

Lesson plan

Topic of the lesson: Decimals

I. Objectives

- ▶ explore decimal place value.
- ▶ read and write decimals using tenths, hundredths, and thousandths.
- ▶ compare decimals using greater-than and less-than notation.
- ▶ **SUGGESTED TIME ALLOWANCE**

This lesson can be divided into two or three smaller lessons, each lasting about 20-25 minutes.

MATERIALS

- ▶ SMART BOARD, BOOK, CARDS and so on

▶ PROCEDURES

- ▶ Introduce key vocabulary: decimal, decimal point, tenths place, hundredths place.
 - ▶ Display the overhead transparency of grid paper.
 - ▶ Have students examine the 10 x10 grid. Ask:
 - ▶ How many small boxes make up the whole grid? (100)
 - ▶ Have a volunteer come to the projector, count out a row or column (10 squares), and shade it.
 - ▶ What does the shaded part represent? (one tenth of a whole)
 - ▶ Explain, or ask students to explain, ways to read and write this decimal (one-tenth, 0.1, or $1/10$). The first place to the right of the decimal point is the tenths place.
 - ▶ Have a second student come to the projector and shade in only one square on the grid.
- A.

- ▶ What does the shaded part represent? (one hundredth)
- ▶ What are ways to read and write this decimal? (one hundredth, 0.01, or $1/100$)
- ▶ The second place to the right of the decimal point is the hundredths place.

- ▶ **Ask:**

- ▶ Is 0.1 greater or less than 0.01? (greater)
- ▶ How much greater? (10 times)
- ▶ Explain that one tenth (0.1) and ten hundredths (0.10) have the same value. Clean the overhead, and have a third student shade both values to illustrate that they are the same.

- ▶ If the first place to the right of the decimal is called the tenths place, and the second place to the right of the decimal is called the hundredths place, what do you think the third place to the right of the decimal point is called? (the thousandths place)
- ▶ What are ways to read and write one thousandth? (one thousandth, 0.001, or $1/1,000$)
- ▶ Ask students to name instances when it is important to calculate and record numbers less than 1 (Possible answers: time, money, scientific measurements). Use instances from life to show the class how each of the following decimals is written and read.

- ▶ Remind students that when there are non-zero digits on both sides of the decimal point, they should say, "and," where they see the decimal point. For example, 2.17 is read, "two and seventeen hundredths."
- ▶ Use models on a 10 x 10 grid as necessary to guide the class in comparing decimal numbers using $>$ and $<$.

- ▶ 1. $0.1 (>) 0.01$

- ▶ 2. $0.2 (<) 0.22$

- ▶ 3. $0.999 (<) 1.000$

- ▶ 4. $0.13 (<) 0.31$

Tasks

- ▶ An inch is equal to 2.54 centimeters.
- ▶ The average body temperature is 98.6° Fahrenheit.
- ▶ When comparing decimals, begin on the left and compare the digits in each place.
Example:
- ▶ Compare 0.11 and 0.12.
- ▶ In the tenths place the digits are the same. Look at the hundredths. 2 is greater than 1, so $0.12 > 0.11$.
- ▶ Compare 0.02 and 0.120.
- ▶ The ones are the same. 1 is greater than 0 in the tenths place, so $0.120 > 0.02$.
- ▶ Compare 2.17 and 0.99.
- ▶ The ones are different. Since 2 is greater than 0, $2.17 > 0.99$.

▶ ASSESSMENT

- ▶ Students should be able to:
- ▶ read and write decimals accurately, moving between the written, spoken, and symbolic form of decimals.
- ▶ understand the role of the decimal point and the relationship among tenths, hundredths, and thousandths.
- ▶ complete and explain grids to form a picture of a decimal value.
- ▶ compare and order decimals and use this skill to solve basic word problems.