Apple Pi

Follow-up Session
By: The Mathmajics
(most of the group magically disappeared)
Objectives

• 1. Students will measure the circumference and diameter of various circular objects.
• 2. Students will calculate the ratio of the circumference to the diameter.
• 3. Students will discover the formula for the circumference.
To what grade level did you teach this lesson?

Polls are closed.

Grade level

- 3rd grade: 0%
- 4th grade: 0%
- 5th grade: 0%
- 6th grade: 0%
- 7th grade: 0%
- 8th grade: 0%
- Multiple grades: 0%
Around this lesson, how much time did you devote to teaching about pi?

Polls are open.

1 class session
2 class sessions
3 class sessions
4 or more class sessions
Did not teach about pi

Pi time
Did you feel the lesson provided the opportunity to engage in meaningful mathematical discourse?

Polls are open.

Yes 0%
No 0%
Using the text tool on the top right of the screen, list one idea you presented that gave students the opportunity to engage in meaningful mathematical discourse:

Yes!

but the discourse was not on the topic, it was on measurement!

hands on and major discussions between students

the lessons were so hands on they felt very at ease discussing with each other.

When they measured the circumference and then cut the ribbon, then they were to see how many times.

I'm running out of room.

graphing the diameter vs circumference.
Did you use any additional resources related to this lesson such as other websites or materials?

Polls are open.

Yes (please be willing to verbally share about these) 0%

No 0%
List other resources, web sites, activities, or materials that you used:

www.georgiastandards.org/math.aspx
Click on Math Frameworks and you can find activities for all grade levels and all subjects

http://www.andrews.edu/~calkins/math/webtexts/circarea.gif

www.joyofpi.com
has link to playing pi as "song"

http://www.avision.com/experiments/pi10k/index.php
link to playing pi as music

List other resources, web sites, activities, or materials that you used:
What were some of the objects your students measured?
Did you use the activity sheet provided?

Polls are closed.

Yes (if so, please be willing to share verbally about your experience) 0%
No 0%

sheet
CIRCUMFERENCE OF CIRCULAR SHAPES

Directions: Using the circular shape you have been given, lay the string around it to find the circumference. Next, measure the string with your ruler to find the length of the circumference (as accurately as possible). Next, measure the diameter of your circular shape. Finally, using your calculator, divide: circumference / diameter. Record your result. We will then take a class survey to record each team’s results. Then we will add them together to find the average.

<table>
<thead>
<tr>
<th>Team</th>
<th>Circumference</th>
<th>Diameter</th>
<th>Quotient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>21.3</td>
<td>6.7</td>
<td>3.2531714</td>
</tr>
<tr>
<td>2</td>
<td>35</td>
<td>11</td>
<td>3.18</td>
</tr>
<tr>
<td>3</td>
<td>25.5</td>
<td>8.3</td>
<td>3.18</td>
</tr>
<tr>
<td>4</td>
<td>28.3</td>
<td>9</td>
<td>3.14</td>
</tr>
<tr>
<td>5</td>
<td>28.5</td>
<td>9.5</td>
<td>3.10</td>
</tr>
<tr>
<td>6</td>
<td>33.4</td>
<td>10.4</td>
<td>3.14</td>
</tr>
<tr>
<td>7</td>
<td>30.5</td>
<td>11.5</td>
<td>3.13</td>
</tr>
<tr>
<td>8</td>
<td>24.5</td>
<td>8.3</td>
<td>3.00</td>
</tr>
<tr>
<td>9</td>
<td>29.5</td>
<td>13</td>
<td>2.28</td>
</tr>
<tr>
<td>Sum of Quotients:</td>
<td></td>
<td></td>
<td>5.36</td>
</tr>
<tr>
<td>Average of quotients:</td>
<td></td>
<td>3.13117</td>
<td></td>
</tr>
</tbody>
</table>
CIRCUMFERENCE OF (semi-circular) SOAP BUBBLES

Directions: Using a small amount of soap bubble mixture, pour it onto your tabletop. Dip the end of the straw into the remaining bubble mixture in the cup to wet the end of it. Hold your straw at about a 45° angle in the “puddle of soap on the tabletop. Blow gently into the straw to blow your bubble. DO NOT SUCK UP ON THE STRAW OR YOU WILL END UP WITH A MOUTHFUL OF SOAP! Yuk!! When the bubble pops, use your ruler to measure the diameter of the circular impression left on your desktop. Then calculate the circumference. Repeat this three times filling in the data below.

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Calculation</th>
<th>Circumference</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUBBLE #1</td>
<td>5 in.</td>
<td>$C = \pi \cdot d$</td>
</tr>
<tr>
<td>BUBBLE #2</td>
<td>6.5 in.</td>
<td>$C = \pi \cdot d$</td>
</tr>
<tr>
<td>BUBBLE #3</td>
<td>7 in.</td>
<td>$C = \pi \cdot d$</td>
</tr>
<tr>
<td>Bubble #4</td>
<td>11 in.</td>
<td>$C = \pi \cdot d$</td>
</tr>
</tbody>
</table>
Lesson Summary:
What did your students learn from the lesson? (Please use the text tool to write in the space below.)

We've already said they learned that the relationship was that the c was 3 and a little bit more dian
One thing you would change is…
Describe the mathematical discourse promoted by this lesson.

VOCABULARY
PARTNER TALKING (VALIDATING EACH OTHER’s IDEAS)

OPPORTUNITIES FOR NEGOTIATING (MEASUREMENT)

TESTING and CONFIRMING

Describe the mathematical discourse promoted by this lesson.
A final thought:

What elements do you feel you would repeat next year?

- Edible and nonedible
- Strategies sharing and comparing
- ditching the string!!!

Cylinder is nice
- How do you spell go grain ribbon?
  - grosgrain, i think
  - the s is silent when you s
    - say it figured that :)
    - Thanks!

YES PATTERNS!
- Good for generalizing a rule as a closure
- how about the recording sheet???
  - i added columns for adding, subtracting, multiplying, and
  - median too? Wow what a great lesson...

 Reviewed mean too!!!
Thank you!

Thank you!