## Helping With Math

## Understanding Decimal Notations



Decimal notation is a system of writing numbers using a decimal point.

## Xi'an 2.3km

## Yulin 3.7 km

To get to Xi'an, Wei Jao has to travel by car for 2.3 km .

- The word DECIMAL means 10 numbers.
- DECIMAL NOTATION uses base 10 numerals ( $0,1,2,3,4,5,67,8$, and 9)


## CONCEPTS

- Decimals are numbers expressed with a decimal point.
- The number after the decimal point expresses a fraction of a whole number.

Whole number

| ones |  |
| :---: | :---: | :---: |
| Decimal point | Decimal |
| tenths |  |



## CONCEPTS



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.


## CONCEPTS

When writing decimals, take note of the place value.

Tenths (1/10)
Hundredths (1/100)
As you move left, the value becomes 10 times bigger.
476.98


As you move to the right, the value is 10 times smaller

## Ones



Last month, Andre's car travelled 476.98 kilometers.

Four hundred seventy-six and ninety-eight hundredths

## CONCEPTS

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

## a. STANDARD FORM


b. EXPANDED FORM (Write the numbers according to its place value

|  | $\begin{gathered} \stackrel{\varrho}{\varrho} \\ \stackrel{\varrho}{0} \end{gathered}$ | $$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 4 | 7 | 6 | - | 9 | 8 |

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

## CONCEPTS

## C. WORD FORM



## $1 \square 0$

## 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).
Last month, Andre's car travelled 476.98)kilometers.


Four hundred seventy-six and ninety-eight hundredths

## SAMPLE/APPLICATION

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


Hannah visited St. Bernard for the holiday. She travelled with her favorite van.


## Standard form:

## Word form:

## Expanded Form:

## TABLE OF ACTIVITIES

1. Cars
2. Unlock the motorcycle
3. Choo-choo train
4. Scuba Diving Time
5. Make Me a Boat
6. Jet Ski Parking Area
7. Up up snf sesy
8. Locate me
9. Make me a decimal notation
10. Mystery game

## CARS

Write the equivalent decimal notation of each fraction correspondingly.


## 4/10



1/100


## 5/1000



n


## UNLOCK THE MOTORCYCLE

Clear the route by writing the decimals in word form.

13.45


$$
4.8
$$


12.08


### 39.001



### 100.126



## CHOO-CHOO TRAIN!

Complete your London tour! Write each decimal in expanded form in each train stations


KING'S CROSS


PADDINGTON

WATERLOO

## MAKE ME A BOAT

Study the decimal numbers. Arrange the numbers from the least to the greatest to reveal the image.


## MAKE ME A BOAT II

62.910
62.350
62.833
63.20
63


## SCUBA DIVING TIME

Help the scuba divers connect the symbols to the given sets of numbers. Draw a line to connect them.


88.120 _ 88.170

94.481
94.381


## JET SKI PARKING AREA

Study the pictures, then cut and paste them to their corresponding decimal notations.


## UP-UP AND AWAY!

Study the item in each column and its place value. Write your answer in the appropriate box.
1.

| Ones | and | Tenths | Hundredths |
| :---: | :---: | :---: | :---: |

2. 

| Ones | and | Tenths | Hundredths | Thousandths |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |

## UP-UP AND AWAY!

3. 

| Tens | Ones | and | Tenths | Hundredths | Thousandths |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 䘽解 |  |  |

4. 

| Hundreds | Tens | Ones | and | Tenths | Hundredths | Thousandths |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |

$\square$

## LOCATE ME

Locate in the number grid the decimal notation asked. Draw a line from zero (0) to the corresponding decimal number.

