

Cross the finish line and hear the crowd cheer!

In this lesson, your students will apply their knowledge of unbalanced forces as they build a fun mechanical finish line for a Minifigure runner.



🕒 30–45 Minutes

📦 Beginner

🎓 Grades 3–5

Engage (Whole Class, 5 Minutes)

- Facilitate a quick discussion about running races.
- Ask questions to get your students thinking. Here are some suggestions:
 - Which forces make it possible for runners to move through the finish line tape? *(They push with their bodies. This push is an unbalanced force that causes the finish line tape to move and break.)*
 - How could the forces pushing on the finish line tape be used to make it possible for another Minifigure to present a trophy or medal to the winning Minifigure?
- Transition your students to the building challenge.

Explore (Individual Work, 20 Minutes)

- Have your students work independently to build a fun finish line for a Minifigure runner. The model must be powered by a mechanism.
- The Student Worksheet explains the building steps. There aren't any specific building instructions.
- Your students can refer to the pictures on the Student Worksheet for inspiration, or rely on their imaginations.

Explain (Whole Class, 10 Minutes)

- Prompt your students to explain how they've incorporated an unbalanced force into their fun finish lines.
- Ask questions like these:
 - Where's the unbalanced force at work in your model? *(The force was unbalanced when the runner pushed through the finish line.)*

Elaborate (Individual Work, 10 Minutes)

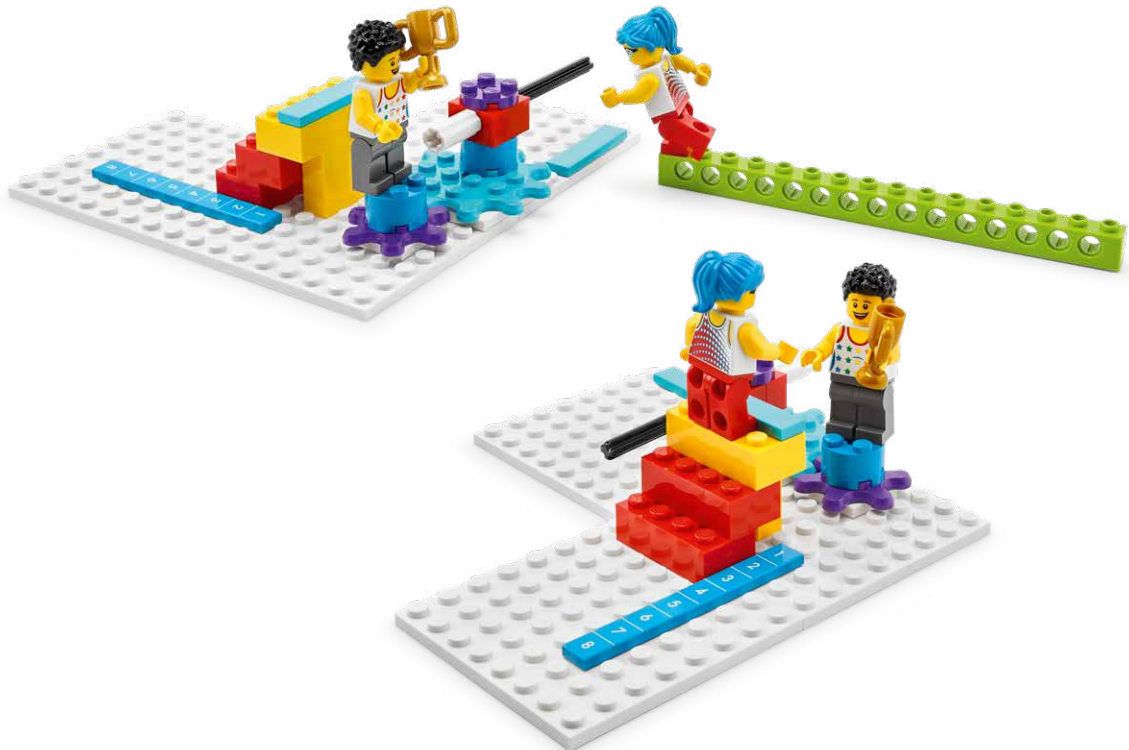
- Have your students create drawings, short videos, or audio recordings explaining how they've created a model that represents a "fun finish line."

Evaluate (Individual Work)

- Ask each student to give an example of an unbalanced force that's at work in their model.

Cross the finish line and hear the crowd cheer!

- Build a fun finish line for a Minifigure runner.
- Your finish line must be powered by a mechanism. You can use:
- A gear, multiple gears, or a simple lever.



- Use the pictures for inspiration, or use your imagination.
- Explain an unbalanced force that's at work in your model.