



4th
Basic

5th
Advanced

Helping With Math

USA
GRADES

Basic Concepts of Decimals

*Suitable for students
aged 8-10*



This pack is suitable for learners aged 8-10 years old or 4th to 5th graders (USA). The content covers fact files and relevant basic and advanced activities involving basic concepts of decimals.

Key Concepts:

- The word DECIMAL means 10 numbers.
- Decimals are numbers expressed with a decimal point.
- The number after the decimal point expresses a fraction of a whole number.
- DECIMAL NOTATION uses base 10 numerals (0, 1, 2, 3, 4, 5, 6, 7, 8, and 9)

Today is International Math Day! Celebrate it with HWM!



Decimal Number

Whole number

ones

1.8

Decimal

tenths

Decimal point



MODELING DECIMAL NUMBERS

Whole number

ones

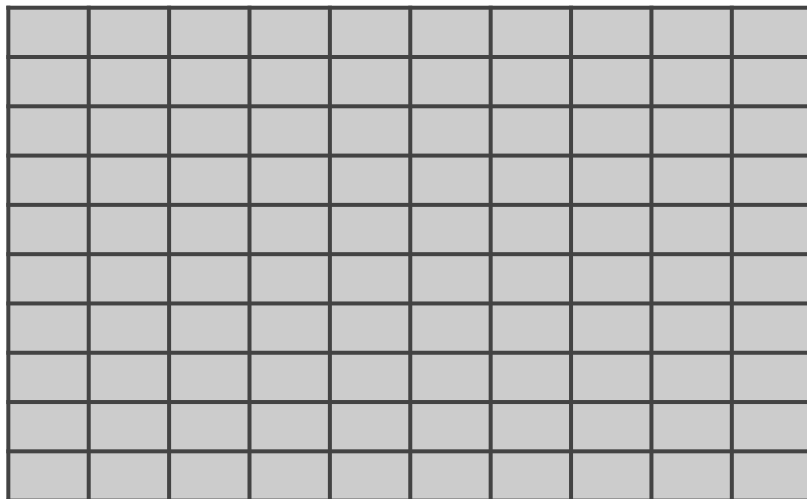
1.8

Decimal

tenths

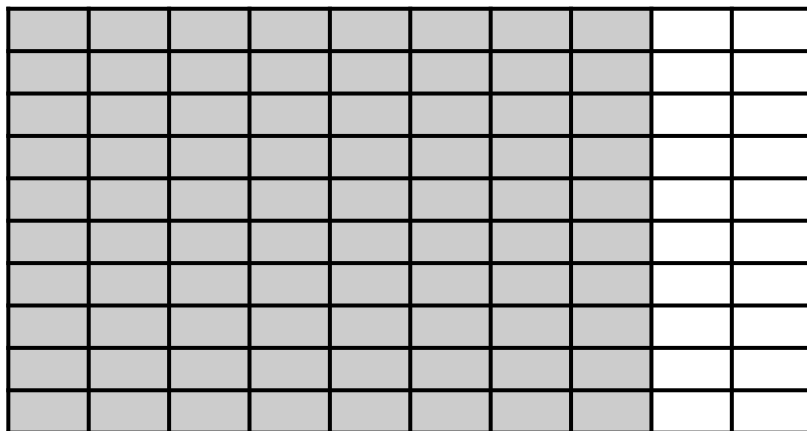
Decimal point

ONES



TENTHS

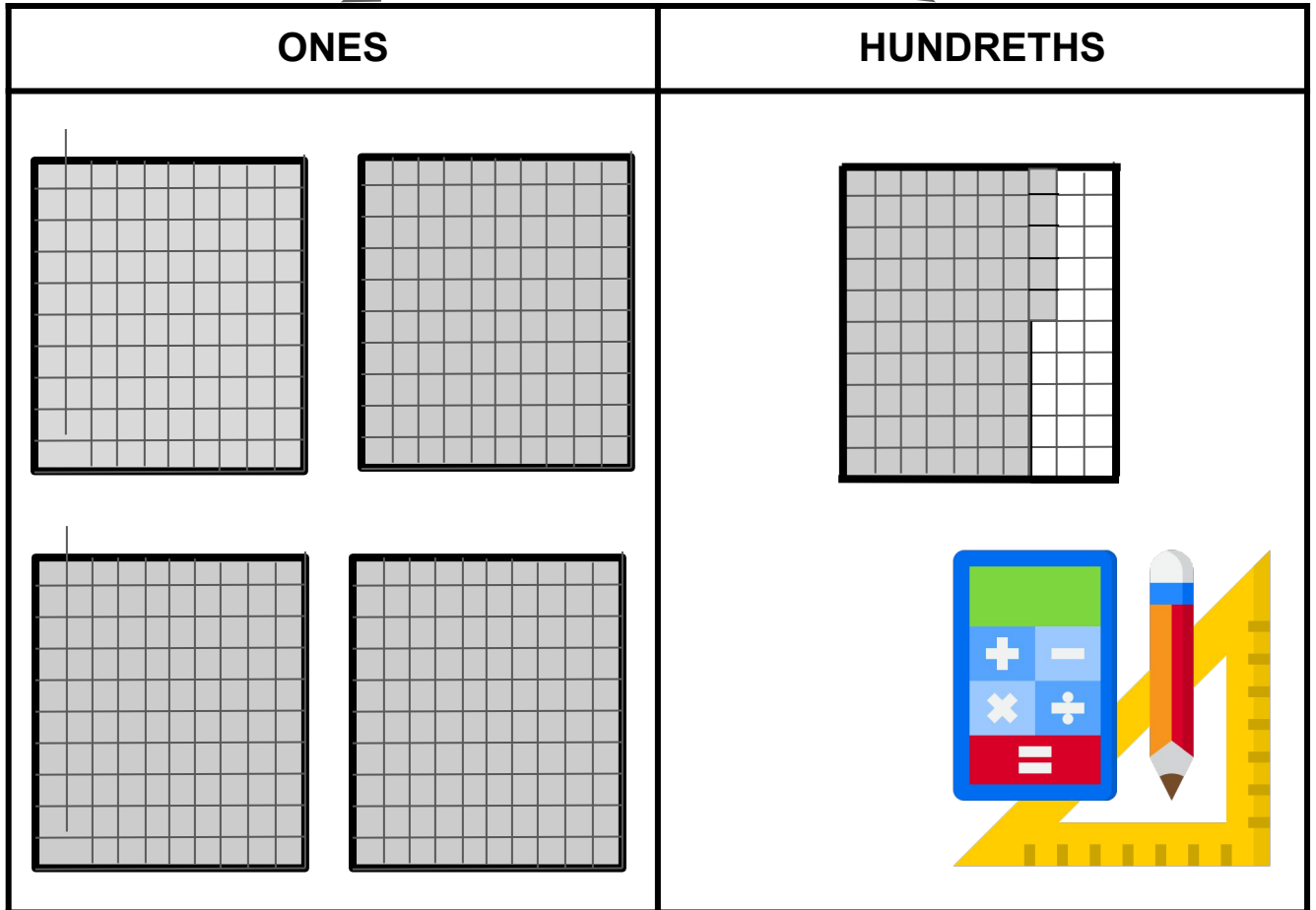
The shaded part is $\frac{8}{10}$, which is represented by the decimal $.8$



