

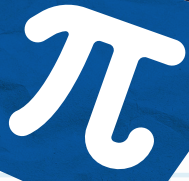
PLTW Pi Day Planner

Information, activities, and idea starters for teachers to create excitement on Pi Day (March 14)

What Is Pi?

Pi π | 3.1415926535

A mathematical constant, calculated as a ratio and used to calculate the circumference, area, and volume of circles, spheres, and curves.



Explore Pi Pathways

- * **Materials engineers** use pi to design parachutes that generate the proper amount of drag necessary to safely land in specific environments
- * **Architects** use pi to determine the amount of material needed to build a circular structure such as a light pole or grain silo
- * **Planetary scientists and astrophysicists** use pi to calculate the distance between two orbiting objects, such as a planet and star
- * **Satellite systems engineers** use pi to help determine the proper positioning of satellites to ensure connectivity and communication
- * **Prosthetists and orthotists** use pi to calculate volume and surface area, which helps them design prosthetics, implants, and medical devices

Your PLTW Pi Day Plan

Fun ways to engage your students with Pi Day

Get a Piece of the Pi!

ELEMENTARY (PREK-5) ACTIVITY

Show students how to measure pi using everyday objects!
Supplies: One (1) round object such as a lid or cup, one (1) piece of string longer than the circumference of the object, one (1) pair of scissors

① MEASURE THE CIRCUMFERENCE

Wrap a piece of string around your object one time, until it reaches the starting point. Cut the string where it meets the start. If needed, use tape or teamwork to hold one end down while cutting the string.

② MEASURE THE DIAMETER

Stretch the string across the center of the object at its widest point to measure the diameter (or width) of the circle. Cut the string to the diameter of the object. Do this step two more times.

③ FIND THE PIECES OF PI

Notice the very small, .14 length of string that was left after measuring the diameter three times. This represents the circumference of your circle, which is 3.14 times longer than the diameter of a circle.

④ DISCUSS YOUR RESULTS

Compare your experience with classmates. Discuss whether or not this experiment would work with other circular objects.

The Proof is in the ~~Pudding~~ Pi

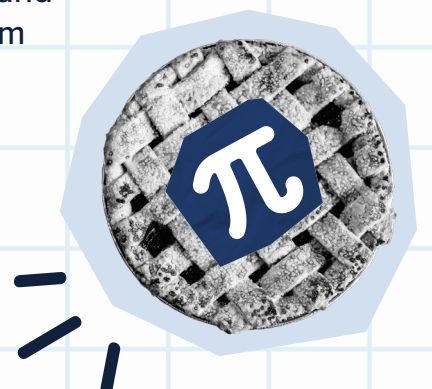
MIDDLE SCHOOL (6-8) ACTIVITY

Tap into middle school students' curiosity by asking them to prove that pi is a constant. To get middle school students engaged in Pi Day, complete the same steps as listed above in the "Get a Piece of the Pi!" activity using multiple objects of varying sizes.

What's Your Favorite Flavor of Pi

HIGH SCHOOL (9-12) ACTIVITY

High school students want to know why they need to learn certain concepts such as pi, and that context is critical for students as they explore interests and future careers. Prompt your students to research how real people use pi to solve problems and design solutions—from medical innovation and building design to space exploration.



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