



			CLASSWORK DAY 3
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**SEQUENCE:**

1. TAKE 10 MINUTES TO HAVE KIDS NAME THE DIFFERENT GEOMETRIC FIGURES (USE PLASTIC GEOMETRIC FIGURES FOR THE OVERHEAD TRANSPARENCY.)
  
2. MAKE A KWL CHART ON THE BOARD AND HAVE STUDENTS TELL YOU WHAT THEY KNOW ABOUT CIRCLES AND WHAT THEY WANT TO LEARN (ABOUT 10 MINTUES.)
  
3. HAVE STUDENTS USE COMPASS TO MAKE DIFFERENT CIRCLES (15 MINUTES.)
  1. HAVE THEM DRAW A LINE THROUGH THE CENTER OF EACH CIRCLE
  2. ASK STUDENT TO NAME THE DISTANCE AROUND THE CIRCLES – **CIRCUMFERENCE**
  3. HAVE THEM LABEL EACH LINE – **DIAMETER**
  4. EXPLAIN THAT **RADIUS** IS THE DISTANCE TO THE MIDDLE OF THE CIRCLE
  5. HAVE THE STUDENTS WRITE THE RATIOS FOR RADIUS AND DIAMETER.
  
6. WRAP-UP: ADDRESS SOME OF THE IMPORTANT POINTS THE STUDENTS MENTIONED IN THE KLW CHART (10 MINUTES.)
  - a. ASSIGN HOMEWORK: PROJECT 1
  
  - b. PROVIDE TAPE MEASURE AND CALCULATORS IS NECESSARY.

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MINI QUIZ (5 MINUTES):

1. DEFINE: CIRCUMFERENCE, DIAMETER AND RADIUS
  
2. TIME TO EXPLORE THE HOME PROJECT (20 MINUTES). CALL ON EACH STUDENT TO GIVE YOU THE CIRCUMFERENCE AND THE DIAMETER OF A CIRCLE THEY MEASURED AT HOME. POST ALL OF THEM ON THE OVERHEAD PROJECTOR IN A WELL ORGANIZED TABLE WITH A BLANK COLUMN FOR THE RATIO. TELL THEM THAT YOU ARE GOING TO DIVIDE THE CIRCUMFERENCE BY THE DIAMETER. DO A FEW OF THEM AND STOP.
  
3. ASK THE STUDENTS TO DO THE SAME WITH ALL THE CIRCLES THEY MEASURED AT HOME.
  
4. ASK THEM IF THEY NOTICE ANY PATTERN OR ANYTHING SPECIAL. THE ANSWER SHOULD BE YES. THE ANSWERS SHOULD BE ALMOST THE SAME – 3.14 – CALLED Pi.
  
5. LET’S LEARN ABOUT Pi. Choral reading 10 minutes.

- Critical question: what is pi?

Reading material (<http://www.paperpen.com/greg/pi/>)

6. Help the students create an algorithm to solve the circumference problem.
  
7. Wrap-up: summarize the key ideas and stress the import terminologies in this unit.

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### LESSON 3

THE STUDENTS WILL WRITE A TYPE THREE ESSAY ADDRESSING THE FOLLOWING FOCUS CORRECTION AREAS:

#### PARAGRAPH STRUCTURE (20 POINTS)

- 5 PARAGRAPHS INCLUDING:
  - INTRODUCTION
  - BODY AND CONCLUSION
  
- THREE KEY IDEAS ABOUT THE TOPIC (20 POINTS)

#### CONTENT (60 POINTS)

EXPLAIN THE RELATIONSHIP BETWEEN CIRCUMFERENCE, DIAMETER AND RATIO. Use examples and illustrations from the home project.

Modification: Those students who cannot write in English, can do it in their native language, but they are encouraged to try it in English. Code switch is acceptable. Those who find type three too difficult, are allowed to do a type one (graphic organizer, flow chart, picture, drawing or oral explanation.)

FROM: <http://www.paperpen.com/grep/pi/>

#### What is pi?

In our society, pi is dealt with a bit in math class, but not much more than that. For most people, this brings up the immediate question, “What is pi?” Pi is a very cool number that describes a circle. This means for one thing that if you take the diameter of a circle (the segment that goes from one side to the other cutting across the center) and multiply it by pi, you get the circumference of the circle (the distance around the outside). There are other formulas you can use pi with too. So, pi is a weird number that somehow or other always can help you find distances pertaining to a circle.

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**What is so cool about a pi? I mean, it's just a number.**

Yes, it is just a number, but it is a number unlike any other. Pi somehow or other describes a circle, which if you think about it is a really weird shape. It has no angles and is made with one continuous line. A circle is this funky shape that this never-ending, never-repeating number can seemingly miraculously describe. Pi is a mystery within itself. There are people who believe that pi contains the answer to the universe, or that information is held in the digits. There are people working on discovering the answer to the mystery of pi. Besides that, there are a substantial group of people who work on memorizing the digits of pi. People have memorized thousands of digits. Clubs exist, and it's like a contest to see who can memorize the most digits. Also remember, the farther into pi you go, the more accurate your answers will be when you use it in equations. Impress your friends, parents, teachers, professors, with your memory capabilities. Pi seems a good way to do this because I've found that the numbers do seem to be easy to memorize, and roll right out, perfect for reciting!

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**Greg Heller (me) and Pi**

I became interested in pi when I was told to do a report on any subject that interested me in eighth grade. I had heard about the belief that pi is the "answer to the universe", and thought that this would be a good time to find out what that was all about. In my research, I found several books on pi, and a killer homepage (see link above: uselessness). I posted a message asking for help on my report on a bulletin board on the uselessness page, and got an incredibly good response. I had pages of comments from professors, mathematics, and pi loving folk the world over. The report came out a success.

**For further investigation: What relationships can you establish between circumference and area**