Lesson Starters

Hooray for Pi Day

Grades Level: K–5

Subject: Mathematics

Content Collection: Pi Day

Instructional Strategy: Puppet Pictures

Possible Learning Objectives

- Identify Pi Day as a day set aside for the celebration of the mathematical symbol $\pi$ (pi).
- Explain the relevance of the date on which Pi Day is held, March 14.
- Describe some of the celebratory traditions of Pi Day.
- Discuss the use of pi in both mathematics and in everyday life.
- Define and use key terms such as constant, decimal, mathematics, pi, symbol, and variable.

For Starters…

Ideas from DE to Kickstart Learning

Pi Day Puppet Pictures

To prepare for the activity, print a series of screen shots from the video segment “NIST Facilities” on full sheets of paper. Also print images of your students, or allow students to draw images of themselves. Have students cut out the images of themselves and glue them to Popsicle sticks or straws. This will allow them to move their picture around in front of a background image to create puppet pictures. After students have viewed the video segment, have them select two or three images that they feel best represent the content of the segment, and then write a short narrative about the topic of Pi Day, taking care to include key vocabulary. Younger students may draw a picture or write a short sentence or phrase to demonstrate comprehension. Invite students to share their stories with a partner or in small groups. Instruct students to use their puppet image in front of the printed images as they narrate their tales. Conclude the activity with a whole-class discussion of the narrative content or by recording or playing their puppet shows for the class.

Pi Day Vocabulary

Preview the video segment “Introduction” from Discovering Math: Primary: Algebra and identify vocabulary words for study (Examples include: repeat, pattern, sequence, increase, decrease). Make a list of these terms and display them for students to see. Have students work in pairs to discuss the words. Offer definitions for new or unfamiliar terms, and ensure that students have an understanding of what each means. Ask students to write their examples on paper or visual notes. Working as a group, call on students to provide examples of using each word in a sentence. Explain to students that you’ll be playing a video segment with these words embedded. Each time they hear one of the vocabulary words spoken, they should clap once. Begin the video segment and pause after you hear the first clap. Ask students to share what word they heard, what it means, and how it was used in context. Repeat each time a word is used for the first time. After the segment is complete, ask students to share other vocabulary words they heard that support their understanding of the big idea.
Symbols Poster

After they have viewed one or more pieces of media from this collection about Pi Day, ask students to answer the following questions: What is a symbol? Why are symbols useful? What are some ways we use symbols in both mathematics and everyday life? What does the symbol $\pi$ mean? What is the celebration known as Pi Day? Discuss the answers together as a class. Then, invite students to work in small groups in Board Builder to create a symbols poster. Instruct students to choose five to 10 symbols with which they are familiar, including $\pi$ (pi). Encourage students to use both words and pictures to identify and illustrate the symbols and their meanings. Host a poster sharing session when work is complete. Invite students to identify each symbol they have used on their poster. Students should say its name, what it represents, and how it is used.

Target Vocabulary*

- **constant** – staying the same, not changing; a quantity or number whose value does not change
- **decimal** – based on the number 10
- **mathematics** – the science of numbers, quantities, and shapes and the relations between them
- **pi** – the symbol $\pi$ denoting the ratio of the circumference of a circle to its diameter
- **symbol** – a letter, group of letters, character, or picture that is used instead of a word or group of words
- **variable** – able or likely to change or be changed