Relating Decimals and Fractions

English Language Arts
Mathematics
Science
Social Studies

Guiding Question: How are fractions and decimals related?

Purpose: Students explore how fractions and decimals are related.

I represent and compare fractions with concrete materials, pictures and symbols.

I represent decimals with concrete materials, pictures and symbols.

Lesson 1 of 1| 2-part lesson | ~30 mins/part + student work time

Activities to Complete

Videos/Slides

- Decimals to Fractions video
- Relating Decimals and Fractions slides

Key Vocabulary

Decimal - A decimal number is a number that can be expressed as a fraction with a denominator of 1, 10, 100, 1000, or other powers with a base of ten. (Alberta Education, 2007)

Decimal Point - A decimal point is used to separate the whole-number portion of the decimal number from the portion that is less than 1. (Alberta Education, 2007)

Fraction - A fraction is a number that stands for part of something. Usually a fraction represents one of the following:

- A number representing part of a set of items.
- A number representing part of a whole. (Alberta Education, 2007)

Part 1: Warm Up

- Watch Decimals to Fractions video and discuss what you learned about relating fractions to decimals with a classmate or family member.
- Use the Relating Decimals and Fractions slideshow to support this lesson.
- Read through the *Warm Up: Which One Is Different* slides with a classmate or partner. Consider using the following steps:
  - Present each slide.
  - Take some silent thinking time.
  - Share which one is different with partner
  - Be sure to give a reason(s) for your selection.

Part 2: Reading and Comparing Fractions to Decimals

- Continue using the Relating Decimals and Fractions slideshow to support this lesson.
- Review how to read the decimal names aloud using the *Reading Decimals* slides. Consider using the following steps:
  - View the number written within the Decimal Place Value Chart. **You do not need to print and hand in this chart. It is simply to help you practice.**
  - Review the fact that we say *and* for the decimal point.
- As you move through practicing reading decimals, work through the following steps:
  - Start with your decimal.
  - Place your decimal on the *decimal place value chart.*
  - Record an equivalent fraction with a denominator of ten, hundred, or thousand.
  - Say the name of the fraction.
  - Record the name of the fractions, which is what we say as we read the fraction.
- Using the *Fractions as Decimals - Your Turn* slide, practice reading decimals and fractions to a classmate or family member.
  - Notice that the decimals may be written as equivalent decimals, just as fractions can have an equivalent fraction. For example, .43= 0.43 or .43=.430
- Using the *What is Missing?* slide, try relating decimals and fractions on your own and compare your thinking with a partner, a classmate or family member.
- Complete the Relating Decimals and Fractions student activity page and share your responses with a classmate, family member and your teacher.

📪 **Submit to Teacher: Relating Decimals and Fractions student activity page submitted to Brightspace.**

Decimal Place Value Chart

H	T	O		tenths	hundredths	thousandths
			.			

Click here to make an editable copy of the activity.

Relating Decimals and Fractions

Complete the chart by filling in the missing information.

Decimal	Equivalent Decimal	Fraction	Equivalent Fraction
		1/2	500/1000
0.32	0.320		
0.45			
.120	.12		
.89			
0.36			
		45/100	450/1000

	0.73	73/100	
	.47		470/1000

Last updated: November 2020

Relating Decimals and Fractions

Complete the chart by filling in the missing information.

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0.32	0.320		
0.45			
.120	.12		
.89			
0.36			
		45/100	450/1000
	0.73	73/100	

	.47		470/1000

Relating Decimals and Fractions

Complete the chart by filling in the missing information.

Decimal	Equivalent Decimal	Fraction	Equivalent Fraction
0.500	0.5	1/2	500/1000
0.32	0.320	32/100	8/25, 320/1000
0.45	0.450	45/100	9/20, 450/1000
.120	.12	12/100	3/25, 120/1000
.89	0.890	89/100	890/1000
0.36	0.360	36/100	9/25, 360/1000
0.45	0.450	45/100	450/1000
0.730	0.73	73/100	730/1000
0.470	.47	47/100	470/1000

Relating Decimals and Fractions

- 8. Describe and represent decimals (tenths, hundredths, thousandths), concretely, pictorially and symbolically.
  [C, CN, R, V]PLO
- 9 (Numbers) Relate decimals to fractions and fractions to decimals (to thousandths).
  [CN, R, V]

Warm Up- Which One is Different?

$\frac{3}{4}$	0.250
$\frac{75}{100}$	0.75

Warm Up- Which One is Different?

0.10	0.20
$\frac{1}{10}$	0.100

Warm Up- Which One is Different?

0.300	0.50
0.500	$\frac{5}{10}$

Reading Decimals

Ones	.	Tenths
2	.	3

Two and three tenths

2.3

Reading Decimals

Ones	.	Tenths	Hundredths
1	.	7	2

One and seventy two hundredths

1.72

Reading Decimals

Ones	.	Tenths	Hundredths	Thousandths
1	.	3	0	5

One and three hundred five thousandths

1.305

Reading Decimals

Ones	.	Tenths	Hundredths	Thousandths
1	.	2	9	3

One and two hundred ninety three thousandths

1.293

Relating Decimals and Fractions

0.4	4/10	four tenths
0.68	68/100	sixty eight hundredths
0.732	732 /1000	seven hundred thirty two thousandths

Reading Decimals - Your Turn

Ones	.	Tenths	Hundredths	Thousandths
3	.	1	5	9
2	.	5	0	8
8	.	4	3	6
1	.	7	2	4

Fractions as Decimals - Your Turn

Decimal	Fraction	Name (We say)
0.581	581/1000	Five hundred eighty one thousandths
0.6	6/10	Six tenths
0.203	203/1000	Two hundred three thousandths
0.49	49/100	Forty nine hundredths
0.327	327/1000	Three hundred twenty seven thousandths

What is Missing?

Decimal	Fraction	Name
0.68		
0.205		
0.856		
0.087		
0.25		