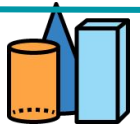




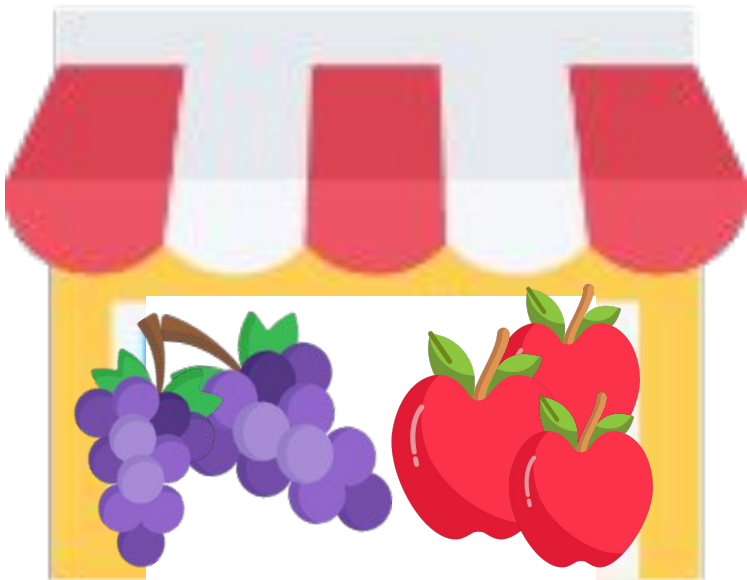
Helping With Math



Comparing Decimals up to Hundredths

GRADE 4



In math, to compare means to examine the differences between numbers, quantities or values to decide if it is greater than, smaller than or equal to another quantity.



	1.31 kg
	0.48 kg

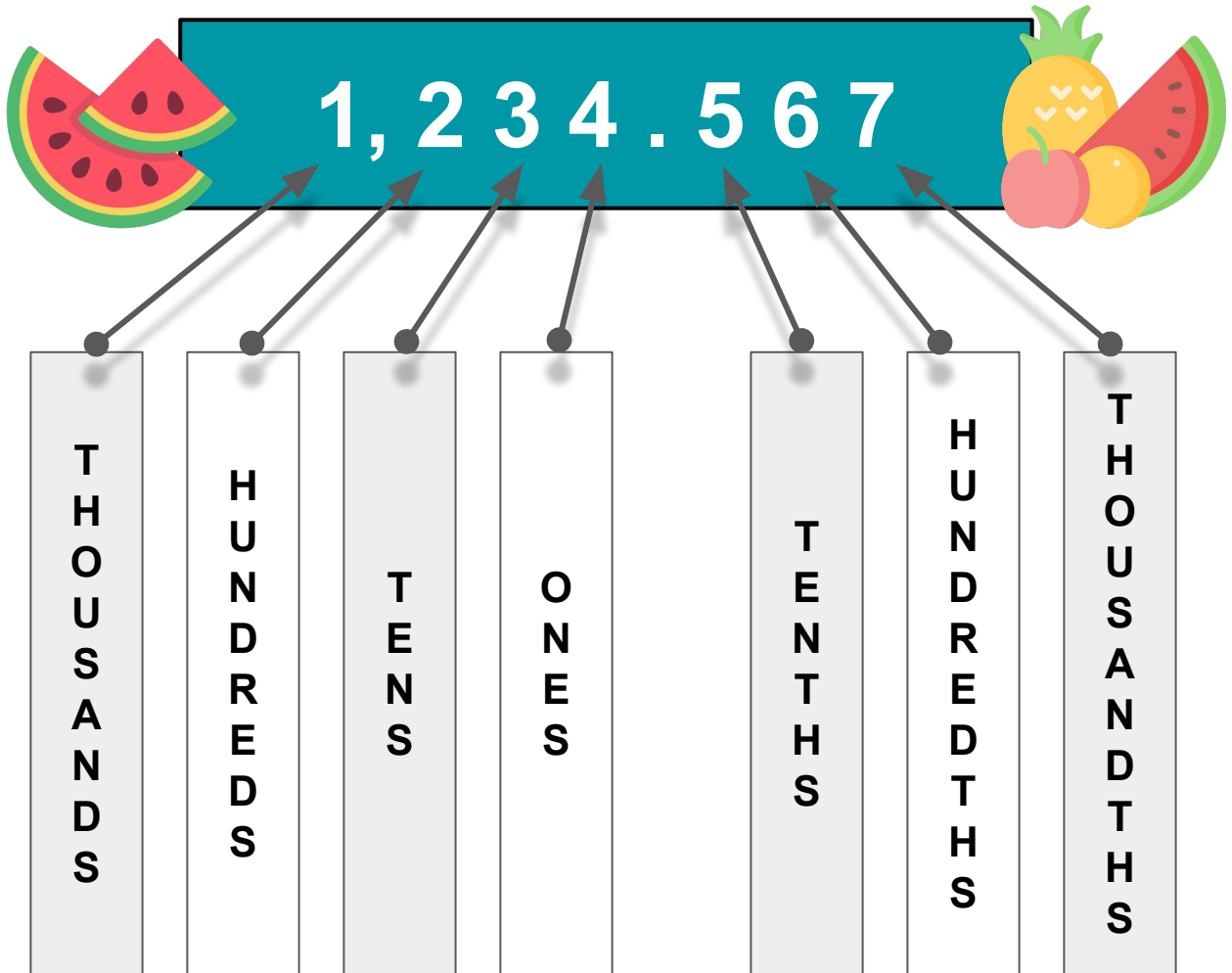
The weight of two groups of fruits are shown. Which do you think is the heavier? Why?



