Grade 2 - Science Curriculum Alignment
2023-24 *FIRST* LEGO League Explore Team Meeting Guide

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
Session 1: **Introduction - Let's Discover** ● Students discuss the Core Value of **discovery** and provide examples. **Team Outcomes** • The team will use discovery to explore the MASTERPIECE theme and explain how people share what they love to do. • The team will build a place to share a hobby or interest. **Share** • Share what they did in the session. • Explain their hobbies and interests. • Share how they use art or creativity in their interests.	STEM Skills and Connections	*A1.1 use a scientific research process and associated skills to conduct investigations *A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems *A1.4 follow established health and safety procedures during science and technology investigations *A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes *A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems *A3.2 investigate how science and technology can be used with other subject areas to address real-world problems	● - ● - ● ●
	Understanding Life 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

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	Understanding Structures and Mechanisms	**D1.1** assess the impact of simple machines on the daily lives of people in various communities	●
	Understanding Matter and Energy		
	Understanding Earth and Space Systems		

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed

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Session 2: **Introduction – Go Team** ● Students talk about what teamwork is and provide examples of this Core Value **Team Outcomes** • The team will build the basic stage and minifigures in Bag 1. • The team will explore different jobs in the arts and tools or objects used **Share** **Have the team:** • Share what they did in the session. • Share what they learned about the experts in the Explore story • Demonstrate how the different minifigure items could be used. • Describe their scene for the Explore story	STEM Skills and Connections	*A1.1 use a scientific research process and associated skills to conduct investigations *A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems *A1.4 follow established health and safety procedures during science and technology investigations *A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes *A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems *A3.2 investigate how science and technology can be used with other subject areas to address real-world problems	● ● ● ● ● ●
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	Understanding Structures and Mechanisms	**D2.1** describe different ways an object can move **D2.4** describe ways in which each type of simple machine is used in daily life to make tasks easier	● -
	Understanding Matter and Energy		
	Understanding Earth and Space Systems		

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed

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Session 3: **Introduction – Let's Have Fun** ● Teams talk about what fun is and provide examples of this Core Value **Team Outcomes** • The team will add the music concert pieces to the basic stage. • The team will identify different ways sound is used to help make an impact on an audience. **Share** **Have the team:** • Share what they did in the session. • Demonstrate how the concert stage works. • Explain how sound is used to make an impact for an audience. • Show different examples of sounds icons on the mat.	STEM Skills and Connections	*A1.1 use a scientific research process and associated skills to conduct investigations *A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems *A1.4 follow established health and safety procedures during science and technology investigations *A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes *A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems *A3.2 investigate how science and technology can be used with other subject areas to address real-world problems	● ● ● ● ● ●
	Understanding Life Systems		

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Grade 2 - Science Curriculum Alignment
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	Understanding Structures and Mechanisms	D1.1 assess the impact of simple machines on the daily lives of people in various communities D2.1 describe different ways an object can move D2.2 identify ways in which the position of an object can be changed D2.4 describe ways in which each type of simple machine is used in daily life to make tasks easier	● - - -
	Understanding Matter and Energy		
	Understanding Earth and Space Systems		

Team Meeting Guide Outcomes	**Strand**	**Specific Expectations**	**Addressed**

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Session 4: **Introduction – Let's Innovate** ● Students talk about what innovation is and the team provides examples of this Core Value **Team Outcomes** • The team will build the LEGO® model from the lesson and explore motor coding blocks. • The team will identify creative ways stages are used in a theatre. **Share** **Have the team:** • Share what they did in the session. • Show the motor coding skills they learned. • Explain how technology is used to make an impact for an audience. • Show different examples of theatre icons on the mat.	STEM Skills and Connections	*A1.1 use a scientific research process and associated skills to conduct investigations *A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems *A1.4 follow established health and safety procedures during science and technology investigations *A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes *A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems *A3.2 investigate how science and technology can be used with other subject areas to address real-world problems	● ● ● ● ● ●
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	Understanding Structures and Mechanisms	D1.1 assess the impact of simple machines on the daily lives of people in various communities D2.1 describe different ways an object can move D2.2 identify ways in which the position of an object can be changed	● - -
	Understanding Matter and Energy		
	Understanding Earth and Space Systems		

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed

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Session 5: **Introduction – Be Inclusive** ● The team will talk about what inclusion is and provide examples of this Core Value **Team Outcomes** • The team will build the LEGO® model from the lesson and explore the use of lights and sensors. • The team will identify how lights and sounds are used to make a museum exhibit interactive. **Share** **Have the team:** • Share what they did in the session. • Show the sensor coding skills they learned. • Demonstrate how they modified the model and code so that light and sound is triggered by a sensor	STEM Skills and Connections	*A1.1 use a scientific research process and associated skills to conduct investigations *A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems *A1.4 follow established health and safety procedures during science and technology investigations *A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes *A2.1 write and execute code in investigations and when modelling concepts, with a focus on decomposing problems into smaller steps *A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems *A3.2 investigate how science and technology can be used with other subject areas to address real-world problems	● ● ● ● ● ● ●
	Understanding Life Systems		

