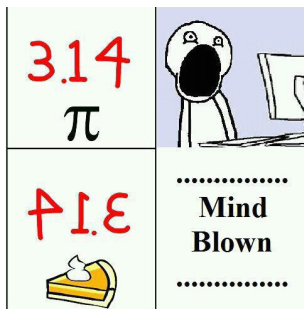


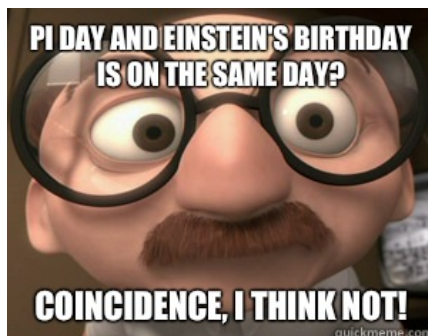
Warm-up:

- turn into your table groups
- discuss and answer the following questions:

**Slope, Pi, and Lines**

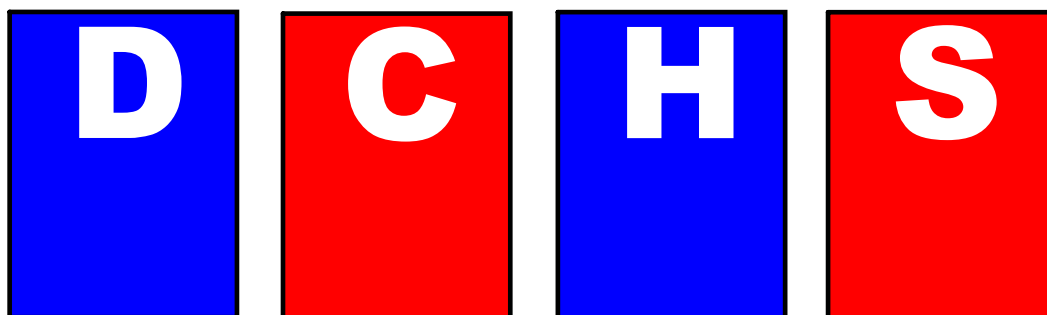
(Pre-Activity Questions)

1. Use a calculator to give approximate values for π to the nearest whole number, to one decimal place, to two places, to three places, and to four places.
2. What is π ? (Don't just give its numeric value. Discuss what you think π really represents.)



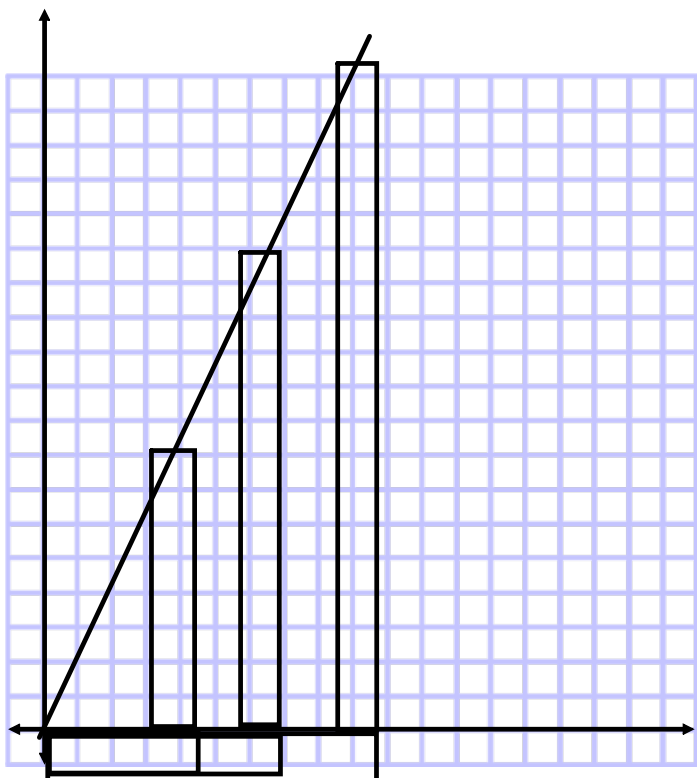
3. What is the formula for circumference of a circle? What does this formula tell you about how the diameter of a circle is related to the circumference?
4. The slope of a line is a ratio of two numbers. Describe what two quantities are being compared in the ratio.

Decide in your group who will be the following:



Activity:

1. Using tape, measure circumference and diameter of 3 or 4 objects.
2. Put tape onto graph paper as instructed.
3. Draw line and evaluate following directions.



$$C = \pi d$$

$$\frac{C}{d} = \pi$$

Slope, Pi, and Lines

(Summary Questions)

1. What does it mean to say that π is a ratio?
What is being compared?
2. What does it mean to say that the slope of a line is a ratio? In this activity, what quantities were being compared?
3. Does the ratio of circumference to diameter vary depending on the size of the circle or the type of measurement (in., cm)? Explain.
4. How does your equation relating circumference and diameter relate to the slope-intercept equation $y = mx + b$? What are the values of m and b in your equation?
5. Why are x and y variables, and why are m and b constants?

The Pirate Painting Problem

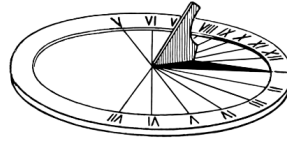
Task Card

Background: Each year on March 14th the Dread Pirate Roberts has his crew swab the deck of his ship and then repaint the circular sundial in the middle of the deck. The sundial has a circumference of 153 feet.

Individual Accountability: Every group member has clear work on their paper and is able to justify their group's solution.

Group Accountability: Group ensures a random member can justify their solution.

Task: The crew needs to know how many liters of paint to steal the next time they pillage. If each liter covers 25 ft² and they need to paint 150° of the sundial navy blue and the rest sky blue, how many liters of each color do they need to steal?



Navy Blue = _____ liters

Sky Blue = _____ liters

Big Idea/Reflection:

Homework:

- Finish Pirate Task