PLACE VALUE CHART

The word "Decimal" means "based on 10"
(From Latin decima: a tenth part).

Here's a review of a place value chart from thousands to thousandths.



When comparing decimals, start in the thousands/hundreds/tens or ones place. The decimal with the biggest value there is greater. If they are the same, move to the tenths/hundredths/thousandths place then compare these values.



COMPARING QUANTITIES

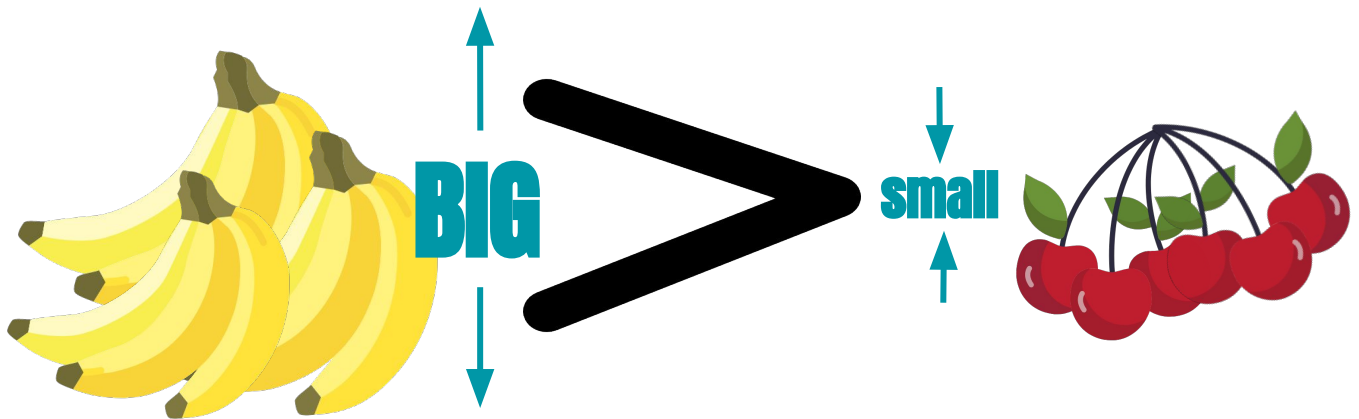
- In comparing numbers, one may notice that these could either be equal or unequal. Two numbers are unequal when one quantity is greater or less than the other.
- When two values are equal, we use the "equal" sign ($=$). When one value is bigger than the other, we use a "**greater than**" ($>$) sign; When one value is smaller than the other, we use a "**less than**" ($<$) sign

To remember which way around the " $<$ " and " $>$ " signs go, just remember:

- BIG $>$ small
- small $<$ BIG

The "small" end always points to the smaller number, like this:

Look at the fruits below, tell whether which fruit is heavier.



