tower, 3) travels down through pipes, and 4) comes out a faucet to fill a bucket! Would you like to play on a PlayPump? • BUILD: Have the team tell the PlayPump story using LEGOs! • The team should begin to build the <u>Aqua Adventure Inspire Set</u>. Remind them that their model will need to include this for the District Meet. The team should also read the story and think about other models they will need to build to tell the story.
30 min.	<p><u>Introduction to Simple Machines</u>⁹</p> <p><u>LEGO Set Instructions 9689 A-D</u>¹⁰</p> <p>Recommended order: B-Wheels – Wk 2 A-Gears – Wk 2/3 D-Pulleys – Wk 3 C-Levers – Wk 3/4</p> <p><u>Lego Brick Terminology</u>¹¹ <u>Technic Components</u></p>	<ul style="list-style-type: none"> • This is the time to introduce the concepts of simple machines as they relate to LEGOs. • Brainstorm with Children about the different types of simple machines. What are they and how do they work? How many can you name? Review ALL types of simple machines. • SHARE: Each week, CHOOSE ONE (or TWO) simple machines from the LEGO Set Instructions 9689 A-D to use to illustrate a different machine. You may either pre-build this model and share it or build it during team-time. • These simple machines models should be chosen in advance for consideration for the following week WeDo build activity. See the <u>Table: Simple Machine Instructionals, WeDo Getting Started Topics, and Model Activities</u>¹² at the end of this Jr. Season Schedule for the recommended build order. • Continue to build on <u>Lego Brick Terminology, Technic Components</u>
5 min.	<p>Wrap-Up and Review</p> <p><u>FLLJr Core Values</u>¹ Gracious Professionalism!</p>	<ul style="list-style-type: none"> • Team should put away all pieces and clean up area. • Members should be encouraged to close the team meetings with the <u>FLLJr Core Values</u>. • Coach can wrap up meeting activities and remind students of what they learned today.

⁶ Guide on the Side, Session Warm-Ups, Water Use Ball Toss

⁷ 2017-18 Aqua Adventure Coaches' Guide, 2017-2018 FLLJr Aqua Adventure Challenge, The PlayPump Story

⁸ 2017-18 Aqua Adventure Coaches' Guide, 2017-2018 FLLJr Aqua Adventure Challenge, PlayPump Model Plans

⁹ Introduction to Simple Machines, Wheels and Axles, Gears, Pulleys, and Levers

¹⁰ LEGO Set Instructions 9689 A-D, A-Gears, B-Wheels, C-Levers, or D-Pulleys

¹¹ Southern Maine Gearbots: LEGO Brick Terminology, Lego Brick Terminology, Technic Components, pgs 3-6

¹² SMGearbots Junior League Season Schedule, Table: Simple Machine Instructionals, pg 13

