

Cross the finishing line and hear the crowd cheer!

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



🕒 30–45 Minutes

📦 Beginner

🎓 Key Stage 2

Engage (Whole Class, 5 Minutes)

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

Explore (Individual Work, 20 Minutes)

- Have your pupils work independently to build a fun finishing line for a Minifigure runner. The model must be powered by a mechanism.
- The Student Worksheet explains the building steps. There are no specific building instructions.
- Your pupils can refer to the pictures on the Student Worksheet for inspiration, or rely on their imaginations.

Explain (Whole Class, 10 Minutes)

- Prompt your pupils to explain how they've incorporated an unbalanced force into their fun finishing 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 finishing line.*)

Elaborate (Individual Work, 10 Minutes)

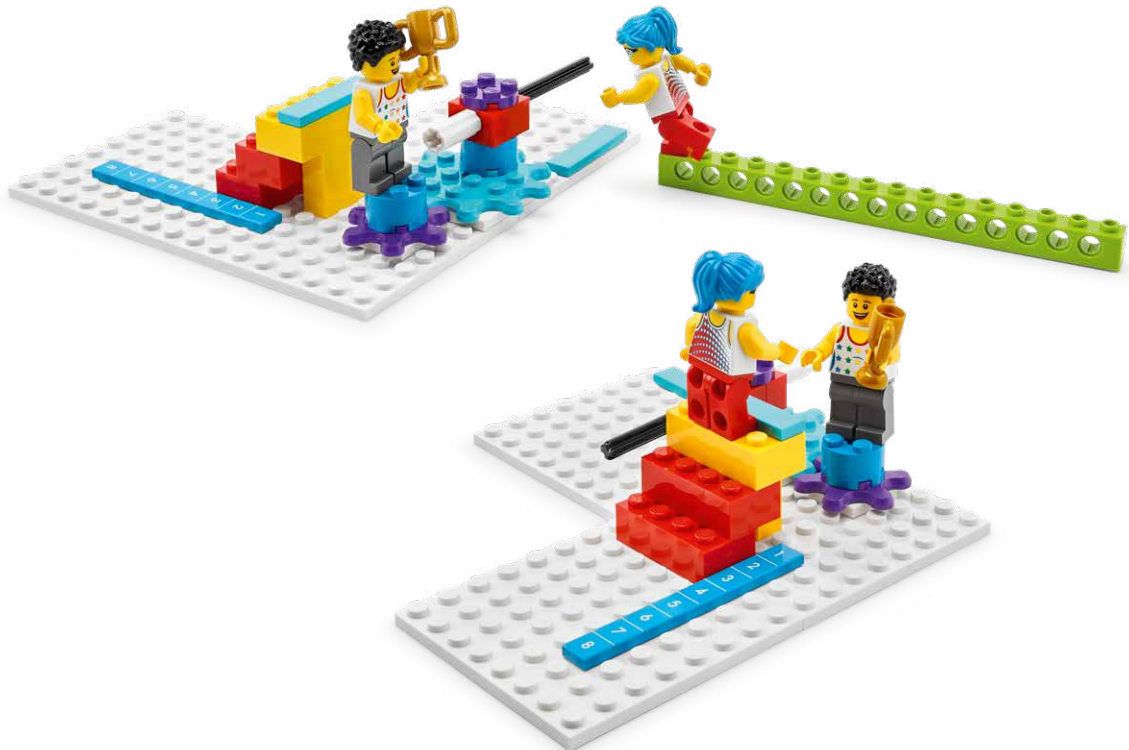
- Have your pupils create drawings, short videos or audio recordings explaining how they've created a model that represents a 'fun finishing line'.

Evaluate (Individual Work)

- Ask each pupil to give an example of an unbalanced force that is at work in their model.

Cross the finishing line and hear the crowd cheer!

- Build a fun finishing line for a Minifigure runner.
- Your finishing 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 is at work in your model.