1.20 kg
bananas

1.20 kg of bananas is
heavier than
0.84 kg of cherries

0.84 kg
cherries



COMPARING QUANTITIES

Wendy and her mom went to the nearby supermarket to buy fruits for their upcoming house party. Help them to decide which buy is a better or cheaper option. The prices of the fruits per kilogram are as follow:

Bananas - \$ 1.54

Kiwi - \$ 1.8

Apricots - \$ 4.58

Apple - \$ 2.78

Peaches - \$ 3.12

Grapes - \$ 2.60

3 kg of bananas
vs
2 kg of grapes

Solution:

For the total price of bananas:

$$1.54 + 1.54 + 1.54 = \$ 4.62$$

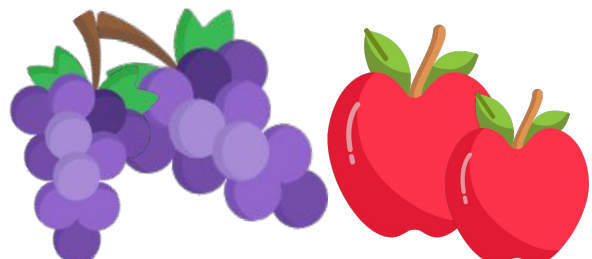
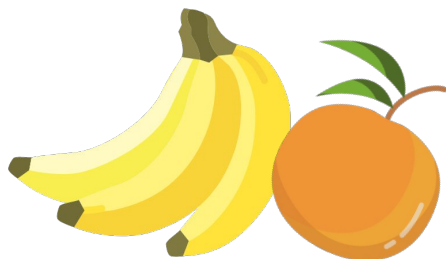
For the total price of grapes:

$$2.60 + 2.60 = \$ 5.20$$

Therefore, it is cheaper to buy 3 kg of bananas rather than 2 kg of grapes.

5 kg of apples
vs
3 kg of apricots

This is left for you to do.



COMPARING QUANTITIES

- Comparing decimals will come up to ordering decimals first. For example, we look at 0.42 and 0.402 and say that 0.402 must be bigger because there are more digits. But no!

In a table they look like this: **ANSWER:** $0.42 > 0.402$

ONES	DECIMAL POINT	TENTHS	HUNDREDTHS	THOUSANDTHS
0	.	4	2	
0	.	4	0	2

Let's try if the place value ONES has different numbers.

1.506, 1.56, 0.8

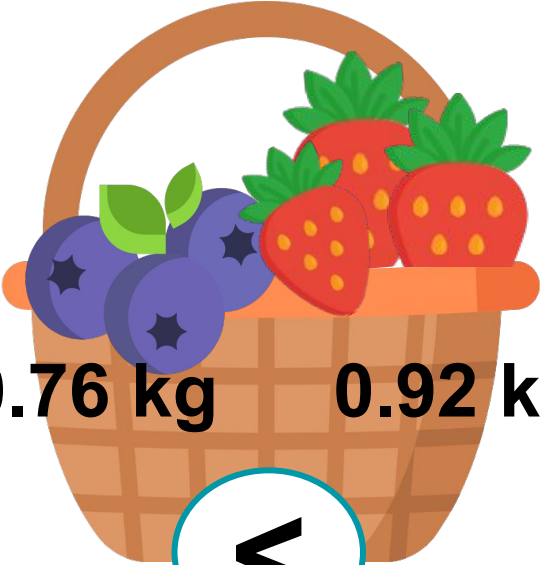
ONES	DECIMAL POINT	TENTHS	HUNDREDTHS	THOUSANDTHS
1	.	5	0	6
1	.	5	6	2
0	.	8		

ANSWER: $1.506 < 1.562$, $1.562 > 0.8$, $0.8 < 1.506$



PRACTICE EXERCISES

Compare the numbers below. Write $<$ $>$ $=$ inside the circle.



