

LEARNING PLAN

Aurelio Velazquez

<p>Exploratory Activities</p> <ol style="list-style-type: none">1. KWL (The Circle)2. Making a circle from a square3. Circular things in our world4. Sir Circumference and the First Round Table5. All around the circle6. Circular terms (Vocabulary review)7. Exploring the amazing circle8. Compass fun one	<p>CONCEPT</p> <p>The circle</p> <ul style="list-style-type: none">• Parts of a circle• Measuring radius, diameter, and circumference• Discovering pi• Finding the area of a circle• Circles and squares• Circles and polygons• Functions in circles
<p>Concept Development Activities</p> <ol style="list-style-type: none">8. Measuring circles(diameter, radius, and circumference)9. Investigating Circumference10. An Amazing Quotient. Discovering pi I11. Discovering pi II12. Pi day (Digits of pi recitation contest, interesting facts about Pie).13. What's in a circle?14. Investigating the area of a circle15. Exploring the areas of squares and circles16. The circles-in-the-Square Problem17. Folding polygons from a circle18. Functions in circles (Learning Center)	<p>Materials and Resources</p> <p>Sir Circumference and the First Round Table by Cindy Neushwander AIMS: Looking at Lines Passport to Mathematics Volume 1 Mathematics: applications and connections http://www.rusmp.rice.edu http://ericir.Syr.edu/Virtual/Lessons/ http://www.iit.edu/~smile/mathinde.html http://chci.wrdsb.on.ca/math/songs.html http://www.vvc.edu/ph/TonerS/mathpi.html</p> <p>Various circular objects, round cans or containers of various sizes, grid paper, rulers, tape measure, markers, one-inch construction paper strips, scissors, recording sheets, seven-inch color typing paper circles, calculators, a rope, an inflated ball Compasses, color pencils, glue.</p>

Basic Facts and Standard Algorithms Formalized

1. Students will be able to define circumference, radius, and diameter.
2. Students will be able to measure circumference, radius, and diameter of various circular objects.
3. Students will be able to explain how the number 3.14 for pi is determined.
4. Students will determine the relationship between the circumference and diameter of a circle.
5. Students will demonstrate that by dividing the circumference of an object by its diameter you end up with pi.
6. Students will discover the formula for finding circumference using pi, and demonstrate it.
7. Students will show the geometric representation of the area of a circle as the shape of a parallelogram.
8. Students will derive and use the formula for computing the area of a circle.
9. Students will show that the relationship of circumference to diameter is represented by a linear function.
10. Students will use a graph to predict the circumference given its diameter or its circumference.

Passport to Mathematics Volume 1:

Circumference of a circle pp. 498-503

Area of a circle pp. 504-509

Passport to Mathematics Volume 1 workbook, p. 73

Mathematics: Applications and Connections

Circles and circumferences pp.149-151

Area of circles pp. 396-397

Assessment

1. Direct observation of each student during interactions in group work.
2. Questioning
3. Class discussions
4. Teacher-made test
5. Standardized tests
6. Standardized test practice and exploration and extension activities (Passport 1 pp. 503 and 509)
7. Practice test (TE, Passport 1)
8. Journal entries
9. Individual conferences with students to monitor their progress and to identify their weaknesses.
10. Students products

**Originality and Creativity
Student Products****Written**

1. Students will write a story in which the circle is the main character.
2. Students will write a song or a poem for Pie.

Verbal

1. Students will make an oral presentation (song, commercial, rap, joke, etc.) related to the circle in front of the class.
2. Students will research on Pie and will make an oral presentation to the class.

Kinesthetic

1. Students will use circles to make a demonstration, an experiment, or a mobile.
2. Students will make up a game related with the circle and have the class play it.

Visual

1. Students will make a collage using circular shapes taken from magazines, newspaper, brochures, etc. The collage will be made on a sheet of construction paper and will have a title.
2. Students will make a Power point presentation and present it to the class.
3. Students will make a poster of Pie of a circle.

Related TEKS

5.14.A. Identify the mathematics in everyday situations.
5.14.D. Use tools such as real objects, manipulatives, and technology to solve problems.
5.15.A. Explain and record observations using objects, words, pictures, numbers, and technology.
8.1.A. Select and use appropriate operations to solve problems and justify the selection.
8.2.B. Add, subtract, multiply, and divide rational numbers in problem situations.
6.6.C. Describe the relationship between radius, diameter, and circumference of a circle.
6.8.B. Select and use appropriate units, tools, or formulas to measure and to solve problems involving length (including perimeter and circumference), and area, time, temperature, capacity, and weight.

© 1999 by the Rice University School Mathematics Project (RUSMP)
avelazqu@houstonisd.org