

Engineering Design Challenge – Pi (π) Day Challenge



Engineering Design Process:

- Identify or Define the Problem
- Generate Ideas
- Identify Best Idea Based on Constraints
- Design and Build a Prototype
- Evaluate Tests
- Iterate and Redesign
- Explain Results

Need Inspiration?

- Consider exploring the [Taxi! Taxi!](#) lesson and build the model.
- Alternatively, build any vehicle you can imagine! You can use LEGO® Education materials, other LEGO bricks, or whatever materials you have available.
- Then, use tools to measure the diameter of the wheels and calculate circumference.

Use each step of the Engineering Design Process and your background knowledge of pi to complete this challenge.

Challenge – Can you use pi to help your vehicle stop at the target?

- Use measuring tape, rulers, or other tools to measure the dimensions of the taxi wheels. Use the formula $C = \pi d$ to calculate the wheel circumference.
- Use this information to estimate distance and program your taxi to stop at a target. *How many wheel rotations are needed to reach the target?*
- Test and iterate to get as close to the target as possible. Move the target, use your calculations, and try again!

