

The Most Amazing Amusement Park



It's time to create your very own amusement park ride!

🕒 45–90 min. 📦 Beginner 🎓 Grades 1–2

Teacher Support

Key objectives

Students will:

- Apply their engineering design skills to solve a problem
- Practice helping a story character
- Describe key ideas or details from a text

Things you will need

(one for every two students)

- LEGO® Education SPIKE™ Essential Set
- Device with the LEGO® Education SPIKE™ App installed
- OPTIONAL: Additional materials for brainstorming (e.g., notebook paper, science notebook, etc.)

Additional resources

[Meet the Team: Minifigure Bios](#)

[Assessment Rubric](#)

Educational standards

- All previously-listed
- ISTE 1.4a, 1.4c, 1.4d

Language Arts Extension

- CCSS.ELA-LITERACY.W.2.3

Prepare

NOTE: This lesson will extend over two 45-minute class sessions.

- Review the *Most Amazing Amusement Park* lesson in the LEGO® Education SPIKE™ App.
- 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.

PART A (45 minutes)

Engage

(Whole Class, 10 Minutes)

- Facilitate a quick discussion about designing something new.
 - Talk with your students about what they think is missing from the amusement park that Sofie, Maria, Daniel, and Leo have been visiting.
 - Ask questions, like: *What would be a fun ride for the team? How could we brainstorm a new ride for the team?*
 - Introduce your students to the team and the challenge: brainstorming a new ride for the amusement park.
 - Distribute a brick set, any additional brainstorming materials, and a device to each group.
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Explore

(Small Groups, 25 Minutes)

- Have your students use the LEGO® Education SPIKE™ App to guide them through their first challenge:
 - Create a new ride for the amusement park. Use at least one motor or sensor (i.e., Color Sensor or Light).
 - Your students can use the LEGO bricks supplemented with additional materials to brainstorm. Encourage them to come up with multiple solutions.
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Explain

(Whole Class, 10 Minutes)

- Gather your students together and facilitate a sharing session where they present their initial ideas and provide feedback and suggestions to their peers.

PART B (45 minutes)

Elaborate

(Small Groups, 30 Minutes)

- Have your students build, program, and test the prototypes and ideas they came up with during the brainstorming session in Part A of this lesson.
 - Remind them to use at least one motor or sensor.
 - Encourage them to test and refine their models and programs over 2-3 iterations.
 - You can find coding and building support in the *Tips* section below.
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Evaluate

(Whole Class, 15 Minutes)

- 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.
- Have your students clean up their workstations.

Observation Checklist

- Measure your students' proficiency in applying their engineering design skills to complete the given task.
- 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 design, build, and program a solution.
 - Blue: I can design, build, and program a solution.
 - Green: I can design, build, and program 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...
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Tips

Coding Tip

- There are no coding instructions or Inspiration Coding Blocks for this lesson.
 - Encourage your students to experiment and find their own solutions.

Model Tip

- There are no building instructions or Inspiration Images for this lesson.
 - Encourage your students to create their own models.
 - If they need additional guidance, refer them to the building instructions for previous lessons in this unit.
 - There's no right or wrong model for this lesson.
 - Your students can create entirely new models, find inspiration in the models from previous lessons, or simply recreate models from earlier lessons.
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Differentiation

Simplify this lesson by:

- Working together as a class to brainstorm new ideas for the amusement park
- Giving your students the building instructions from previous lessons to use as inspiration for their new rides

Increase the difficulty by:

- Using two motors or sensors
 - Creating two unique programs to make the ride move in two different ways
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Extension

- Have your students write a description of their amusement park rides, explaining why they're fun and exciting.

If facilitated, this will extend beyond the 90-minute lesson.

Language Arts: CCSS.ELA-LITERACY.W.2.3