Week 3 – 1½ hours

Team Name

Time	Activity/Resources	Description/Comments
5 min.	<u>Session Warm-Ups</u> ¹³ OR Free play with B2E Kits	<ul style="list-style-type: none"> Join the team together for <u>Silent Communication!</u> B2E: Give the children an opportunity to explore Build to Express kits while waiting for team mates to show up.
20 min.	Discuss Team and Challenge <u>Choose Your Water Use</u> ¹⁴ <u>Homework Ideas:</u> <u>How I Use Water</u> ¹⁵	<ul style="list-style-type: none"> FOCUS: Answer questions about the Challenge. Clarify what the Challenge means and how the children should approach it. READ: “Choose Your Water Use” HOMEWORK: <i>photocopy or print ahead of session</i> Have the children think about and write down/draw how they use water. Ask that the children come back with ideas of how they use water that they can share at the next meeting.
10 min.	<u>Introduction to Simple Machines</u> ¹⁶ <u>LEGO Set Instructions 9689 A-D</u> ¹⁷	<ul style="list-style-type: none"> Continue instruction on simple machines. SHARE: Choose ONE or TWO simple machine instructional builds to follow on from the instruction from last week. Your goal is to make it through Wheel & Axle, Gears, and Pulleys (and maybe levers) for this week. Next week definitely levers!
35 min.	<u>WeDo Software</u> <u>WeDo Discussion Guide</u> ¹⁸ <u>WeDo Software: Getting Started</u> ¹⁹ <u>Lego Brick Terminology</u> ¹¹ <u>Technic Components</u>	<ul style="list-style-type: none"> Purpose: To introduce team to the motorized parts and how they work with wheels & axles, gears, pulleys, & levers. To introduce team to the WeDo software. Work on <u>WeDo Getting Started</u> and follow <u>WeDo Discussion Guide</u> related to the simple machines you have instructed above (7-8 min. each) – models build on each other as you go along, so don’t take them apart when you go to the next build. BUILD: Split team into two groups, and build TWO models, one with USB hub, one with battery pack. Swap halfway through. Assign navigators, finders, builders, and checkers – alternate.
5-15 min.	<u>Homework Ideas:</u> <u>What’s in a Name?</u> ²⁰ <u>Optional – Team Building:</u> <u>Lego Name Game</u> ²¹	<ul style="list-style-type: none"> HOMEWORK: <i>photocopy or print ahead of session</i> Have the children research the meanings of their own names. Have them think about the meanings of team names. Research could include what a good name could be for their team. They will also need to pick a team color. Have them bring back a name and color for next week to share for voting. Team-building activity, <u>Lego Name Game</u>, if desired.
5 min.	Wrap-Up and Review <u>FLLJr Core Values</u> ¹ Gracious Professionalism!	<ul style="list-style-type: none"> Team should put away all pieces and clean up area. Members should be encouraged to close the team meetings with the <u>FLLJr Core Values</u>. Coach can wrap up meeting activities and remind students of what they learned today.

¹³ Guide on the Side, Session Warm-Ups, Silent Communication

¹⁴ 2017-18 Aqua Adventure Coaches' Guide, 2017-2018 FLLJr Aqua Adventure Challenge, Choose Your Water Use

¹⁵ Guide on the Side, Homework Ideas, How I Use Water

¹⁶ Introduction to Simple Machines, Wheel and Axle, Gears, Pulley, and Levers

¹⁷ LEGO Set Instructions 9689 A-D, A-Gears, B-Wheels, C-Levers, or D-Pulleys

¹⁸ WeDo Discussion Guide, Getting Started, pg 24 located in section 5 of the 2017-18 Aqua Adventure Coaches' Guide

¹⁹ WeDo Software: Getting Started Instructionals, on laptop, directions for access on pg 13 of this document

²⁰ Guide on the Side, Homework Ideas, What’s in a Name?

²¹ Guide on the Side, Team Building, LEGO Name Game

Week 4 – 1½ hours

Idea Generation

Time	Activity/Resources	Description/Comments
5 min.	<u>Mini-Build</u> with B2E Kits	<ul style="list-style-type: none"> Join the team together for a <u>Moving Water Mini-Build</u> using the B2E: Build a LEGO® model that shows one real or imaginary way that you could help water travel from one place to another.
10-15 min.	Team Name Vote!	<ul style="list-style-type: none"> Complete and discuss team build <u>Lego Name Game</u> from previous week, if more time is needed. DISCUSS: and <u>vote</u> on team name and Color.
25-40 min.	Discuss Team and Challenge Vote! <u>Homework Ideas:</u> <u>Aqua Adventure: My Water's Journey (KnowWantLearned)</u> ²²	<ul style="list-style-type: none"> FOCUS: Review the water use ideas from the team homework. If team members didn't get this done give them a few minutes to come up with a few ideas. DISCUSS: What other uses of water have they found along the way? Write them down and have the children <u>vote</u> on them. Find the top three, then <u>vote</u> again to come up with a water use for their moving model. READ: "Follow Your Water's Journey" HOMEWORK: <i>photocopy or print ahead of session</i> Have the students research <i>What they Know, Want to Know, and What they Learned</i> about their water's journey and bring the information back to the next session to share.
10 min.	<u>Introduction to Simple Machines</u> ²³ <u>LEGO Set Instructions 9689 C-Levers</u> ²⁴	<ul style="list-style-type: none"> Choose simple machine instructionals SHARE: Levers should be covered if you haven't done them, otherwise move on to the Screw (part of the Worm Screw in the Technic Components), Wedge (an Axe in the B2E Kits), and Inclined Plane (any slope piece).
20-30 min.	<u>WeDo Getting Started</u> ⁴¹ <u>WeDo Model Activities</u> ⁴² <u>LEGO Instructions 9580</u> ²⁵ Roaring Lion (5) Dancing Birds (1) Hungry Alligator (4) Giant Escape (11)	<ul style="list-style-type: none"> If needed, continue <u>WeDo Getting Started</u> activities and follow <u>WeDo Discussion Guide</u>¹⁸ (7-8 min. each). <u>WeDo Model Activities</u> – The Model Activities provide the best instruction in the use of the WeDo kits. They also are the most fun for the children in building. Begin with the <u>Lion (Gears)</u> and <u>one of the three that illustrate Pulleys</u>. BUILD: Split team into two groups, and build TWO models, one with USB hub, one with battery pack. Swap and rebuild. Refer to the Table: <u>Simple Machine Instructionals, WeDo Getting Started Topics, and Model Activities</u>²⁶ for selection. Continue to build on <u>Brick Terminology, Technic Components</u>
5 min.	Wrap-Up and Review <u>FLLJr Core Values</u> ¹ Gracious Professionalism!	<ul style="list-style-type: none"> Team should put away all pieces and clean up area. Members should be encouraged to close the team meetings with the <u>FLLJr Core Values</u>. Coach can wrap up meeting activities and remind students of what they learned today.

