

5 IDEAS...

...and examples for Blended Learning Using the 5E Model



What is "blended learning?"

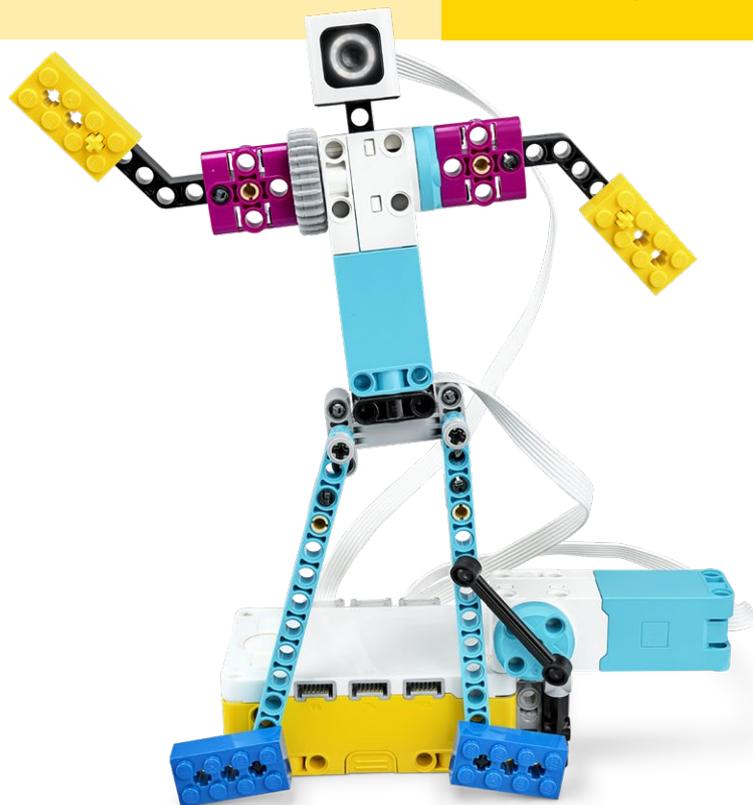
Blended learning combines in-person instruction with asynchronous learning that takes place outside of the classroom before and after in-person sessions. This instructional model provides flexibility in lesson delivery with differentiated instruction and pacing. It promotes equity of access by keeping the hands-on portion of each lesson in-person.

Blended Learning and the 5E Model

The 5E instructional model (*Engage, Explore, Explain, Elaborate, Evaluate*) lends itself to implementation in a blended learning environment because some stages of the model work best in an in-person setting, while others can easily be accomplished asynchronously. LEGO® lesson plans follow the 5E model, making it easy to quickly transition to a blended learning format. Follow these tips to prepare any LEGO Education lesson for a blended learning situation.

LEARNING STAGE	 LESSON IDEAS	 EXAMPLES
<p>1</p> <p>Engage: Asynchronous</p> <p>Pique your pupils' curiosity about the project, and tap into their prior knowledge and conceptions.</p>	<p>With LEGO Education's in-app and online lessons, pupils can get a head start at home.</p> <ul style="list-style-type: none"> • Prepare your pupils to collaborate and build with confidence in your classroom, making the most of your in-person time together. • Use the "Ignite a Discussion" content in the LEGO Education lesson plan to pique your pupils' interest and tap into their existing knowledge. 	<ul style="list-style-type: none"> • Ask your pupils to respond to prompts in online discussion forums, personal blogs or journals, or via direct messages to you. • Give your pupils options for at-home learning (e.g., watching a video, listening to a recorded lecture, reading an article, or participating in an online interactive demonstration). • Ask your pupils to preview the lesson's building and coding tips to save time later on. If they're writing their own code, have them complete their first draft before you meet face-to-face. • Maintain a file storage system where pupils can easily upload the code they've written at home to use on school computers in your classroom. • Encourage your pupils to brainstorm multiple creative solutions to the design challenge. Remind them that there can be a variety of successful designs in STEAM projects.

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<p>2</p> <p>Explore: In person</p> <p>Have pupils work with a partner or small group. Pupils build, write and test code in a classroom setting.</p>	<p>Educators always wish they had more time to do things with their pupils.</p> <ul style="list-style-type: none"> • Optimise in-person class time for pupils to create, collaborate, problem solve, experiment as they build and iterate on designs. 	<ul style="list-style-type: none"> • Focus on hands-on troubleshooting and design analysis – what's working, what isn't working, and what could be changed to make it work better? • Have your pupils use photos and videos to capture their in-person explorations for later use in documenting and presenting their projects.
<p>3</p> <p>Explain: In person</p> <p>Have pupils demonstrate their current understanding of the concepts at hand while you provide feedback encouraging collaboration and problem-solving.</p>	<ul style="list-style-type: none"> • Use group discussions and hands-on demonstrations to give your pupils the opportunity to showcase their current knowledge and ask for clarification. • Look for ways to trigger reflection and nurture critical thinking. • Elicit and answer questions. 	<ul style="list-style-type: none"> • Check for pupil understanding by having each group demonstrate and explain how their device works. • Answer your pupils' questions and directly address misconceptions to develop a deeper understanding of the concept at hand. • Create a plan to foster peer feedback. • Model and have your pupils demonstrate their best coding and building techniques to help pupils who are struggling. • Ask your pupils to modify their designs and explore variations that can solve the challenge in unique and unexpected ways (this is a prelude to the <i>Elaborate</i> phase of the 5E model).



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<p>4</p> <p>Elaborate: Asynchronous</p> <p>Challenge and deepen pupils' learning through new experiences.</p>	<ul style="list-style-type: none"> • After your pupils have worked through their projects in a classroom setting, ask them to take time at home to reflect on their work and synthesise it into a coherent presentation. • Pose new ideas or steps for pupils to go beyond the basic project and creatively explore new ideas 	<ul style="list-style-type: none"> • Encourage your pupils to use a variety of online tools to collaborate remotely on a shared project presentation to showcase their knowledge. • Give your pupils options for showcasing their academic strengths and demonstrating content mastery (e.g., submitting a written assignment, recording an oral report, drawing an explanatory comic strip, making a stop-motion video). • Challenge your pupils to go beyond the basic project and imagine/explore advanced possibilities for design and program modifications. • Consider utilising the “Extensions” content in the online LEGO® Education lesson plans to incorporate interdisciplinary academic work and go deeper into specific topics.
<p>5</p> <p>Evaluate: Asynchronous</p> <p>Assess pupils' understanding and achievement of the learning goals, and provide feedback on their work.</p>	<ul style="list-style-type: none"> • Facilitate an online showcase of your pupils' work. • Encourage effective peer critiques. • Streamline your assessment process. 	<ul style="list-style-type: none"> • Focus on formative assessment practices that develop throughout a project, rather than relying on a final summative assessment. • Host an online gallery or slideshow where pupils can upload their final presentations and participate in a virtual “gallery walk.” Be sure to monitor and moderate the comments. • Advise pupils on how to give and receive constructive peer feedback that's direct, useful, and respectful. • Suggest pupils complete a self-assessment to build pupil agency and independence. • Check out the “Assessment Opportunities” in the online LEGO Education lesson plans for guidance on developing assessment tools and rubrics.

