

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<p><b>Session 1:</b></p> <p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>Watch the Season Launch video &amp; read Engineering Notebook to learn about RePLAY Challenge</li> </ul> <p><b>Group 1</b></p> <ul style="list-style-type: none"> <li>Learn to program the robot to travel forward, backward and turn by completing Robot Lesson 1</li> <li>Learn about Robot Game by reviewing Field Layout and Robot Game Missions</li> </ul> <p><b>Group 2</b></p> <ul style="list-style-type: none"> <li>Read Project Spark 1 to learn about a problem associated with this year's Challenge</li> <li>Build Session 1 Mission Models that related to the problem presented and brainstorm other solutions</li> </ul> <p><b>Share</b></p> <ul style="list-style-type: none"> <li>Groups share robot skills and show how the missions work &amp; where they go on the mat.</li> </ul>	Understanding Life Systems	<p>1. assess human impacts on biodiversity, and identify ways of preserving biodiversity</p> <p>1.1 analyse a local issue related to biodiversity, taking different points of view into consideration, propose action that can be taken to preserve biodiversity and act on the proposal</p>	<p style="text-align: center;">-</p> <p style="text-align: center;">-</p>
	Understanding Structures and Mechanisms		
	Understanding Matter and Energy	<p>2. investigate the characteristics of static and current electricity, and construct simple circuits</p> <p>2.5 use technological problem-solving skills to design, build, and test a device that transforms electrical energy into another form of energy in order to perform a function</p> <p>2.7 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes</p> <p>3. demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy</p> <p>3.5 identify ways in which electrical energy is transformed into other forms of energy</p>	<p style="text-align: center;">-</p> <p style="text-align: center;">•</p> <p style="text-align: center;">-</p> <p style="text-align: center;">•</p> <p style="text-align: center;">-</p>
	Understanding Earth and Space Systems		

• 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

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<p><b>Session 2:</b></p> <p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>Read about the Core Values and record ways to ensure that everyone on the team is respected and heard, with a focus on Inclusion</li> </ul> <p><b>Group 1</b></p> <ul style="list-style-type: none"> <li>Learn to program their robot to avoid obstacles using a sensor and power an attachment by completing Robot Lesson 2</li> </ul> <p><b>Group 2</b></p> <ul style="list-style-type: none"> <li>Read Project Spark 2 to learn about another problem associated with this year's Challenge</li> <li>Build Session 2 Mission Models related to the problem presented and brainstorm other solutions</li> </ul> <p><b>Share</b></p> <ul style="list-style-type: none"> <li>Groups share their newly acquired robot skills and show how the missions work and where they go on the mat.</li> </ul>	Understanding Life Systems	<p>1. assess human impacts on biodiversity, and identify ways of preserving biodiversity</p> <p>1.1 analyse a local issue related to biodiversity, taking different points of view into consideration, propose action that can be taken to preserve biodiversity and act on the proposal</p>	<p align="center">-</p> <p align="center">-</p>
	Understanding Structures and Mechanisms		
	Understanding Matter and Energy	<p>2. investigate the characteristics of static and current electricity, and construct simple circuits</p> <p>2.5 use technological problem-solving skills to design, build, and test a device that transforms electrical energy into another form of energy in order to perform a function</p> <p>2.7 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes</p> <p>3. demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy</p> <p>3.5 identify ways in which electrical energy is transformed into other forms of energy</p>	<p align="center">-</p> <p align="center">•</p> <p align="center">-</p> <p align="center">-</p> <p align="center">-</p>
	Understanding Earth and Space Systems		

• 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

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<p><b>Session 3:</b></p> <p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>Discuss and record team goals and responsibilities of team members</li> </ul> <p><b>Group 1</b></p> <ul style="list-style-type: none"> <li>Read Project Spark 1 to learn about a problem associated with this year's Challenge</li> <li>Build Session 3 Mission Models related to the problem presented and brainstorm other solutions</li> </ul> <p><b>Group 2</b></p> <ul style="list-style-type: none"> <li>Learn to program the robot to travel forward, backward and turn by completing Robot Lesson 1</li> <li>Learn about Robot Game by reviewing Field Layout and Robot Game Missions</li> </ul> <p><b>Share</b></p> <ul style="list-style-type: none"> <li>Groups share their newly acquired robot skills and show how the missions work and where they go on the mat.</li> </ul>	<p>Understanding Life Systems</p>	<p>1. assess human impacts on biodiversity, and identify ways of preserving biodiversity</p> <p>1.1 analyse a local issue related to biodiversity, taking different points of view into consideration, propose action that can be taken to preserve biodiversity and act on the proposal</p>	<p align="center">-</p> <p align="center">-</p>
	<p>Understanding Structures and Mechanisms</p>		
	<p>Understanding Matter and Energy</p>	<p>2. investigate the characteristics of static and current electricity, and construct simple circuits</p> <p>2.5 use technological problem-solving skills to design, build, and test a device that transforms electrical energy into another form of energy in order to perform a function</p> <p>2.7 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes</p> <p>3. demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy</p> <p>3.5 identify ways in which electrical energy is transformed into other forms of energy</p>	<p align="center">-</p> <p align="center">•</p> <p align="center">-</p> <p align="center">-</p> <p align="center">-</p>
	<p>Understanding Earth and Space Systems</p>		