²² Guide on the Side, Homework Ideas, Aqua Adventure: My Water's Journey (KnowWantLearned)

²³ Introduction to Simple Machines, Levers, Screws, Wedges, and Inclined Planes

²⁴ LEGO Set Instructions 9689 A-D, C-Levers, if not yet covered

²⁵ LEGO Instructions 9580, WeDo Model Activities, as booklets in kits, as PDFs on the computers, and in the WeDo Software

²⁶ SMGearbots Junior League Season Schedule, Table: Simple Machine Instructionals, pg 13

Week 5 – 1½ hours

What have we learned?

Time	Activity/Resources	Description/Comments
5 min.	<u>Mini-Build with Aqua Adventure Inspire Set Bag 2</u>	<ul style="list-style-type: none"> Join the team together for the <u>Water Tools and Structures Mini-Build</u> using the B2E: Think about all the tools and structures that your water travels through to get from its source to you. Build a LEGO model of one tool or structure that you definitely want to include in your Team Model.
35 min.	<p>Discuss Team and Challenge</p> <p><u>Be an Engineer</u>²⁷</p> <p><u>Homework Ideas: Aqua Adventure: Interview</u>²⁸</p>	<ul style="list-style-type: none"> DISCUSS: what they found through <u>Aqua Adventure – My Water’s Journey</u> homework. Does this change what they had already decided for their water use? READ: “Be an Engineer” BUILD: Go over the problem presented in the Read section with the team. Make sure they understand the goal: to collect the LEGO water that comes out of the pump and store it to use later. Remind them that they 1) can use only LEGO elements; 2) cannot touch the water with their hands once it comes out of the pump; and 3) must store the water at least 6 in. (15 cm) away from where it comes out of the pump. HOMEWORK: <i>photocopy or print ahead of session</i> <u>Aqua Adventure: Interview</u> – Have the children interview someone about the water use that they have chosen.
5-10 min.	<p><u>Introduction to Simple Machines</u>²⁹</p> <p><u>Lego Brick Terminology</u>¹¹</p> <p><u>Technic Components</u></p>	<ul style="list-style-type: none"> SHARE: Finish up with the simple machine instructionals Provide a final recap of all the Simple Machines Refer to <u>Lego Brick Terminology, Technic Components</u> if needed
35 min.	<p><u>WeDo Getting Started</u>⁴¹</p> <p><u>WeDo Model Activities</u>⁴²</p> <p><u>LEGO Instructions 9580</u>³⁰</p>	<ul style="list-style-type: none"> Select one <u>WeDo Getting Started</u> activity, if needed Complete <u>WeDo Model Activity</u> from last session OR select a new WeDo Model Activity to continue to build upon the Simple Machines concepts. Note: Build can be completed at next meeting if extra time is needed
5 min.	<p>Wrap-Up and Review</p> <p><u>FLLJr Core Values</u>¹</p> <p>Gracious Professionalism!</p>	<ul style="list-style-type: none"> Team should put away all pieces and clean up area. Members should be encouraged to close the team meetings with the <u>FLLJr Core Values</u>. Coach can wrap up meeting activities and remind students of what they learned today.

