

Literary Randomizer

How can Daniel's literary randomizer make picking a book more exciting?



🕒 30–45 min. 📦 Beginner 🎓 Grades 3–5

Teacher Support

Key objectives

Students will:

- Define success criteria to help evaluate a solution
- Compare and contrast different solutions to determine which one meets the specified need
- Engage effectively in a range of collaborative discussions

Things you will need

(one for every two students)

- LEGO® Education SPIKE™ Essential Set
- Device with the LEGO® Education SPIKE™ App installed

Additional resources

[Building instructions](#)

[Meet the Team: Minifigure Bios](#)

[Assessment Rubric](#)

Educational standards

- CSTA 1B-AP-10
- NGSS 3-5 ETS1-2
- ISTE 1.4a
- CCSS.ELA-LITERACY.SL.5.1

Language Arts Extension

- CCSS.ELA-LITERACY.W.5.3

Prepare

- Review the *Literary Randomizer* lesson in the LEGO® Education SPIKE™ App.
- If necessary, pre-teach these related vocabulary words: *genre*, *overwhelmed*, *randomizer*, and *success*.
- Consider the abilities and backgrounds of all your students. Differentiate the lesson to make it accessible to everyone. See the *Differentiation* section below for suggestions.
- If time allows, plan and facilitate the language arts extension. See the *Extension* section below for more information.

Engage

(Whole Class, 5 Minutes)

- Facilitate a quick discussion about making decisions.
 - Talk with your students about when they had to make a big decision.
 - Ask questions, like: *What criteria did you use to make the decision? How did you evaluate whether you were happy with your decision?*
 - Introduce your students to the story's main characters and the first challenge: programming the literary randomizer to pick a book.
 - Distribute a brick set and a device to each group.
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Explore

(Small Groups, 30 Minutes)

- Have your students use the LEGO® Education SPIKE™ App to guide them through their first challenge:
 - Create and test the program that picks the book genre.
 - Have your students iterate and test their models to complete the next two challenges in the app:
 - Modify the program to improve how the literary randomizer works.
 - Design your own upgraded literary randomizer.
 - You can find coding and building support in the *Tips* section below.
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Explain

(Whole Class, 5 Minutes)

- Gather your students together to reflect on their completed challenges.
- Ask questions, like: *What was Daniel's problem? How did you help solve it? How did you improve Daniel's literary randomizer? Why did you decide to improve that?*

Elaborate

(Whole Class, 5 Minutes)

- Prompt your students to discuss and reflect on the process of setting success criteria to determine whether a solution was successful.
 - Ask questions, like: *Why is it important to set success criteria and understand what makes a solution successful? How do success criteria help you to improve something you've created?*
 - Have your students clean up their workstations.
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Evaluate

(Ongoing Throughout the Lesson)

- Ask guiding questions to encourage your students to "think aloud" and explain their thought processes and reasoning in the decisions they've made while building and programming.

Observation Checklist

- Measure your students' proficiency in defining success criteria to evaluate a solution.
- Create a scale that matches your needs. For example:
 1. Needs additional support
 2. Can work independently
 3. Can teach others

Self-Assessment

- Have each student choose the brick that they feel best represents their performance.
 - Yellow: I think I can define the success criteria for evaluating a solution.
 - Blue: I can define the success criteria for evaluating a solution.
 - Green: I can define the success criteria for evaluating a solution, and I can help a friend do it too.

Peer-Feedback

- In their small groups, have your students discuss their experiences working together.
- Encourage them to use statements like these:
 - I liked it when you...

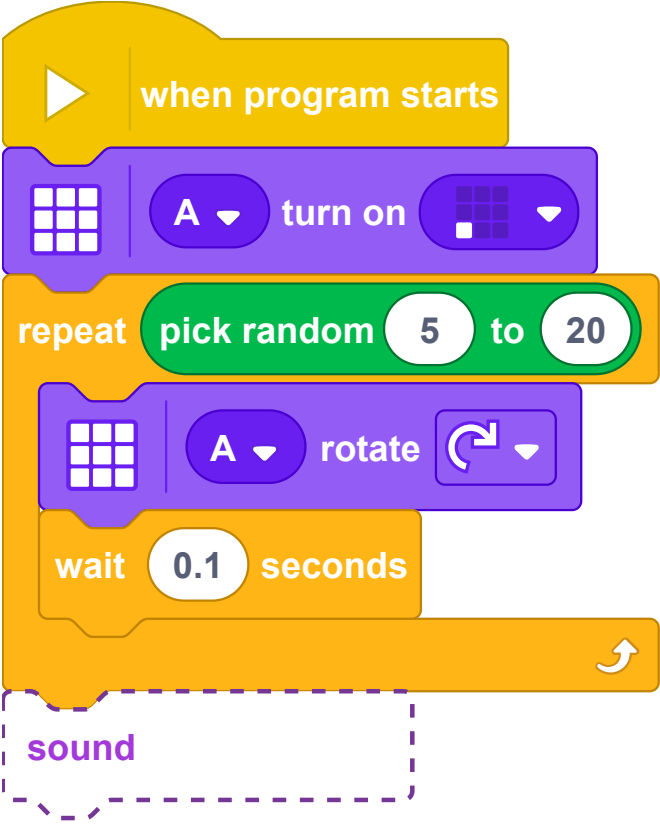
- I'd like to hear more about how you...

Tips

Coding Tip

- After your students complete their first challenge, they'll be provided with three Inspiration Coding Blocks to help them modify their programs.
- The Inspiration Coding Blocks are intended to spark their imaginations as they experiment to find their own solutions.

1



The diagram shows a Scratch script starting with a yellow 'when program starts' block. This is followed by a purple 'turn on' block with a dropdown menu set to 'A'. Then is a green 'repeat' block set to repeat 5 to 20 times. Inside the repeat loop is a purple 'rotate' block with a dropdown menu set to 'A' and a rotation icon. Below the repeat loop is an orange 'wait 0.1 seconds' block. The entire script is enclosed in a dashed purple box labeled 'sound'.

2

Model Tip

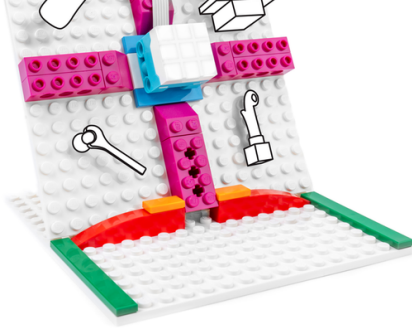
- After your students complete their second challenge, they'll be provided with three Inspiration Images and an open-ended prompt for improving their models.
- The Inspiration Images are to help spark their imaginations as they experiment and personalize their models.

1



The image shows a white LEGO baseplate with a pink and white striped stick and a white dog standing on it.

2



3

There aren't any building instructions for this challenge.

Differentiation

Simplify this lesson by:

- Selecting one Inspiration Image to help your students personalize their models
- Experimenting with either the coding or the building

Increase the difficulty by:

- Changing how the literary randomizer is constructed
 - Exploring new and different coding blocks in the program
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Extension

- Have your students write stories based on the genre chosen by their literary randomizers. Make sure that they use narrative techniques, such as dialogue and description, to create a story that fits the genre.

If facilitated, this will extend beyond the 45-minute lesson.

Language Arts: CCSS.ELA-LITERACY.W.5.3