0.76 kg 0.92 kg

$<$



1.00 kg 1.00 kg



1.27 kg 1.05 kg



2.60 kg 1.00 kg



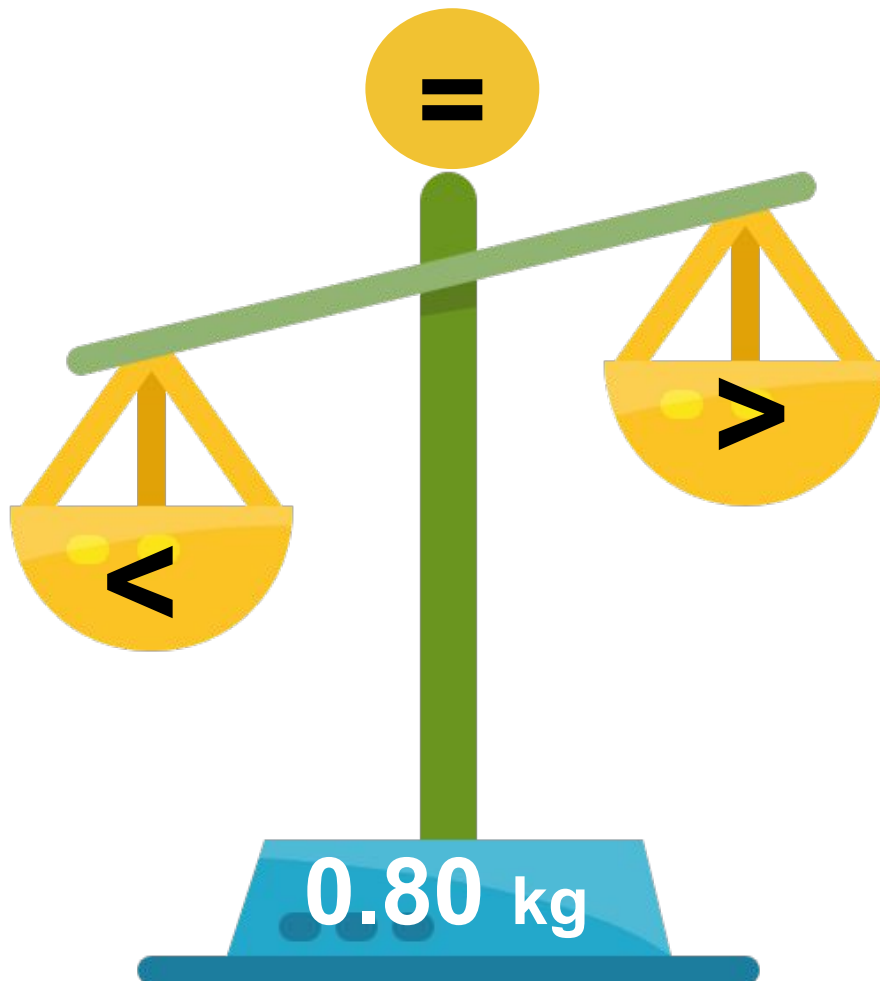
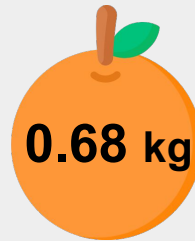
TABLE OF ACTIVITIES

1. Fruit's Weight
2. Fruity Fruits
3. Oh! Oranges
4. Fruit Match
5. Group Me
6. Apple of My Eye
7. Go Anna!
8. Choose One
9. Fruit Chart
10. Pacman Fruity Attack



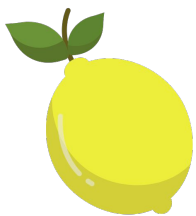
FRUIT'S WEIGHT

There are five fruits given below. Tell whether the fruit is greater than ($>$), less than ($<$) or equal ($=$) to 0.80kg . Cut and place the fruit to the group where they belong.



FRUITY FRUITS

Study the numbers below. Shade the corresponding symbol that correctly compares the weight of fruits (kg) in each item.



1.



0.81

0.75

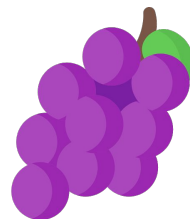
>

=

<



2.



1.90

0.9

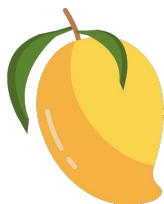
>

=

<



3.



1.00

0.84

>

=

<



4.



2.2

2.28

>

=

<



5.