²⁷ 2017-18 Aqua Adventure Coaches' Guide, 2017-2018 FLLJr Aqua Adventure Challenge, Be an Engineer

²⁸ Guide on the Side, Homework Ideas, Aqua Adventure – Interview

²⁹ Introduction to Simple Machines, Levers, Screws, Wedges, and Inclined Planes

³⁰ LEGO Instructions 9580, WeDo Model Activities, as hard copy booklets in kits, as PDFs on the computers, and in the WeDo Software

Week 6 – 1½ hours

Model and Poster Planning –I

Time	Activity/Resources	Description/Comments
5 min.	Free play with B2E Kits	<ul style="list-style-type: none"> This is the last day the kids have free play with the B2E kits. At this point we will start to focus on building and preparing for the challenge.
45 min.	<p>Discuss Team and Challenge</p> <p><u>Improve Your Water’s Journey</u>³¹</p> <p><u>Idea Generation</u></p> <p>Team Building Challenge and Model Drawing</p>	<ul style="list-style-type: none"> DISCUSS: the results of the <u>Aqua Adventure – Interview</u> homework. READ: “Improve Your Water’s Journey” FOCUS: Let your team know that they will begin planning their LEGO model for the Aqua Adventure Challenge. Remind them that the basic parts of the Challenge are to 1) Choose a water use; 2) Learn about your water’s journey on it’s way to you; and 3) Show what they have learned through their LEGO model and Show Me poster. Ask team members to take turns sharing what they have learned about their water use and water’s journey. BUILD: What are the water use and water’s journey that the team members have chosen? Using Build to Express and the Aqua Adventure Inspire Set Bag 2, have the team build a model that shows two or three things that they think should definitely be shown in the team’s <u>Aqua Adventure</u> model. Discuss additional ideas that can be built to address the <u>Aqua Adventure Challenge</u>. DRAW: Have students draw their ideas for four water uses on the “Other Models to Build” worksheet. SHOW ME: Begin discussing the <u>Show Me</u> Poster. Review the rules and requirements as outlined in the <u>2017-2018 FLLJr Aqua Adventure Challenge</u>. Ask students to begin bringing materials (photos, magazine clippings, writings, drawings, print-outs) to be used in the Show Me poster.
35 min.	<p><u>WeDo Getting Started</u>⁴¹</p> <p><u>WeDo Model Activities</u>⁴²</p> <p><u>LEGO Instructions 9580</u>³²</p>	<ul style="list-style-type: none"> BUILD: Select one <u>WeDo Getting Started</u> activity, if needed Complete <u>WeDo Model Activity</u> from last session OR select a new WeDo Model Activity based on what coaches think teams may need to consider when working on their own model. Note: Build can be completed at next meeting if extra time is needed
5 min.	<p>Wrap-Up and Review</p> <p><u>FLLJr Core Values</u>¹</p> <p>Gracious Professionalism!</p>	<ul style="list-style-type: none"> Team should put away all pieces and clean up area. Members should be encouraged to close the team meetings with the <u>FLLJr Core Values</u>. Coach can wrap up meeting activities and remind students of what they learned today.

³¹ 2017-18 Aqua Adventure Coaches' Guide, 2017-2018 FLLJr Aqua Adventure Challenge, Improve Your Water’s Journey

³² LEGO Instructions 9580, WeDo Model Activities, as hard copy booklets in kits, as PDFs on the computers, and in the WeDo Software