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	Understanding Structures and Mechanisms	D2.1 describe different ways an object can move D2.2 identify ways in which the position of an object can be changed D2.5 compare, qualitatively or quantitatively, the force required to move an object using various simple machines to the force required to move the object without using a simple machine	- - -
	Understanding Matter and Energy		
	Understanding Earth and Space Systems		

Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed

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Session 6: **Introduction – Have an Impact** ● Teams will talk about what impact is and provide examples of this Core Value **Team Outcomes** • The team will build the LEGO® model from the lesson and code the robot to drive. • The team will apply their coding and building skills to change the existing robot into a vehicle with a camera. **Share** **Have the team:** • Share what they did in the session. • Show how they have applied coding skills learned in previous sessions to make a moving camera. • Share how their moving camera was built	STEM Skills and Connections	*A1.1 use a scientific research process and associated skills to conduct investigations *A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems *A1.4 follow established health and safety procedures during science and technology investigations *A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes *A2.1 write and execute code in investigations and when modelling concepts, with a focus on decomposing problems into smaller steps *A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems *A3.2 investigate how science and technology can be used with other subject areas to address real-world problems	● ● ● ● ● ● ●
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Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed

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Session 7: **Introduction – Discovery Build** ● The team will provide examples of how they have used **discovery** throughout the sessions ● The team will create a build from the prototyping pieces represent this Core Value **Team Outcomes** • The team will combine the basic stage model with the motor and hub • The team will apply all their coding and building knowledge to create their own stage. **Share** **Have the team:** • Share what they did in the session. • Show how they have applied coding skills learned in previous sessions to make their model move. • Demonstrate how their stage engages an audience.	STEM Skills and Connections	*A1.1 use a scientific research process and associated skills to conduct investigations *A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems *A1.4 follow established health and safety procedures during science and technology investigations *A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes *A2.1 write and execute code in investigations and when modelling concepts, with a focus on decomposing problems into smaller steps *A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems *A3.2 investigate how science and technology can be used with other subject areas to address real-world problems	● ● ● ● ● ● ●
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	Understanding Structures and Mechanisms	D2.1 describe different ways an object can move D2.2 identify ways in which the position of an object can be changed D2.5 compare, qualitatively or quantitatively, the force required to move an object using various simple machines to the force required to move the object without using a simple machine	● ● ●
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Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed

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Sessions 8 & 9: **Introduction – Teamwork and Fun Builds** ● The team will provide examples of how they have used teamwork and fun throughout the sessions ● The team will create a build from the prototyping pieces representing this Core Value **Team Outcomes** • The team will draw their team model design and label its required parts. • The team will create a team model to showcase a talent or interest that uses technology in creative ways. **Share** **Have the team:** • Share what they did at the end of each session. • Explain the program and how the motor, sensor and light are used in the model. • Review the list of required parts and identify them on the team model. • Demonstrate how the team model works.	STEM Skills and Connections	*A1.1 use a scientific research process and associated skills to conduct investigations *A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems *A1.4 follow established health and safety procedures during science and technology investigations *A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes *A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems *A3.2 investigate how science and technology can be used with other subject areas to address real-world problems	● ● ● ● ● ●

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Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
Sessions 10 & 11: **Introduction – Innovation and Inclusion Builds** ● The team will provide examples of how they have used innovation (Session 10) and inclusion (Session 11) ● The team will create a build from the prototyping pieces representing this Core Val**u**e **Team Outcomes** • The team will create a plan for what they will include on their team poster. • The team will design and create their team poster **Share** **Have the team:** • Share what they did at the end of each session. • Show their team poster design. • Explain their team journey. • Demonstrate how they will present their team poster	STEM Skills and Connections	*A1.1 use a scientific research process and associated skills to conduct investigations *A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems *A1.4 follow established health and safety procedures during science and technology investigations *A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes *A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems *A3.2 investigate how science and technology can be used with other subject areas to address real-world problems	● ● ● ● ● ●

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Team Meeting Guide Outcomes	Strand	Specific Expectations	Addressed
Session 12: **Introduction – Impact Build** ● Have the team provide examples of how they have had an impact throughout the sessions ● Have the team create a build from the prototyping pieces representing this Core Value **Team Outcomes** • The team will reflect on their MASTERPIECE experience. • The team will create a plan for what to share at their final event **Share** **Have the team:** • Practice their team poster presentation. • Practice their team model presentation.	STEM Skills and Connections	*A1.1 use a scientific research process and associated skills to conduct investigations *A1.3 use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems *A1.4 follow established health and safety procedures during science and technology investigations *A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes *A3.1 describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems *A3.2 investigate how science and technology can be used with other subject areas to address real-world problems	● ● ● ● ● ●
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