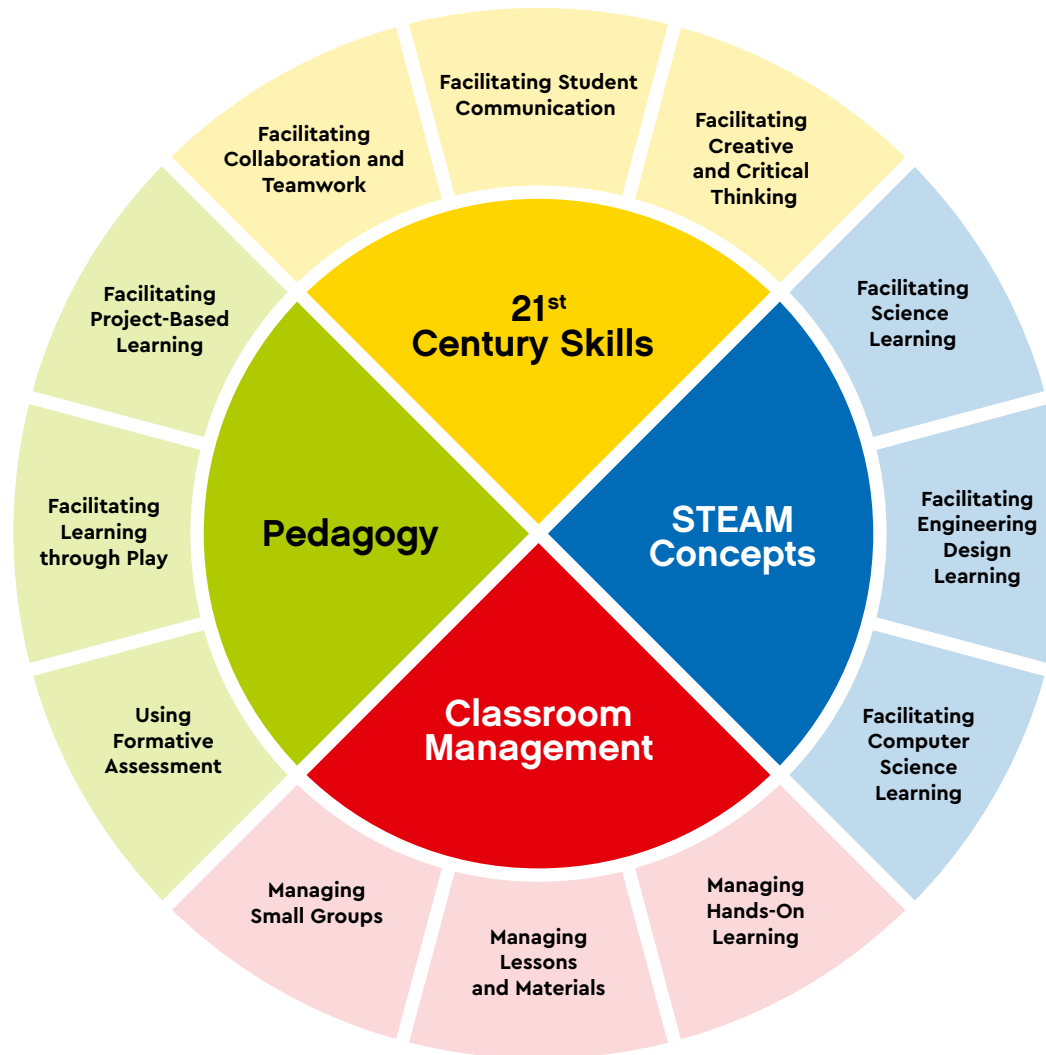


Plan Your Learning with the LEGO® Education Competency-Based Framework





Use this document to:

1. Learn about the high-leverage teaching competencies LEGO® Education believes will best support STEAM learning outcomes for students using our solutions.
2. Find and understand the learning courses that are currently available to support you in developing these competencies.
3. Plan your learning journey and track your progress.

Use the steps below to navigate and use this document

Explore all the competencies. →

Use the complete list of competencies to get oriented.