Week 7 – 1½ hours

Model and Poster Planning –II

Time	Activity/Resources	Description/Comments
5-10 min.	Free play <u>Homework Ideas:</u> <u>Team Interview</u> ³³	<ul style="list-style-type: none"> • HOMEWORK: <i>photocopy or print ahead of session</i> While not really homework, The Team Interview is a great way to get the information you need for the Show Me poster. • As kids arrive, have them pair up and interview each other. If you have an odd number of kids, have some of them work in a group of three.
20-30 min.	Discuss Team and Challenge <u>Plan the Lego Model</u> ³⁴ <u>2017-18 Aqua Adventure Coaches' Guide</u> ³⁵	<ul style="list-style-type: none"> • DISCUSS: what you covered in your session. You should review the water use drawings that the team members completed last sessions. Also, cover any other model planning that you started. • READ: “Plan Your Team Model” and review the rules for the model. Have the team write and draw some ideas about what the model will look like and what they would like to show in their model. • FOCUS: You will help guide the children in planning the model around the water use selected. Be there to capture the information and keep the discussion moving. • Talk about how team will begin to build their model. Model building starts next week! • SHOW ME: The <i>Show Me</i> Poster has specific content requirements. Check to see that you have the bits and pieces needed to fill out the poster. • Gather together the materials the students have brought in. Help them organize the information in a way that makes sense. • See what you have and what is missing. Ask student to bring in more materials. • You may have students type their research information, interview responses, and other information into the computer. This can be printed out and attached to the Show Me poster.
35-45 min.	Lego Team Build <u>FLLJr Coach’s Guide to Building and More</u> ³⁶	<ul style="list-style-type: none"> • OPTIONAL BUILD: Choose one of the more complicated models (Crazy Floors Model OR Crane Model) from the <u>FLLJr Coach’s Guide to Building and More</u>. NOTE: These may take more than one meeting for the team to build. • <i>Coach should emphasize team work / working together to figure out any issues that arise.</i>
5 min.	Wrap-Up and Review <u>FLLJr Core Values</u> ¹ Gracious Professionalism!	<ul style="list-style-type: none"> • Team should put away all pieces and clean up area. • Members should be encouraged to close the team meetings with the <u>FLLJr Core Values</u>. • Coach can wrap up meeting activities and remind students of what they learned today.

³³ Guide on the Side, Homework Ideas, Team Interview³⁴ 2017-18 Aqua Adventure Coaches' Guide, 2017-2018 FLLJr Aqua Adventure Challenge, Plan the LEGO Model³⁵ 2017-18 Aqua Adventure Coaches' Guide, 2017-2018 FLLJr Aqua Adventure Challenge³⁶ FLLJr Coach’s Guide to Building and More, Crazy Floors Model OR Crane Model

Week 8 – 1½ hours**Build It! –I**

Time	Activity/Resources	Description/Comments
5 min.	Get Ready	<ul style="list-style-type: none"> • Early arriving members can help get materials out and ready for the session. They can help lay out materials for the poster, get out the model for the build, and put out chairs.
20 min.	Discuss Team and Challenge FIRST Consent/Release Agreement ³⁷	<ul style="list-style-type: none"> • DISCUSS: final materials students brought in for <u>Show Me</u> poster. What is missing? Is there anything else to include? • SHOW ME: The Poster should be assembled during Weeks 9 and 10. Plan to have all materials ready for assembly during those weeks. Week 11 is used for last minute tweaks to the model and finishing touches on the poster. • PHOTOS: Take photos of team members for the <i>Show Me</i> Poster. Check with parents to see if it is OK to use children’s photos on the poster. If not, ask the child to draw a picture or pick a favorite picture of a minifigure to represent them on the poster. Take photos while children are working on the Team Build so as not to take up too much time.
50 min.	Lego Team Build <u>Build the LEGO Model</u> ³⁸	<ul style="list-style-type: none"> • Finish Lego build from previous meeting if extra time is needed, but the main focus for this session is to begin building the Challenge model. • FOCUS: Discuss how team will begin to build their challenge model. • READ: “Build Your Team Model” It is time to bring everything together and start building! Have the team members review the design of the model that they decided on during the last session. Ask the team how they think they could work together to build the model. Remind them that it is important that everyone get a chance to build. • BUILD: Work on team challenge model!
15 min.	Wrap-Up and Review <u>FLLJr Core Values</u> ¹ Gracious Professionalism!	<ul style="list-style-type: none"> • Team should review what worked and what didn’t, what the next steps are for model, what they would like to do and ideas to accomplish that. Some team members may investigate possible solutions to problems that arose during the week. • Members should be encouraged to close the team meetings with the <u>FLLJr Core Values</u>. • Team should put away all pieces and clean up area.