MODELING DECIMAL NUMBERS

4.75

hundredths



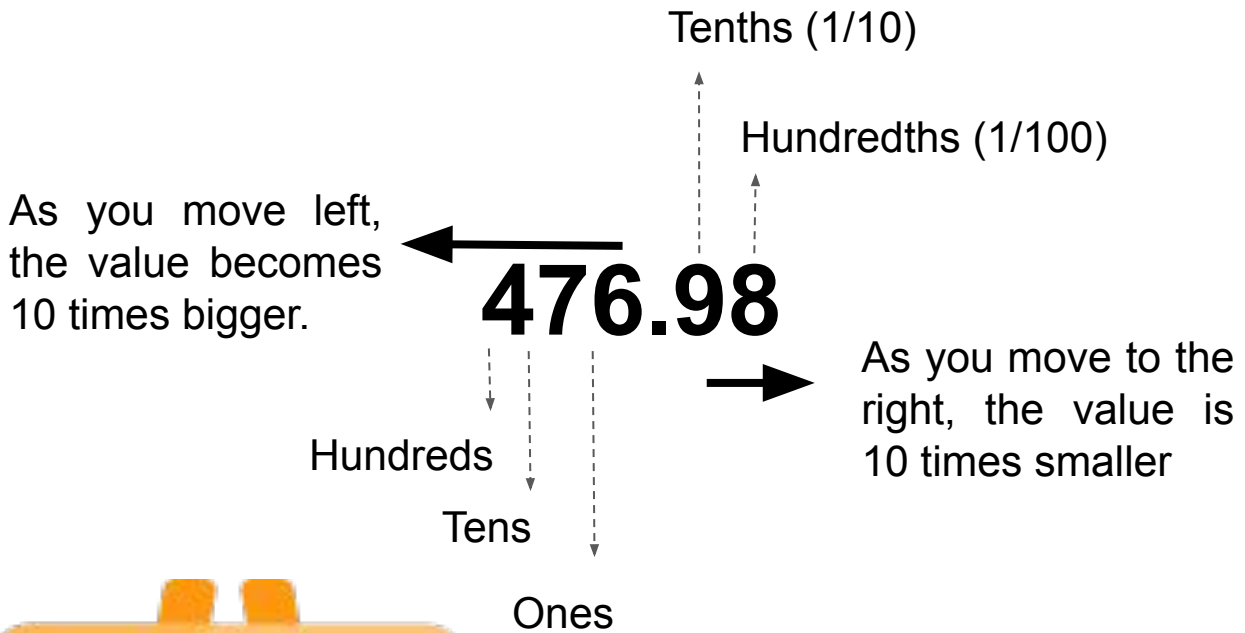
The shaded part is $75/100$, which is represented by the decimal **.75**

- Decimals are based on the power of 10. Therefore, everytime you move to the right, the place value is divided by 10 (e.g. tenths, hundredths, thousandths and so on!).
- Tenths means $1/10$, hundredths means $1/100$, thousandths means $1/1000$ and so on.



WRITING DECIMAL NUMBERS

When writing decimals, take note of the place value.



Just like whole numbers, decimal numbers can also be written in its standard form, word form, and expanded form.

a. STANDARD FORM

2.4



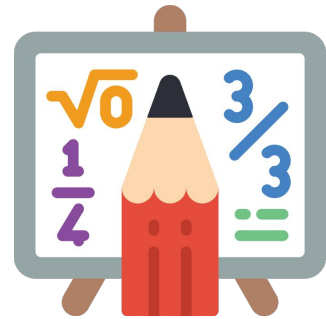
WRITING DECIMAL NUMBERS

b. EXPANDED FORM

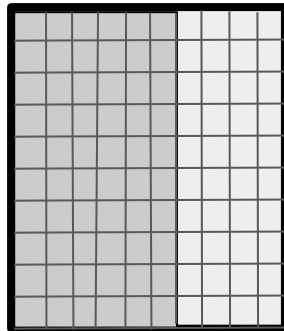
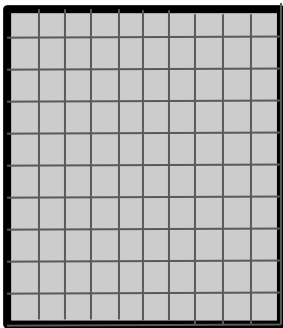
(Write the numbers according to its place value.)

