

## Lesson 4: Explore Place Value Relationships (Optional)

### Standards Alignments

Addressing 5.NBT.A.1, 5.NBT.A.3, 5.NBT.A.3.a

### Teacher-facing Learning Goals

- Explore place value relationships between tenths, hundredths, and thousandths.

### Student-facing Learning Goals

- Let's explore place value relationships.

### Lesson Purpose

The purpose of this lesson is for students to explore the relationships between different ways of representing a decimal using the context of weights and a balance.

In previous lessons, students represented 1 tenth, 1 hundredth, and 1 thousandth as fractions, decimals, with words and in expanded form. The purpose of this optional lesson is to use the context of weight to further understand and relate these different ways to represent a decimal number (MP2). The weights make the expanded form of a decimal tangible and also help to explain the word form which, in the weight context, represents using all weights of the smallest size (one thousandth for a decimal to the thousandths).

The third activity in the lesson focuses on the multiplicative relationships between the different place values, again shown by the weights. In particular, 1 tenth is equivalent to 10 hundredths and 1 hundredth is equivalent to 10 thousandths. These relationships will be explored further in the next unit, but students use these relationships throughout this unit as they work with decimals and perform arithmetic with decimals.

### Access for:

#### Students with Disabilities

- Representation (Activity 3)

#### English Learners

- MLR1 (Activity 1)

### Instructional Routines

Notice and Wonder (Warm-up)

### Lesson Timeline

Warm-up

10 min

### Teacher Reflection Question

What connections did students make between the different strategies shared? What questions

Activity 1	15 min
Activity 2	10 min
Activity 3	10 min
Lesson Synthesis	10 min
Cool-down	5 min

did you ask to help make the connections more visible?

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## Cool-down (to be completed at the end of the lesson)

 5 min

### Worth its Weight in Gold

#### Standards Alignments

Addressing 5.NBT.A.3

#### Student-facing Task Statement

A gold nugget balances with 2 one hundredth ounce weights and 6 one thousandth ounce weights.

1. What is the weight of the nugget? Write your answer as a decimal.
2. What is a different set of weights that will balance the nugget?

#### Student Responses

1. 0.026 ounces
2. One hundredth ounce and 16 thousandth ounce weights, because a hundredth is the same as 10 thousandths.