³⁷ FIRST Consent/Release Agreement³⁸ 2017-18 Aqua Adventure Coaches' Guide, 2017-2018 FLLJr Aqua Adventure Challenge, Build the LEGO Model

Week 9 – 1½ hours

Build It! –II

Time	Activity/Resources	Description/Comments
5 min.	Get Ready	<ul style="list-style-type: none"> • Early arriving members can help get materials out and ready for the session. They can help lay out materials for the poster, get out the model for the build, and put out chairs. • If children are still waiting for members to arrive then you can have free play with B2E Kits
30 min.	Discuss Team and Challenge	<ul style="list-style-type: none"> • SHOW ME: Begin putting together the <u>Show Me</u> poster. • DISCUSS: Check in from last meeting. Where are we at? What's next?
45 min.	Lego Team Build	<ul style="list-style-type: none"> • FOCUS: Team should be focused on working on team model and improving it. • DISCUSS: What improvements can be made to the team model? How does it show the water use and journey? Encourage the team to make sure their model is meeting the rules of the Challenge. • Team should work on ideas to solve the building challenge and be working on a model that meets that challenge.
Coach's call	WeDo and Simple Machines review	<ul style="list-style-type: none"> • BUILD: If team is 'stuck' on one aspect of the model, coach may opt to revisit some of the earlier lessons (or introduce a new one) by reviewing Simple Machines instructional or doing another WeDo Model Activity. • NOTE: Coaches should never provide the 'answer' to the problem, but may present these kinds of activities as one way to get them thinking in a new direction.
10 min.	Wrap-Up and Review <u>FLLJr Core Values</u> ¹ Gracious Professionalism!	<ul style="list-style-type: none"> • Team should review what worked and what didn't, what the next steps are for model, what they would like to do and ideas to accomplish that. • Some team members may investigate possible solutions to problems that arose during the week. • Members should be encouraged to close the team meetings with the <u>FLLJr Core Values</u>. • Team should put away all pieces and clean up area.

Week 10 – 1½ hours

Wrap Up –I

Time	Activity/Resources	Description/Comments
5 min.	Get Ready	<ul style="list-style-type: none"> • Early arriving members can help get materials out and ready for the session. They can help lay out materials for the poster, get out the model for the build, and put out chairs.
25 min.	Discuss Team and Challenge <u>Make Your Show Me Poster</u> ³⁹	<ul style="list-style-type: none"> • DISCUSS: Check in from last meeting. Where are we at? What's next? • SHOW ME: You should now do the final assembly of the <u>Show Me</u> poster • READ: "Make Your Show Me Poster" and help guide the team in the final assembly. Half the team can work on the poster while the other half works on the model, then they can switch.
50 min.	Lego Team Build	<ul style="list-style-type: none"> • FOCUS: Continue working on team model. • BUILD: Team should be wrapping up model and resolving final complex issues. Does the model move? Did they program using the computer, or only use the battery box? • PREPARE: Teams should be thinking about the District Meet and what it will be like at the competition. They should practice with their models and be prepared to talk about their posters.
Coach's call	WeDo and Simple Machines review	<ul style="list-style-type: none"> • SHARE: If team is 'stuck' on one aspect of the model, coach may opt to revisit some of the earlier lessons (or introduce a new one) by reviewing Simple Machines instructional or doing another WeDo Model Activity. • NOTE: Coaches should never provide the 'answer' to the problem, but may present these kinds of activities as one way to get them thinking in a new direction.
10 min.	Wrap-Up and Review <u>FLLJr Core Values</u> ¹ Gracious Professionalism!	<ul style="list-style-type: none"> • Team should review what worked and what didn't, what the next steps are for model, what they would like to do and ideas to accomplish that. • Some team members may investigate possible solutions to problems that arose during the week. • Members should be encouraged to close the team meetings with the <u>FLLJr Core Values</u>. • Team should put away all pieces and clean up area.