4. Familiarize yourself with the structure of the framework.
 - 3 grade bands
 - 4 main competency categories
 - 12 competency sub-categories
 - 48 individual competency statements, allocated in related groups of 4
5. Study the competencies by reading them.
 - In your preferred grade band.
 - Across the grade-bands to understand how they progress. Competency statements progress, even when the language is the same across the progression. At each grade band, courses contain specific instruction that applies the competency appropriately for students' age and cognitive development.

Plan your journey. →

Use the checklist of available courses to plan and track your learning journey.

6. Familiarize yourself with the course types offered.
 - Learning Bursts cover 1 competency
 - Learning Quests cover 4 related competencies
 - Facilitated Courses are only available in some locations or districts. Ask your administrator.*
7. Understand the relationship of competencies to products.
 - Each course features a particular LEGO Education product in the classroom video. However, the competency training is applicable to any hands-on learning product for the stated grade band.
 - Example: *Learning Burst Listening and Questioning Skills* features secondary school students and teachers using LEGO® Education SPIKE™ Prime, but its instruction applies to teachers with other LEGO Education secondary products or even without any LEGO Education secondary product.
8. Find courses to take and track your personal progress.
 - Courses may appear in multiple product classrooms for the pertinent grade-band. However, your completion in any classroom will show the first time you complete a course.
 - Example: *Learning Burst Implementing Productive Hands-On Learning* appears in both the LEGO® Education SPIKE™ Essential Classroom and the BricQ Motion Essential Classroom, because it is useful to primary school teachers using either Essential product. You may complete it in either classroom and needn't do so twice.
 - Choose your grade band: **Primary** or **Secondary**.
 - Scan the courses offered for that grade band.
 - Circle the courses you'd like to take.
 - Use the ✓ column to check them off as you finish.
 - The Professional Development Platform will track your completion too.

* Facilitated courses feature a full-day of virtual or in-person instruction. They cover two competency sub-categories from the framework, e.g. Facilitating Project-Based Learning plus Managing Lessons and Materials.

COMPETENCIES					
Category	Sub-Category	Statements			
		Early Learning	Primary (Grades 1–5) LEGO® Education SPIKE™ Essential LEGO® Education BricQ Motion Essential	Secondary (Grades 6–8) LEGO® Education SPIKE™ Prime LEGO® Education BricQ Motion Prime	
21st Century Skills	Facilitating Collaboration and Teamwork	Can identify key characteristics and benefits of collaboration and teamwork	Can identify key characteristics and benefits of collaboration and teamwork	Can identify key characteristics and benefits of collaboration and teamwork	
		Can recognize and address common obstacles to social development and productive collaboration	Can recognize and address common obstacles to productive collaboration	Can recognize and address common obstacles to productive collaboration	
		Can create a classroom community where children become helpful resources for each other	Can create a classroom community where students become helpful resources for each other	Can create a classroom community where students become helpful resources for each other	
		Can demonstrate effective strategies to support children in purposeful collaboration	Can demonstrate effective strategies that support students in purposeful collaboration	Can demonstrate effective strategies that support students in purposeful collaboration	
	Facilitating Student Communication	Can identify key characteristics and benefits of effective communication	Can identify key characteristics and benefits of effective communication	Can identify key characteristics and benefits of effective communication	
		Can develop children's active listening and questioning skills	Can develop students' active listening and questioning skills	Can develop students' active listening and questioning skills to build knowledge or investigation practices	
		Can guide children in identifying and expressing feelings and emotions	Can support students in documenting the design process and their learning from it	Can support students in documenting the design process and their learning from it	
		Can guide children to observe and describe objects and events with appropriate terms	Can guide students to observe and describe objects and events with appropriate terms	Can guide students to reflect, explain, and communicate their ideas with evidence and data, using domain-specific language	
	Facilitating Creative and Critical Thinking	Can identify key characteristics and benefits of creative and critical thinking	Can identify key characteristics and benefits of creative and critical thinking	Can identify key characteristics and benefits of creative and critical thinking	
		Can demonstrate strategies that ensure children generate ideas and think creatively	Can demonstrate strategies that ensure students generate ideas and think creatively	Can demonstrate strategies that ensure students generate ideas and think creatively	
		Can encourage children to create stories about what they have built	Can encourage students to share and reflect on their solutions	Can guide students in analyzing creative ideas to make them actionable	
		Can use strategies that develop children's capacity to use both creative and critical thinking to solve problems	Can use strategies that develop students' capacity to use both creative and critical thinking to solve problems	Can use strategies that develop students' capacity to think divergently and evaluate their own ideas	