Hundreds	Tens	Ones	decimal	Tenths	Hundredths
4	7	6	.	9	8

$$400 + 70 + 6 + 0.9 + 0.08$$



c. WORD FORM



1.6

One and six tenths

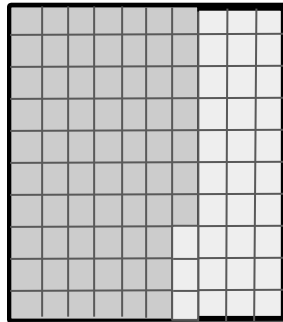
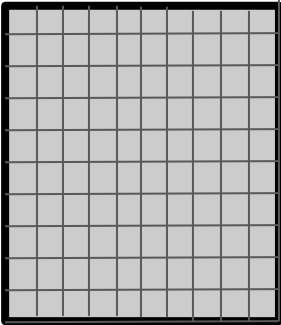
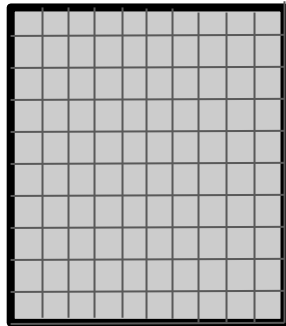
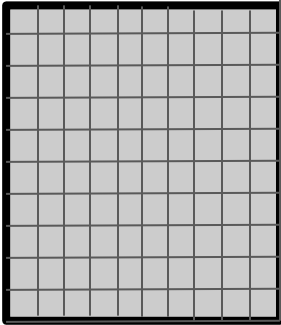
In its WORD FORM, **1.6** is written as one and six tenths.

- Read the number before the decimal point and write it as a whole number.
- Use **AND** to include the decimal point.
- Name the digit after the decimal point. Use “**th**” when writing the place value to specify that the number is part of a fraction (e.g., six tenths, seventeen hundredths).



PRACTICE EXERCISES

Study the figure below. Write the decimal notation in its standard form, word form, and expanded form.



Erin visited the newest Math Museum in town. She travelled with her favorite van.



Standard form:

Word form:

Expanded Form:



TABLE OF ACTIVITIES

Ages 8-9 (Basic)		<u>4th Grade</u>
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3	Deci-Words	
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5	Equivalent Models	
Ages 9-10 (Advanced)		<u>5th Grade</u>
6	Math Quiz Bee	
7	Who's Telling the Truth?	
8	Math Museum	
9	Appreciate Math	
10	Math and Decimals in Daily Life	



TODAY IS MATH DAY

G4
Basic

Celebrate the International Day of Mathematics by encircling which among the given numbers are decimals.

2

3.1

2.18

9

$\frac{1}{2}$

11.3

13.01

$\frac{3}{4}$

10

100

$\frac{1}{2}$

38

4.005

7.3

11

21

$\frac{21}{10}$

13.2

25.5

3.5

5

.01

0.2

19.1

March 14 of every year is International Day of Mathematics.

- UNESCO, 2019



KNOWING DECI

G4
Basic

As we participate with today's celebration, get familiarized with decimals by identifying the place value of the underlined digit.