0.60

0.6

>

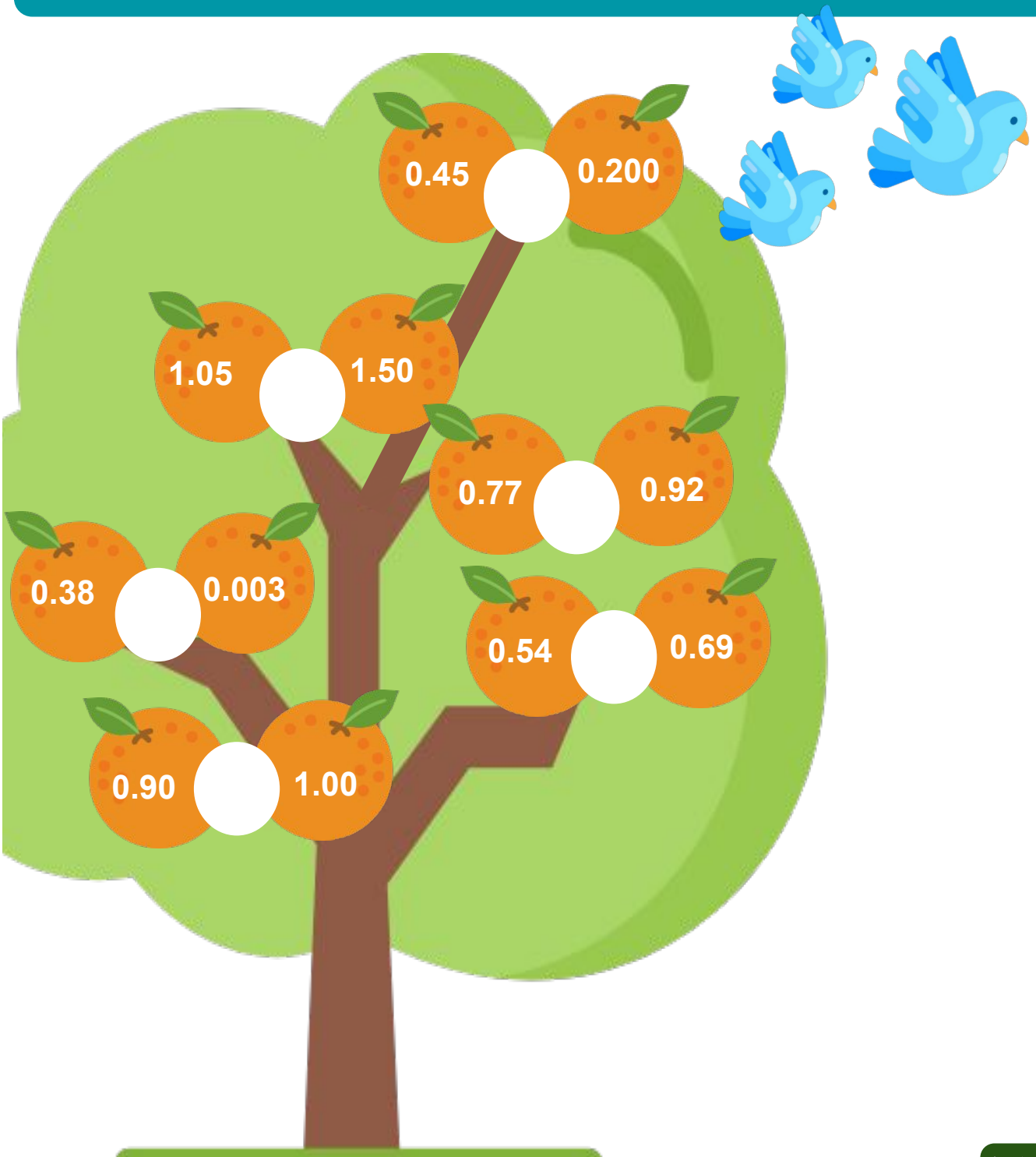
=

<



OH! ORANGES

Look at those oranges in the tree! Compare the numbers written on them. Write $<$ $>$ $=$ inside the circle.

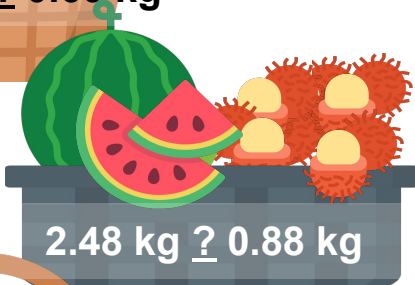


FRUIT MATCH

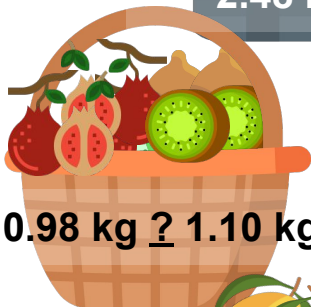
There are two kinds of fruit in each basket. Match each basket to the symbol that will make the equation correct.