COMPETENCIES					
Category	Sub-Category	Statements			
		Early Learning	Primary (Grades 1–5) LEGO® Education SPIKE™ Essential LEGO® Education BricQ Motion Essential	Secondary (Grades 6–8) LEGO® Education SPIKE™ Prime LEGO® Education BricQ Motion Prime	
STEAM Concepts	Facilitating Science Learning	Can identify key characteristics and benefits of science learning	Can identify characteristics and benefits of scientific investigation	Can identify characteristics and benefits of scientific investigation	
		Can encourage children to investigate, experiment, and ask questions	Can facilitate students' application of scientific principles to investigate and experiment	Can facilitate students' application of science principles to answer questions and problems	
		Can guide children in using scientific terms and vocabulary to express their understanding	Can guide students in asking questions to identify, clarify, and evaluate data	Can guide students in asking questions to identify, clarify, and evaluate evidence, data, and arguments	
		Can guide children to collect and analyze data and to present and document their findings	Can support students in developing and refining methods to generate data for testing	Can guide students in developing a model to generate data for iterative testing and make relevant changes	
	Facilitating Computer Science Learning	Can identify key characteristics and benefits of computational thinking for early learners	Can identify characteristics and benefits of computer science learning	Can identify characteristics and benefits of computer science learning	
		Can guide children in developing basic coding concepts to solve a problem	Can support students' creation and modification of code to solve problems	Can facilitate students' use of code to create an interactive device	
		Can guide children in creating and following sequences of step-by-step actions	Can support students as they decompose problems into subproblems	Can guide students to decompose a computational problem into sub tasks	
		Can guide children in developing the concept of cause and effect to solve problems	Can support students as they debug to identify and fix problems	Can support students as they use debugging skills to identify and fix problems	
	Facilitating Engineering Design Learning	Can identify key characteristics and benefits of the engineering design process	Can identify key characteristics and benefits of the engineering design process	Can identify key characteristics and benefits of the engineering design process	
		Can support children in defining a simple problem	Can support students in defining a problem with constraints and criteria	Can guide students in defining a problem with multiple constraints and criteria	
		Can guide children in using classroom materials to solve problems	Can guide students' creation of different ideas for solving a problem	Can facilitate students' creation of multiple ideas for solving a problem	
		Can guide children in testing and improving a solution to a problem	Can guide students in testing, analyzing, and refining their solution to a problem	Can guide students in systematically testing, analyzing, and revising multiple iterations or solutions to a design problem	

COMPETENCIES					
Category	Sub-Category	Statements			
		Early Learning	Primary (Grades 1–5) LEGO® Education SPIKE™ Essential LEGO® Education BricQ Motion Essential	Secondary (Grades 6–8) LEGO® Education SPIKE™ Prime LEGO® Education BricQ Motion Prime	
Classroom Management	Managing Hands-on Learning	Can identify characteristics and benefits of managing hands-on learning effectively	Can identify characteristics and benefits of managing hands-on learning effectively	Can identify characteristics and benefits of managing hands-on learning effectively	
		Can frame the learning purpose before beginning a hands-on lesson	Can frame the learning purpose before beginning a hands-on lesson	Can frame the learning purpose before beginning a hands-on lesson	
		Can implement norms, routines and procedures for productive hands-on learning	Can implement norms, routines, and procedures for productive hands-on learning	Can implement norms, routines, and procedures for productive hands-on learning	
		Can specify and reinforce children's productive behavior during open-ended learning	Can specify and reinforce productive student behavior during open-ended learning	Can specify and reinforce productive student behavior during open-ended learning	
	Managing Lessons and Materials	Can identify key characteristics and benefits of effective lesson and materials management	Can identify characteristics and benefits of effective lesson and materials management	Can identify characteristics and benefits of effective lesson and materials management	
		Can design, adapt, and extend learning experiences and instruction to differentiate for children's needs	Can design, adapt, and extend learning experiences and instruction to differentiate for students' needs	Can design and adapt learning experiences and instruction to differentiate for students' needs	
		Can plan required steps, time, and materials, addressing any logistical challenges	Can plan required steps, time, and materials, addressing any logistical challenges	Can plan required steps, time, and materials, addressing any logistical challenges	
		Can troubleshoot problems with hardware and software that are affecting children's progress	Can troubleshoot problems with hardware and software that are affecting student progress	Can troubleshoot problems with hardware and software that are affecting student progress	
	Managing Small Group Work	Can identify key characteristics and benefits of effective small group work	Can identify key characteristics and benefits of effective small group work	Can identify key characteristics and benefits of effective small group work	
		Can observe, monitor, and provide effective direction to multiple groups of children	Can observe, monitor, and provide effective direction to multiple student groups	Can observe, monitor, and provide effective direction to multiple student groups.	
		Can address issues and logistics that interfere with full and equitable student participation	Can address issues and logistics that interfere with full and equitable student participation	Can address issues and logistics that interfere with full and equitable student participation	
		Can efficiently and strategically organize a class into pairs or small groups	Can efficiently and strategically organize a class into pairs or small groups	Can efficiently and strategically organize a class into pairs or small groups	