1) 0. 28 →

2) 3. 13 →

3) 11. 058 →

4) 20. 01 →

5) 16. 081 →

6) 35. 90 →

7) 100. 12 →

8) 19. 39 →

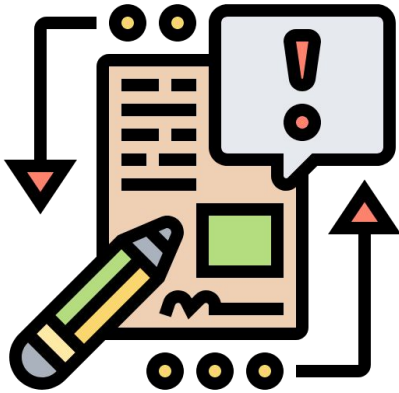
INTERNATIONAL MATH DAY



DECI-WORDS

G4
Basic

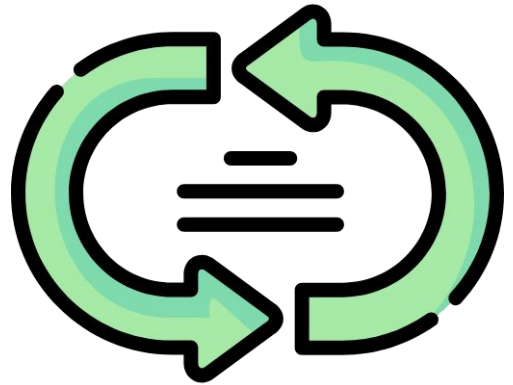
Engage with math and decimals by writing the following decimals in words.



1) 14.5



2) 0.87



1



2



3



3) 1.32



MATH-CHY MATH-CHY

G4
Basic

Use your math skills to match Column A to Column B. Write the letter of your answer on the space provided before each number.

COLUMN A

COLUMN B

_____ 1) one and two hundredths

A) 0.5

_____ 2) five and eight tenths

B) 1.02

_____ 3) thirty-two hundredths

C) 5.08

_____ 4) five tenths

D) 0.05

_____ 5) five hundredths

E) 1.2

_____ 6) nine and one hundredths

F) 1.03

_____ 7) eleven and forty hundredths

G) 9.01

_____ 8) one and three hundredths

H) 11.40

_____ 9) one and two tenths

I) 0.32

_____ 10) five and eight hundredths

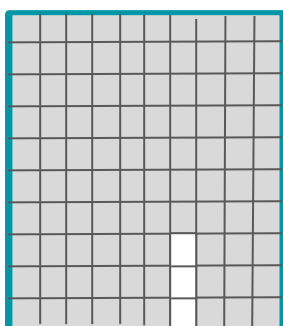
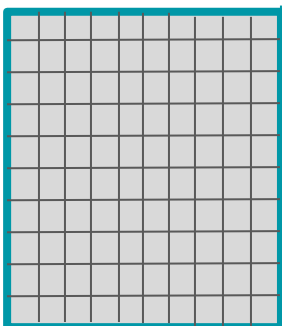
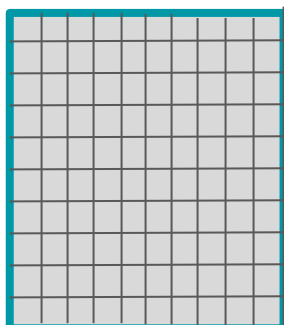
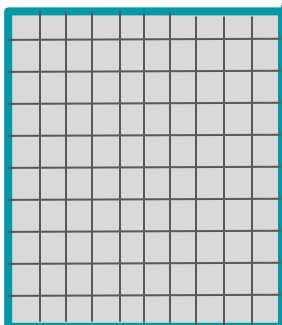
J) 5.8



EQUIVALENT MODELS

G4
Basic

Be a great mathematician in the future by accomplishing this task involving models.



Do your tasks below.



Standard form:

Word form:

Expanded Form:



MATH QUIZ BEE

G5
Advanced

Win the International Math Quiz Bee by answering this tie breaking-questions!

1. The given decimal is 567.908.

- Which is the tens digit?
- Which is the thousandths digit?
- How about the tenths digit?
- What is the value of the hundredths digit?