• 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

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<p><b>Session 4:</b></p> <p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>Revisit the Core Values, with a focus on Discovery, and record ways in which your team has learned new skills and ideas</li> </ul> <p><b>Group 1</b></p> <ul style="list-style-type: none"> <li>Read Project Spark 2 to learn about a problem associated with this year's Challenge</li> <li>Build Session 4 Mission Models related to the problem presented and brainstorm other solutions</li> </ul> <p><b>Group 2</b></p> <ul style="list-style-type: none"> <li>Learn to program their robot to avoid obstacles using a sensor and power an attachment by completing Robot Lesson 2</li> </ul> <p><b>Share</b></p> <ul style="list-style-type: none"> <li>Groups share their newly acquired robot skills and show how the missions work and where they go on the mat.</li> </ul>	Understanding Life Systems	<p>1. assess human impacts on biodiversity, and identify ways of preserving biodiversity</p> <p>1.1 analyse a local issue related to biodiversity, taking different points of view into consideration, propose action that can be taken to preserve biodiversity and act on the proposal</p>	<p align="center">-</p> <p align="center">-</p>
	Understanding Structures and Mechanisms		
	Understanding Matter and Energy	<p>2. investigate the characteristics of static and current electricity, and construct simple circuits</p> <p>2.5 use technological problem-solving skills to design, build, and test a device that transforms electrical energy into another form of energy in order to perform a function</p> <p>2.7 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes</p> <p>3. demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy</p> <p>3.5 identify ways in which electrical energy is transformed into other forms of energy</p>	<p align="center">-</p> <p align="center">•</p> <p align="center">-</p> <p align="center">-</p> <p align="center">-</p>
	Understanding Earth and Space Systems		

• 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

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<p><b>Session 5:</b></p> <p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>• Create a team name and dyeing a poster with your team name and logo</li> </ul> <p><b>Team</b></p> <ul style="list-style-type: none"> <li>• Learn how to build a driving base and program it to move and follow a line by completing Robot Lesson 3</li> <li>• Take turns coding the robot and showing what it can do</li> <li>• Review the Robot Game Missions and discuss what missions your team will tackle first</li> <li>• Complete pseudocode for the chosen missions</li> </ul> <p><b>Share</b></p> <ul style="list-style-type: none"> <li>• Gather around the mat to review the pseudocode and make changes if necessary</li> </ul>	Understanding Life Systems		
	Understanding Structures and Mechanisms		
	Understanding Matter and Energy	<p>2. investigate the characteristics of static and current electricity, and construct simple circuits</p> <p>2.5 use technological problem-solving skills to design, build, and test a device that transforms electrical energy into another form of energy in order to perform a function</p> <p>2.7 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes</p> <p>3. demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy</p> <p>3.5 identify ways in which electrical energy is transformed into other forms of energy</p>	<p>-</p> <ul style="list-style-type: none"> <li>•</li> <p>-</p> <p>-</p> <p>-</p> </ul>
	Understanding Earth and Space Systems		

• 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

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<p><b>Session 6:</b></p> <p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>Revisit the Core Values, with a focus on Teamwork, and record ways in which your team has learned to work together</li> </ul> <p><b>Team</b></p> <ul style="list-style-type: none"> <li>Learn to use more advanced programming blocks and coding skills by completing Robot Lesson 4</li> <li>Take turns coding the robot and showing what it can do</li> <li>Read about the RePLAY Innovation Project and reflect on the solutions that were developed during the Project Spark sessions</li> <li>Identify and record your problem statement</li> </ul> <p><b>Share</b></p> <ul style="list-style-type: none"> <li>Gather around the mat to demonstrate any new coding skills that you have learned</li> </ul>	Understanding Life Systems	<p>1. assess human impacts on biodiversity, and identify ways of preserving biodiversity</p> <p>1.1 analyse a local issue related to biodiversity, taking different points of view into consideration, propose action that can be taken to preserve biodiversity and act on the proposal</p>	<p align="center">-</p> <p align="center">-</p>
	Understanding Structures and Mechanisms		
	Understanding Matter and Energy	<p>2. investigate the characteristics of static and current electricity, and construct simple circuits</p> <p>2.5 use technological problem-solving skills to design, build, and test a device that transforms electrical energy into another form of energy in order to perform a function</p> <p>2.7 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes</p> <p>3. demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy</p> <p>3.5 identify ways in which electrical energy is transformed into other forms of energy</p>	<p align="center">-</p> <ul style="list-style-type: none"> <li></li> </ul> <p align="center">-</p> <p align="center">-</p> <p align="center">-</p>
	Understanding Earth and Space Systems		