COMPETENCIES					
Category	Sub-Category	Statements			
		Early Learning	Primary (Grades 1–5) LEGO® Education SPIKE™ Essential LEGO® Education BricQ Motion Essential	Secondary (Grades 6–8) LEGO® Education SPIKE™ Prime LEGO® Education BricQ Motion Prime	
Pedagogy	Facilitating Learning through Play	Can identify key characteristics and benefits of learning through play	Can identify key characteristics and benefits of learning through play	Can identify key characteristics and benefits of learning through play	
		Can create a learning environment that encourages play and productive experimentation	Can create a learning environment that encourages play and productive experimentation	Can create a learning environment that encourages play and productive experimentation	
		Can guide children in learning through informed experimentation	Can enable students' capacity to learn by iterating and modifying their ideas	Can enable students' capacity to learn through productive iteration and refinement of their ideas	
		Can adjust STEAM instruction to incorporate key aspects of learning through play	Can adjust STEAM instruction to incorporate key aspects of learning through play	Can adjust STEAM instruction to incorporate key aspects of learning through play	
	Facilitating Project-Based Learning	Can identify key characteristics and benefits of project-based learning	Can identify key characteristics and benefits of project-based learning	Can identify key characteristics and benefits of project-based learning	
		Can guide children in making predictions and evaluating real-life applications	Can guide students in developing real-life project applications that connect to prior learning and other curricula.	Can guide students in developing real-life project applications that connect to prior learning and other curricula	
		Can check for understanding before, during, and at the conclusion of lessons	Can check for understanding before, during and at the conclusion of lessons	Can check for/build student understanding before, during, and at the conclusion of lessons	
		Can chunk and sequence learning into manageable and cohesive parts that lead to a final project.	Can chunk and sequence learning into manageable and cohesive parts that lead to a final project	Can chunk and sequence learning into manageable and cohesive parts that lead to a final project	
	Using Formative Assessment	Can identify key characteristics and benefits of formative assessment	Can identify key characteristics and benefits of formative assessment	Can identify key characteristics and benefits of formative assessment	
		Can provide prompt, specific, and constructive feedback	Can provide prompt, specific, and constructive feedback	Can provide feedback that develops students' metacognitive skills	
		Can evaluate children's progress and learning needs to inform instruction	Can evaluate students' progress and learning needs to inform instruction	Can facilitate feedback in which students interact with peer designs to offer constructive suggestions and help troubleshoot issues	
		Can guide children in evaluating their own and each other's work to develop student agency	Can guide students in self- and peer-assessment that develops student's confidence	Can facilitate self-assessment that develops student-driven learning and agency	

Plan Your Journey

COURSES					
Category	Sub-Category	Primary (Grades 1–5)		Secondary (Grades 6–8)	
		Modeled with LEGO® Education SPIKE™ Essential ☒	Modeled with LEGO® Education BricQ Motion Essential ☒	Modeled with LEGO® Education SPIKE™ Prime ☒	Modeled with LEGO® Education BricQ Motion Prime ☒
21st Century Skills	Facilitating Collaboration and Teamwork			<i>Learning QUEST</i> Facilitating Collaboration and Teamwork <i>Learning BURST</i> Addressing Common Obstacles to Collaboration	
	Facilitating Student Communication	<i>Learning BURST</i> Supporting Students in Documenting their Design Process		<i>Learning BURST</i> Listening and Questioning Skills	
			<i>Learning BURST</i> Guiding Students to Observe and Describe		<i>Learning BURST</i> Guiding Students to Explain and Communicate
	Facilitating Creative and Critical Thinking	<i>Learning QUEST</i> Facilitating Creative and Critical Thinking		<i>Learning QUEST</i> Facilitating Creative and Critical Thinking	