2. The given decimal is 1275.053.

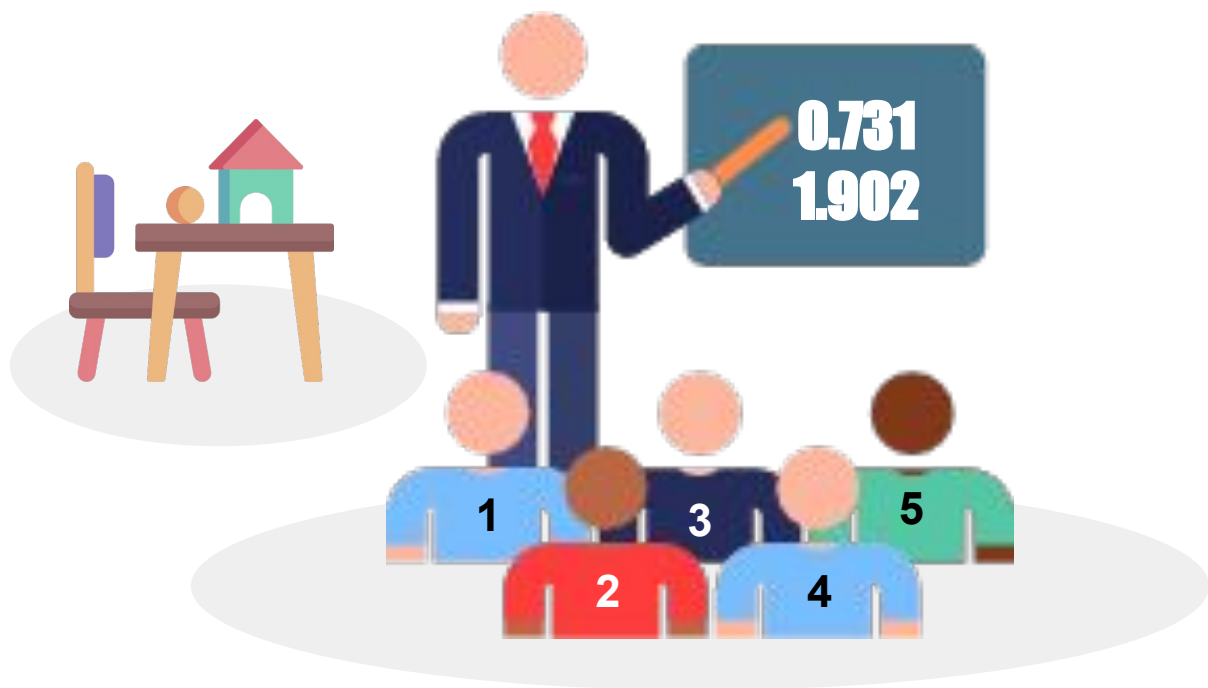
- Which is the thousands digit?
- Which is the ones digit?
- How about the hundredths digit?
- What is the value of the thousandths digit?



WHO'S TELLING THE TRUTH

G5
Advanced

Mr. Ackerman asks his students the following questions about math. Can you identify who among them is telling the truth?



_____ 1. Student 1 tells the class that the first decimal number is a number with thousandths digit.

_____ 2. Student 2 tells the class that in the first given, the tenths digit is 0.

_____ 3. Student 3 tells the class that in the second decimal, the hundredths digit is 9.

_____ 4. Student 4 tells the class that the two given decimal numbers have thousandths digit.

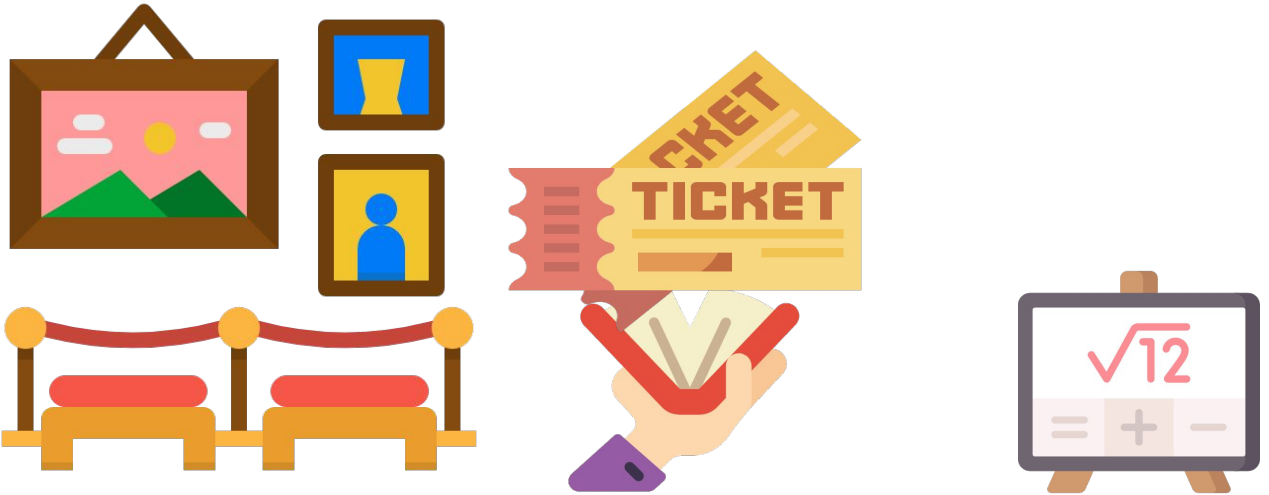
_____ 5. Student 5 tells the class that the first decimal is greater than the second.



