

Calculate Pi

Measure circumference and diameter, report results in table poster, and then use results to calculate Pi.

Detailed Description

In groups of 3-4, students brainstorm and try different ways of accurately measuring circumference and diameter, then choose their best method. Students then:

1. Measure the circumference and diameter of three round objects (preferably outside of school) and tabulate the results.
2. From their results, try to determine the mathematical relationship between diameter and circumference.

Each group creates a poster on which they:

1. Describe the method of measurement chosen.
2. List objects measured, circumferences, and diameters in a table.
3. Calculate the average diameter and the average circumference.
4. Describe the mathematical relationship determined between diameter and circumference.

Each student uses the averaged diameters and circumferences to calculate Pi.

Students graded on: group poster; individual calculation of Pi

Time to complete: 1 week

Specific Grading Criteria

- Described method used to measure diameter and circumference.
- Listed objects with measurements for diameter and circumference.
- Described mathematical relationship logically.
- Calculated Pi using correct formula.

General Grading Criteria

- Followed directions (on time, as assigned).
- Correct mechanics (spelling, punctuation, capitalization).
- Sentences and word choice correct.
- Sentences complete.
- Organized (logical and clear) and easy to follow.
- Complete (included all details).
- Work neatly done.

Productivity Skills

- Interacts effectively as a member of a group.
- Contributes to the success of a group.
- Uses an effective problem-solving method.

Main Standard Assessed

Seventh Grade Math

Standard 7: Be able to use geometric principles to draw and compare lengths, area, and volume.

Performance Indicators

C. Be able to calculate and compare area, perimeter, and circumference.

Other Standard Assessed

Seventh Grade Math

Standard 2: Be able to apply math knowledge and skills to a variety of purposes.

Performance Indicators

A. Be able to use a variety of strategies in the problem-solving process in a step-by-step manner.

Difficulty: .5

District Code: _____

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