COURSES					
Category	Sub-Category	Primary (Grades 1–5)		Secondary (Grades 6–8)	
		Modeled with LEGO® Education SPIKE™ Essential ☒	Modeled with LEGO® Education BricQ Motion Essential ☒	Modeled with LEGO® Education SPIKE™ Prime ☒	Modeled with LEGO® Education BricQ Motion Prime ☒
STEAM Concepts	Facilitating Science Learning		<i>Learning QUEST</i> Facilitating Science Learning		<i>Learning QUEST</i> Facilitating Science Learning
	Facilitating Computer Science Learning	<i>Learning QUEST</i> Facilitating Computer Science Learning		<i>Learning QUEST</i> Facilitating Computer Science Learning <i>Learning BURST</i> Decomposing a Computational Problem	
	Facilitating Engineering Design Learning	<i>Learning QUEST</i> Facilitating Engineering Design Learning		<i>Learning QUEST</i> Facilitating Engineering Design Learning <i>Learning BURST</i> Generating Multiple Ideas	

* Facilitated courses feature a full-day of virtual or in-person instruction. They cover two competency sub-categories from the framework, e.g. Facilitating Project-Based Learning plus Managing Lessons and Materials.

COURSES					
Category	Sub-Category	Primary (Grades 1–5)		Secondary (Grades 6–8)	
		Modeled with LEGO® Education SPIKE™ Essential ☒	Modeled with LEGO® Education BricQ Motion Essential ☒	Modeled with LEGO® Education SPIKE™ Prime ☒	Modeled with LEGO® Education BricQ Motion Prime ☒
Classroom Management	Managing Hands-on Learning	<i>Learning BURST</i> Implementing Productive Hands-On Learning		<i>Learning BURST</i> Framing a Learning Purpose	
	Managing Lessons and Materials			<i>Facilitated Course*</i> Facilitating Project-Based Learning with SPIKE Prime <i>Learning BURST</i> Differentiating Learning Experiences	
	Managing Small Group Work	<i>Learning BURST</i> Ensuring Equitable Student Participation		<i>Learning QUEST</i> Managing Small Group Work	

COURSES					
Category	Sub-Category	Primary (Grades 1–5)		Secondary (Grades 6–8)	
		Modeled with LEGO® Education SPIKE™ Essential ☒	Modeled with LEGO® Education BricQ Motion Essential ☒	Modeled with LEGO® Education SPIKE™ Prime ☒	Modeled with LEGO® Education BricQ Motion Prime ☒
Pedagogy	Facilitating Learning through Play		<i>Facilitated Course*</i> Facilitating Playful Project-Based Learning with BricQ Motion Essential		<i>Facilitated Course*</i> Facilitating Playful Project-Based Learning with BricQ Motion Prime
			<i>Learning BURST</i> Encouraging Play and Productive Experimentation	<i>Learning BURST</i> Learning through Iteration	<i>Learning BURST</i> Encouraging Play and Productive Experimentation
	Facilitating Project-Based Learning		<i>Facilitated Course*</i> Facilitating Playful Project-Based Learning with BricQ Motion Essential	<i>Facilitated Course*</i> Facilitating Project-Based Learning with SPIKE Prime	<i>Facilitated Course*</i> Facilitating Playful Project-Based Learning with BricQ Motion Prime
	Using Formative Assessment	<i>Learning BURST</i> Providing Effective Feedback		<i>Learning QUEST</i> Using Formative Assessment <i>Learning BURST</i> Developing Students' Metacognitive Skills	

* Facilitated courses feature a full-day of virtual or in-person instruction. They cover two competency sub-categories from the framework, e.g. Facilitating Project-Based Learning plus Managing Lessons and Materials.