MATH MUSEUM

G5
Advanced

Get the free entrance tickets to visit the newest Math Museum in town. Write the following decimals in expanded form.



1) 20.01 →

2) 16.081 →

3) 35.90 →

4) 100.12 →

5) 19.39 →



APPRECIATE MATH

G5
Advanced

Appreciate the beauty and relevance of Mathematics by expressing the following expanded forms into standard form.



1) _____ $\rightarrow 2 + 0.3 + 0.08 + 0.002$

2) _____ $\rightarrow 30 + 1 + 0.5 + 0.001$

3) _____ $\rightarrow 10 + 0.9 + 0.007 + 0.08$

4) _____ $\rightarrow 0.4 + 0.9 + 0.001 + 10 + 2$

5) _____ $\rightarrow 2 + 0.8 + 0.03 + 0.005$



MATH AND DECIMALS IN DAILY LIFE

G5
Advanced

Let us discover the math and decimals at your home. Look for the food boxes, milk bottle, or any food or beverage containers. Then, fill in the details of the table below.

Food/ Beverage Container	Decimal Number/s Found	Expanded Form

In what ways do decimals useful in our daily living? Cite at least three.



ANSWER GUIDE

Activity 1

The decimal numbers are 3.1, 2.1, 11.3, 13.01, 4.005, 7.3, 13.2, 25.5, 3.5, .01, 0.2, and 19.1

Activity 2

- | | | | |
|----------------|---------|---------------|-----------|
| 1. Hundredths | 2. Ones | 3. Hundredths | 4. Tenths |
| 5. Thousandths | 6. Tens | 7. Tenths | 8. Ones |

Activity 3

- | | |
|----------------------------------|----------------------------|
| 1. Fourteen and five tenths | 2. Eighty-seven hundredths |
| 3. One and thirty-two hundredths | |

Activity 4

- | | | | | |
|------|------|------|------|-------|
| 1. B | 2. J | 3. I | 4. A | 5. D |
| 6. G | 7. H | 8. F | 9. E | 10. C |

Activity 5

Standard form: 3.97
hundredths

Word Form: Three and ninety-seven
Expanded Form: $3 + 0.9 + 0.07$

Activity 6

- | | | | |
|---------|------|------|----------|
| 1. a. 7 | b. 8 | c. 9 | d. 0 |
| 2. a. 1 | b. 5 | c. 5 | d. 0.003 |



ANSWER GUIDE

Activity 7

1. TRUE 2. FALSE 3. FALSE 4. TRUE 5. FALSE

Activity 8

1. $20 + 0.01$ 2. $10 + 6 + 0.08 + 0.001$ 3. $30 + 5 + 0.9$
4. $100 + 0.1 + 0.02$ 5. $10 + 9 + 0.3 + 0.09$

Activity 9

1. 2.382 2. 31.501 3. 10.987
4. 12.131 5. 2.835

Activity 10

Answers per learner may vary.



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