● 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

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<p><b>Session 7:</b></p> <p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>Revisit the Core Values, with a focus on Coopertition and Gracious Professionalism and record ways in which your team will demonstrate these at events</li> </ul> <p><b>Group 1</b></p> <ul style="list-style-type: none"> <li>Begin to research your problem and any existing solutions</li> <li>Use a variety of resources and remember to keep track of them</li> </ul> <p><b>Group 2</b></p> <ul style="list-style-type: none"> <li>Learn to apply coding principles to complete the guided mission by completing Robot Lesson 5 and continue to refine the mission until it works perfectly</li> </ul> <p><b>Share</b></p> <ul style="list-style-type: none"> <li>Groups share their research, discuss solution ideas and show how the robot scores points in the guided mission</li> </ul>	Understanding Life Systems	1. assess human impacts on biodiversity, and identify ways of preserving biodiversity  1.1 analyse a local issue related to biodiversity, taking different points of view into consideration, propose action that can be taken to preserve biodiversity and act on the proposal	-  -
	Understanding Structures and Mechanisms		
	Understanding Matter and Energy	2. investigate the characteristics of static and current electricity, and construct simple circuits  2.5 use technological problem-solving skills to design, build, and test a device that transforms electrical energy into another form of energy in order to perform a function  2.7 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes  3. demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy  3.5 identify ways in which electrical energy is transformed into other forms of energy	- • - - -
	Understanding Earth and Space Systems		

• 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

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<p><b>Session 8:</b></p> <p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>Decide as a team what your project solution will be based on your identified problem</li> </ul> <p><b>Group 1</b></p> <ul style="list-style-type: none"> <li>Learn to apply coding principles to complete the guided mission by completing Robot Lesson 5 and continue to refine the mission until it works perfectly</li> </ul> <p><b>Group 2</b></p> <ul style="list-style-type: none"> <li>Research and develop your selected solution using the Project Development page as a tool</li> <li>Sketch and label a diagram of the solution and explain how it solves the problem</li> </ul> <p><b>Share</b></p> <ul style="list-style-type: none"> <li>Groups share their research, discuss the project solution and show how the robot scores points in the guided mission</li> </ul>	Understanding Life Systems	1. assess human impacts on biodiversity, and identify ways of preserving biodiversity  1.1 analyse a local issue related to biodiversity, taking different points of view into consideration, propose action that can be taken to preserve biodiversity and act on the proposal	-  -
	Understanding Structures and Mechanisms		
	Understanding Matter and Energy	2. investigate the characteristics of static and current electricity, and construct simple circuits  2.5 use technological problem-solving skills to design, build, and test a device that transforms electrical energy into another form of energy in order to perform a function  2.7 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes  3. demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy  3.5 identify ways in which electrical energy is transformed into other forms of energy	- • - - -
	Understanding Earth and Space Systems		

- 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

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<p><b>Session 9:</b></p> <p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>Revisit the Core Values, with a focus on Innovation, and record ways your team has been creative &amp; solved problems</li> </ul> <p><b>Innovation Project Group</b></p> <ul style="list-style-type: none"> <li>Evaluate your solution and iterate and improve, if needed</li> <li>Plan how you will test your solution &amp; share it with others</li> <li>Use the white bricks from bag 8 to build a model that represents your solution</li> </ul> <p><b>Robot Group</b></p> <ul style="list-style-type: none"> <li>Decide which additional mission to attempt and build any attachments you need</li> <li>Write and refine your program so that the robot completes the mission reliably</li> </ul> <p><b>Share</b></p> <ul style="list-style-type: none"> <li>Groups provide an update on their missions and how they will share their solution with others.</li> </ul>	<p>Understanding Life Systems</p>	<p>1. assess human impacts on biodiversity, and identify ways of preserving biodiversity</p> <p>1.1 analyse a local issue related to biodiversity, taking different points of view into consideration, propose action that can be taken to preserve biodiversity and act on the proposal</p>	<p>-</p> <p>-</p>
	<p>Understanding Structures and Mechanisms</p>		
	<p>Understanding Matter and Energy</p>	<p>2. investigate the characteristics of static and current electricity, and construct simple circuits</p> <p>2.5 use technological problem-solving skills to design, build, and test a device that transforms electrical energy into another form of energy in order to perform a function</p> <p>2.7 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes</p> <p>3. demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy</p> <p>3.5 identify ways in which electrical energy is transformed into other forms of energy</p>	<p>-</p> <p>•</p> <p>-</p> <p>-</p> <p>-</p>
	<p>Understanding Earth and Space Systems</p>		