2.) 1.5

3.) 0.8



## MAKE ME A DECIMAL NOTATION

## Complete the table below by providing what is asked.

| Standard form | Word form | Expanded form |
| :---: | :---: | :---: |
| 0.84 |  |  |
| Thirty-six and fifty-seven hundredths |  |  |
|  |  | $0.9+0.02+0.007$ |
|  | Three and five hundred seventy-two thousandths |  |
|  |  | 200 + $30+7+0.8+0.03$ |
| 3.29 |  |  |
|  | Ninety-nine and nine hundred ninety-nine thousandths |  |
| 77.343 |  |  |
|  |  | $\begin{gathered} 800+60+9+0.4+0.02 \\ +0.001 \end{gathered}$ |
| 645.231 |  |  |
|  |  | imal Notation |

## MYSTERY GAME

## Answer the mystery number. Use the equivalent of each picture as a clue. Write your answer on the space provided.

- 5


2


I have in the ones place. I have ${ }^{5}$ Jin in the hundredths place. I have $\%$ in the tenths place.
I have ${ }^{\circ}$. in the tens place.
What decimal number am I?
1.

I have in the hundredths place.
I have 0 in the tenths place. I have in the ones place.

## What decimal number am I?

3. 

I have the ones place. I have in the hundredths place.

I have of in the tenths place.
I have $\%$. in the thousandths place.

## What decimal number am I?

2. 

I have in in the thousandths place.
I have $=$ 훙 in the ones place.
I have :- in the tenths place.
I have in the hundredths place.

## What decimal number am I?

## 4.

I have $\because=$ in the tens place.
I have $\sigma^{5} 0$ in the ones place. I have in the tenths place. I have in the hundredths place.

What decimal number am I?
5.

I have $\%$ in the hundredths place. I have ${ }^{2}$ and in the ones place.

I have in tens place.
I have in tenths place.
What decimal number am I?
7.

## ANSWER KEY

## Activity 1

0.8
0.4
0.01
0.08
0.005

## Activity 2

1. Thirteen and forty-five hundredths
2. Four and eight tenths
3. Twelve and eight hundredths
4. Thirty-nine and one
thousandths
5. One hundred and one
hundred twenty-six thousandths

## Activity 3

$$
\begin{aligned}
& 8+0.6 \\
& 10+3+0.9 \\
& 300+10+7+0.4+0.09 \\
& 10+2+0.9+0.08 \\
& 4+0.7+0.08+0.008
\end{aligned}
$$

## Activity 4



## Activity 5

$$
\begin{aligned}
& 42.886<423.95 \\
& 88.120<88.170 \\
& 19.81=19.81 \\
& 315.02<425.02 \\
& 94.481>94.381 \\
& 1.109<1.219 \\
& 0.95=0.95
\end{aligned}
$$

## Activity 6



Understanding Decimal Notation

## Activity 7

1. 2.43
2. 0.604
3. 12.246
4. 312.308

Activity 8

6.) 0.5


| Standard form | Word form | Expanded form |
| :---: | :---: | :---: |
| 0.84 | Eighty-four hundredths | $0.8+0.04$ |
| 36.57 | Thirty-six and fifty-seven hundredths | $30+6+0.5+0.07$ |
| 0.927 | Nine hundred twenty-seven thousandths | $0.9+0.02+0.007$ |
| 3.572 | Three and five hundred seventy-two thousandths | $3+0.5+0.07+0.002$ |
| 237.83 | Two hundred thirty-seven and eighty- three hundredths | $200+30+7+0.8+0.03$ |
| 3.29 | Three and twenty-nine hundredths | $3+0.2+0.09$ |
| 99.999 | Ninety-nine and nine hundred ninety-nine thousandths | $90+9+0.9+0.09+0.009$ |
| 77.343 | Seventy-seven and three hundred forty-three thousandths | 70 + 7 + $0.3+0.04+0.003$ |
| 869.421 | Eight hundred sixty-nine and four hundred twenty one thousandths | $\begin{gathered} 800+60+9+0.4+0.02 \\ +0.001 \end{gathered}$ |
| 645.231 | Six hundred forty-five and two hundred thirty-one thousandths | $\begin{gathered} 600+40+5+0.2+0.03+ \\ 0.001 \end{gathered}$ |
|  | Activity 10 <br> 1. 59.41 <br> 2. 8.524 <br> 3. 8.13 <br> 4. 4.987 <br> 5. 41.36 <br> 6. 12.68 <br> 7. 95.24 <br> 8. 67.95 |  |

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