

## Grade 5, Module 1: Place Value and Decimal Fractions



**What is this module about?** In this module of Grade 5, we will extend 4th grade place value work to multi-digit numbers with decimals to the thousandths place. Students learn the pattern that one-tenth times any digit on the place value chart moves it one place value to the right. They will also perform decimal operations to the hundredths place.



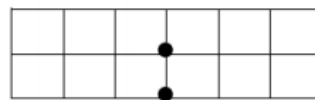
**What came before this module?** This is the first module of Grade 5.



**What comes after this module?** In Module 2, we will continue to work with place value, moving to multiplication and division of decimal numbers. We move from concrete models to more abstract algorithms, always anchoring our work in our knowledge of place value patterns.

## How can you help at home?

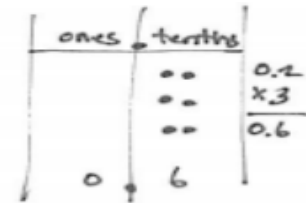
- When given a multi-digit number with decimal digits, ask your student what each digit represents (e.g., “What is the value of the 4 in 37.346?”).
- Help practice writing numbers correctly by saying multi-digit numbers and having your student write them down.

Place value chart for comparing decimals using  $<$ ,  $>$ ,  $=$ 

34.223 ○ 34.232

	3	4	2	2	3
	3	4	2	3	2

Notice how the dots for two tenths are simply repeated three times for a total of 0.6, or six tenths.



0.2 x 3 on the place value chart.

## Key Words and Ideas in this Module

- **Thousandths:** related to place value (we have already studied tenths and hundredths)
- **Exponents:** how many times a number is to be used in a multiplication sentence
- **Millimeter:** a metric unit of length equal to one thousandth of a meter
- **Place value:** the numerical value that a digit has by virtue of its position in a number
- **Equation:** statement that two mathematical expressions have the same value, indicated by use of the symbol =
- **Standard form:** a number written in the format: 135
- **Expanded form:** e.g.,  $100+30+5=135$
- **Unit form:** e.g.,  $3.21=3$  ones 2 tenths 1 hundredths
- **Word form:** e.g., one hundred thirty-five

## Key Standards in this Module

- Understand the place value system
- Perform operations with multi-digit whole numbers and with decimals to hundredths
- Convert like measurement units within a given measurement system



## Spotlight on Math Models

### Spotlight on Math Models

The math curriculum used in our District (EngageNY) carefully sequences the progression of mathematical ideals into expertly crafted instructional modules. The curriculum is also based on a theory of teaching math that is proven to work. That theory posits that mathematical knowledge is conveyed most effectively when it is taught in a specific sequence and when teaching methods drive student understanding beyond process (solving problems, for example) to deep mastery of mathematical concepts. Each module's parent tip sheet will highlight a new math strategy or math model your student will be working on.

### Place Value Chart

In Module 1, students will make extensive use of place value tools, as they have done in earlier grade levels. Now, however, students work with the extended place value chart, which includes place values to the thousandths.

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
							●		
							●		

(Above) Place Value Chart, with the thousandths place

(Below) 27.346 on the chart

tens	ones		tenths	hundredths	thousandths
2	7	●	3	4	6

### Sample problem from Module 1 (Lesson 10)

Teacher says:

"Subtract 2 ones 3 thousandths from 7 ones 5 thousandths."

Students use place value chart to solve.

ones	tenths	hundredths	thousandths	
7	0	0	5	7.005
2	0	0	3	-2.003
<hr/>				5.002