³⁹ 2017-18 Aqua Adventure Coaches' Guide, 2017-2018 FLLJr Aqua Adventure Challenge, Make Your Show Me Poster

Week 11 – 1½ hours**Wrap Up–II**

Time	Activity/Resources	Description/Comments
5 min.	Get Ready	<ul style="list-style-type: none"> Early arriving members can help get materials out and ready for the session. They can help lay out materials for the poster, get out the model for the build, and put out chairs.
15 min.	Discuss Team and Challenge 2017-18 Aqua Adventure Coaches' Guide	<ul style="list-style-type: none"> SHOW ME: Complete “Show me” poster, if not completed in Week 10. DISCUSS: Check in from last meeting: Where are we at? What’s next?
55 min.	Lego Team Build Practice Presentation Questions ⁴⁰	<ul style="list-style-type: none"> FOCUS: Finish team challenge model. PREPARE: Teams should be prepared for the District Meet and what it will be like at the competition. They should practice with their models and be prepared to talk about their posters. DISCUSS: The whole project and the answers to the questions are equally important. Help your team members prepare to present their research and model with the following suggestions: <ul style="list-style-type: none"> Ask team members to gather around their completed poster and ask questions as if you were the Reviewer. Ask the team members to take turns presenting. Also allow them to play the role of Reviewer. Whoever is the reviewer can write and ask their own questions or choose from the ones listed in the Practice Presentation Questions. Give feedback on team members’ answers and ask them to evaluate their responses. Ask them to make the appropriate changes to prepare for the District Meet. HINT: Encourage team members to think about how to make their presentation stand out to Reviewers and/or other audience members. Continue to have your team members practice their presentation skills. Prepare them for success by encouraging them to practice their presentation at home, too. SHARE: Directions to the District Meet and double check with parents to make sure they know what time they should arrive.
15 min.	Wrap-Up and Review FLLJr Core Values ¹ Gracious Professionalism!	<ul style="list-style-type: none"> Coach should wrap up successful season Members should be encouraged to close the team meeting and season with the FLLJr Core Values. Team should put away all pieces and clean up area.

Kit Turn In: Kits should be sorted and inventoried. After the end of the season there will be two kit turn in days to be held in Windham and Saco where coaches can stop in to sort, inventory, and restock kits. Kits will need to be returned by the second of these turn in days.

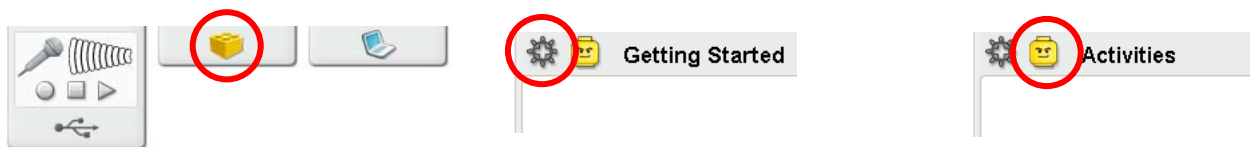
⁴⁰ [2017-18 Aqua Adventure Coaches' Guide](#), 2017-2018 FLLJr Aqua Adventure Challenge, Practice Presentation Questions

Simple Machine Instructionals, WeDo Getting Started Topics, and Model Activities

<i>If you've covered the Simple Machine Instructional (during any session) for:</i>	<i>Then you can choose to cover the following "Getting Started"⁴¹ topics:</i>	<i>Suggestions for WeDo Model Activities⁴² after "Getting Started" activities:</i>
Wheel and Axle	1. Motor and Axle	(any with motor)
Gears	2. Gears 3. Idler Gear 4. Gearing Down 5. Gearing Up	Roaring Lion (5)
Pulleys	7. Pulleys and Belt 8. Crossed Belt 9. Decrease Speed 10. Increase speed	Dancing Birds (1) -or- Hungry Alligator (4) -or- Giant Escape (11)
Levers	14. Cam 15. Lever	Kicker (7) -or- Drumming Monkey (3) -or- Cheerful Fans (9)
Wedges (A wedge is a type of inclined plane. There is no LEGO supplied instruction for a wedge.)		
Inclined Plane	6. Tilt Sensor	Sailboat Storm (12)
Screw	12. Crown Gear 13. Worm Gear	Smart Spinner (2) -or- Roaring Lion (5)

NOTE: You are not expected to cover all of the "Getting Started" topics or the WeDo model Activities. This table is intended as a guide to help you choose which ones to cover in your week by week sessions.

In the WeDo Software, click the Yellow Brick to access the Getting Started topics as well as model Activities.