• 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

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<p><b>Session 10:</b></p> <p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>Revisit the Core Values, with a focus on Impact, and record ways your team has had a positive impact on others</li> </ul> <p><b>Innovation Project Group</b></p> <ul style="list-style-type: none"> <li>Plan your project presentation by writing a script and making any required props or displays</li> </ul> <p><b>Robot Group</b></p> <ul style="list-style-type: none"> <li>Continue to program the robot to complete missions, ensuring that you understand and can explain the code and strategy</li> <li>Practice a 2.5-minute Robot Game on the mat</li> </ul> <p><b>Share</b></p> <ul style="list-style-type: none"> <li>Group discusses progress on the project presentation, how everyone will be involved and what missions have been completed</li> </ul>	Understanding Life Systems	1. assess human impacts on biodiversity, and identify ways of preserving biodiversity  1.1 analyse a local issue related to biodiversity, taking different points of view into consideration, propose action that can be taken to preserve biodiversity and act on the proposal	-  -
	Understanding Structures and Mechanisms		
	Understanding Matter and Energy	2. investigate the characteristics of static and current electricity, and construct simple circuits  2.5 use technological problem-solving skills to design, build, and test a device that transforms electrical energy into another form of energy in order to perform a function  2.7 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes  3. demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy  3.5 identify ways in which electrical energy is transformed into other forms of energy	- • - - -
	Understanding Earth and Space Systems		

• 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

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<p><b>Session 11:</b></p> <p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>● Create a trading card for each person on the team on which you describe yourself and how you enjoy FLL Challenge</li> </ul> <p><b>Innovation Project Group</b></p> <ul style="list-style-type: none"> <li>● Continue to work on your project presentation by planning what each person on the team will say</li> </ul> <p><b>Robot Group</b></p> <ul style="list-style-type: none"> <li>● Program your robot to complete mission 1 using the white brick model of your project solution</li> <li>● Write a script for and rehearse your robot design presentation, using the rubric as a guide for what to include</li> </ul> <p><b>Share</b></p> <ul style="list-style-type: none"> <li>● Group discusses each person's role in the project and robot design presentations and show what missions are completed by running a 2.5-minute match</li> </ul>	Understanding Life Systems	1. assess human impacts on biodiversity, and identify ways of preserving biodiversity  1.1 analyse a local issue related to biodiversity, taking different points of view into consideration, propose action that can be taken to preserve biodiversity and act on the proposal	-  -
	Understanding Structures and Mechanisms		
	Understanding Matter and Energy	2. investigate the characteristics of static and current electricity, and construct simple circuits  2.5 use technological problem-solving skills to design, build, and test a device that transforms electrical energy into another form of energy in order to perform a function  2.7 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes  3. demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy  3.5 identify ways in which electrical energy is transformed into other forms of energy	- •  -  -  -
	Understanding Earth and Space Systems		

● 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

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
<p><b>Session 12:</b></p> <p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>Revisit the Core Values, with a focus on Fun, and record ways your team has had fun throughout this experience</li> </ul> <p><b>Team</b></p> <ul style="list-style-type: none"> <li>Rehearse your project and robot design presentations, remembering to demonstrate and mention how your team has used the Core Values</li> <li>Hold 2.5-minute Robot Game matches</li> </ul> <p><b>Share</b></p> <ul style="list-style-type: none"> <li>Review all of the rubrics and use them to evaluate and improve upon your presentations</li> </ul>	Understanding Life Systems	<p>1. assess human impacts on biodiversity, and identify ways of preserving biodiversity</p> <p>1.1 analyse a local issue related to biodiversity, taking different points of view into consideration, propose action that can be taken to preserve biodiversity and act on the proposal</p>	<p align="center">-</p> <p align="center">-</p>
	Understanding Structures and Mechanisms		
	Understanding Matter and Energy	<p>2. investigate the characteristics of static and current electricity, and construct simple circuits</p> <p>2.5 use technological problem-solving skills to design, build, and test a device that transforms electrical energy into another form of energy in order to perform a function</p> <p>2.7 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes</p> <p>3. demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy</p> <p>3.5 identify ways in which electrical energy is transformed into other forms of energy</p>	<p align="center">-</p> <p align="center">•</p> <p align="center">-</p> <p align="center">-</p> <p align="center">-</p>
	Understanding Earth and Space Systems		

- 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