⁴¹ WeDo Getting Started topics are available within the WeDo software on your SMGearbots provided laptop.

⁴² WeDo Model Activities are available within the WeDo software on your SMGearbots provided laptop.

Ice Breakers with Build to Express Activities

Week 1 – 25 min

Introductions

<p>15-25 min. Build to Express (B2E):⁴³ Metaphor Exercises⁴⁴ Building Challenge Cards⁴⁵</p>	<ul style="list-style-type: none"> • Briefly explain the <u>Purpose and Rules of Build to Express</u> to the students, write names on bags and hand out (5 min.) • Perform <u>B2E: Metaphor Exercises 1 & 2</u> (5 min. each) • <u>B2E: Introduction Challenge: 1 & 2 of 3</u>: (7-8 min. each)
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Week 2 – 25 min

Team Building

<p>15-25 min. Build to Express: Metaphor Exercises⁴⁶</p>	<ul style="list-style-type: none"> • Remind Students of the <u>Build to Express Process</u>⁴⁷ • Perform <u>B2E: Metaphor Exercise 3</u> (5 min.) • <u>B2E: Team Building: Challenges 1–3</u> (5-8 min. each)
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Week 3 – 20 min

Team Name

<p>15-25 min. Build to Express: Metaphor Exercises⁴⁸ Building Challenge Cards⁴⁹</p>	<ul style="list-style-type: none"> • Remind Students of the <u>Build to Express Process</u> • Perform <u>B2E: Metaphor Exercise 4</u> (5 min.) • <u>B2E: Our Team Name: Challenges 1 & 2</u> (7-8 min. each)
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Week 4 – 25 min

Idea Generation

<p>15-25 min. Build to Express: Building Challenge Cards⁵⁰</p>	<ul style="list-style-type: none"> • Remind Students of the <u>Build to Express Process</u> • <u>B2E: Idea Generation: Challenges 1–3</u> (7-8 min. each)
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Week 5 – 10 min

What have we learned?

<p>10 min. Build to Express: Building Challenge Cards⁵¹</p>	<ul style="list-style-type: none"> • Remind Students of the <u>Build to Express Process</u>Error! Bookmark not defined. • <u>B2E: What have we learned?: Challenge 1</u> (8 min.)
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Week 6 – 10 min

Model and Poster Planning –I

<p>10 min. Build to Express: Building Challenge Cards⁵²</p>	<ul style="list-style-type: none"> • <u>B2E: Optional warm-up challenge: Challenge 1</u> (8 min.) • This OPTIONAL Challenge on the last page of the <u>FLLJr Coach’s Guide to BuildtoExpress</u> is available if children need an additional fun and creative activity to do. • You may choose to save this for a later session.
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⁴³ FLLJr Coaches’ Guide to BuildtoExpress, Purpose and Rules of Build to Express, pgs. 5-6

⁴⁴ FLLJr Coaches’ Guide to BuildtoExpress, Appx. 2, Metaphor Exercises 1 & 2, pg 11-12

⁴⁵ FLLJr Coaches’ Guide to BuildtoExpress, Appx. 4, Building Challenge Cards: Introduction Challenge: 1 & 2 of 3, pg 16

⁴⁶ FLLJr Coaches’ Guide to BuildtoExpress, Appx. 2, Metaphor Exercise 3, pg 13

⁴⁷ FLLJr Coaches’ Guide to BuildtoExpress, Build to Express Process, pg. 15

⁴⁸ FLLJr Coaches’ Guide to BuildtoExpress, Appx. 2, Metaphor Exercise 4, pg 14

⁴⁹ FLLJr Coaches’ Guide to BuildtoExpress, Appx. 4, Building Challenge Cards: Our Team Name: Challenge 1–2, pg 19-20

⁵⁰ FLLJr Coaches’ Guide to BuildtoExpress, Appx. 4, Building Challenge Cards: Idea Generation: Challenges 1–3, pg 20-21

⁵¹ FLLJr Coaches’ Guide to BuildtoExpress, Appx. 4, Building Challenge Cards: What have we learned?: Challenge 1, pg 21

⁵² FLLJr Coaches’ Guide to BuildtoExpress, Appx. 4, Building Challenge Cards, Optional warm-up challenge:

Challenge 1, pg 24