$0.60 \text{ kg} \text{ ? } 0.60 \text{ kg}$



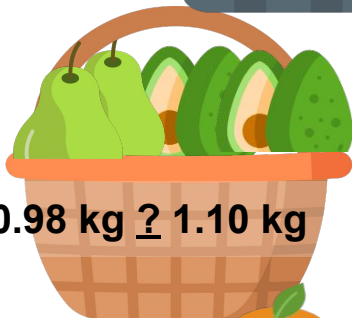
$2.48 \text{ kg} \text{ ? } 0.88 \text{ kg}$



$0.98 \text{ kg} \text{ ? } 1.10 \text{ kg}$



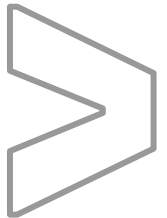
$1.17 \text{ kg} \text{ ? } 1.05 \text{ kg}$



$0.98 \text{ kg} \text{ ? } 1.10 \text{ kg}$



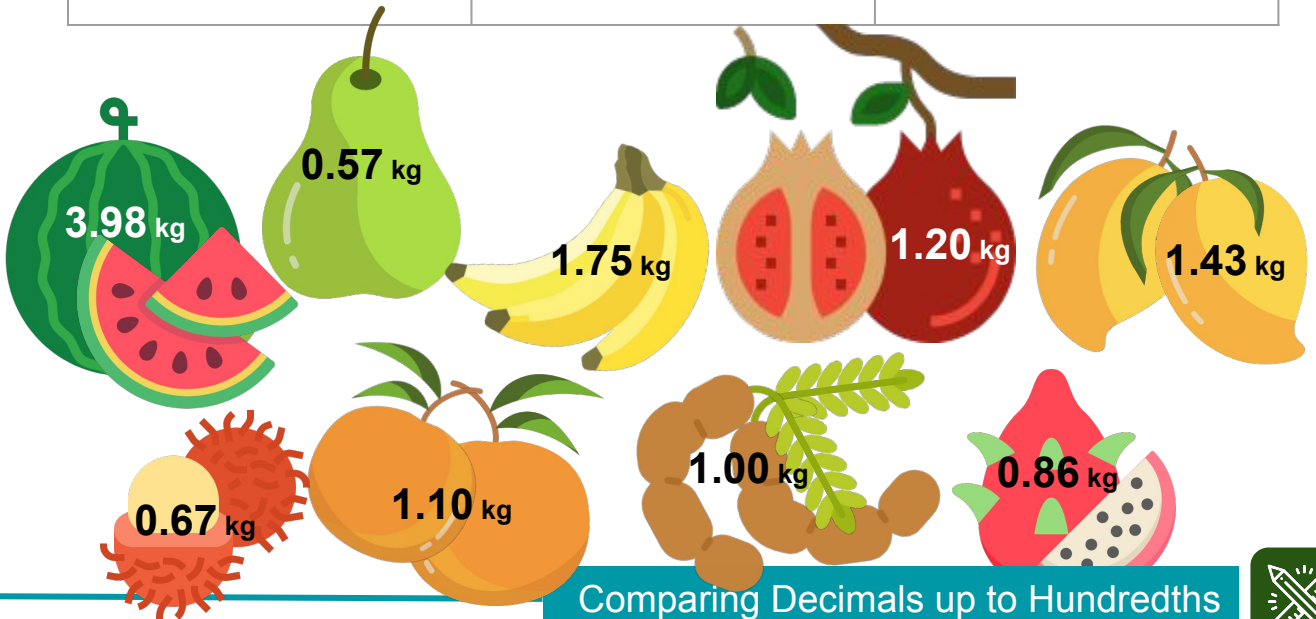
$1.17 \text{ kg} \text{ ? } 1.05 \text{ kg}$



GROUP ME

Take a look at the fruits below. Your task now is to group them according to their weight.

< 1.00 kg	$= 1.00$ kg	> 1.00 kg



APPLE OF MY EYE

There are given numbers in the apples. Choose the best answer that will complete the equation below.

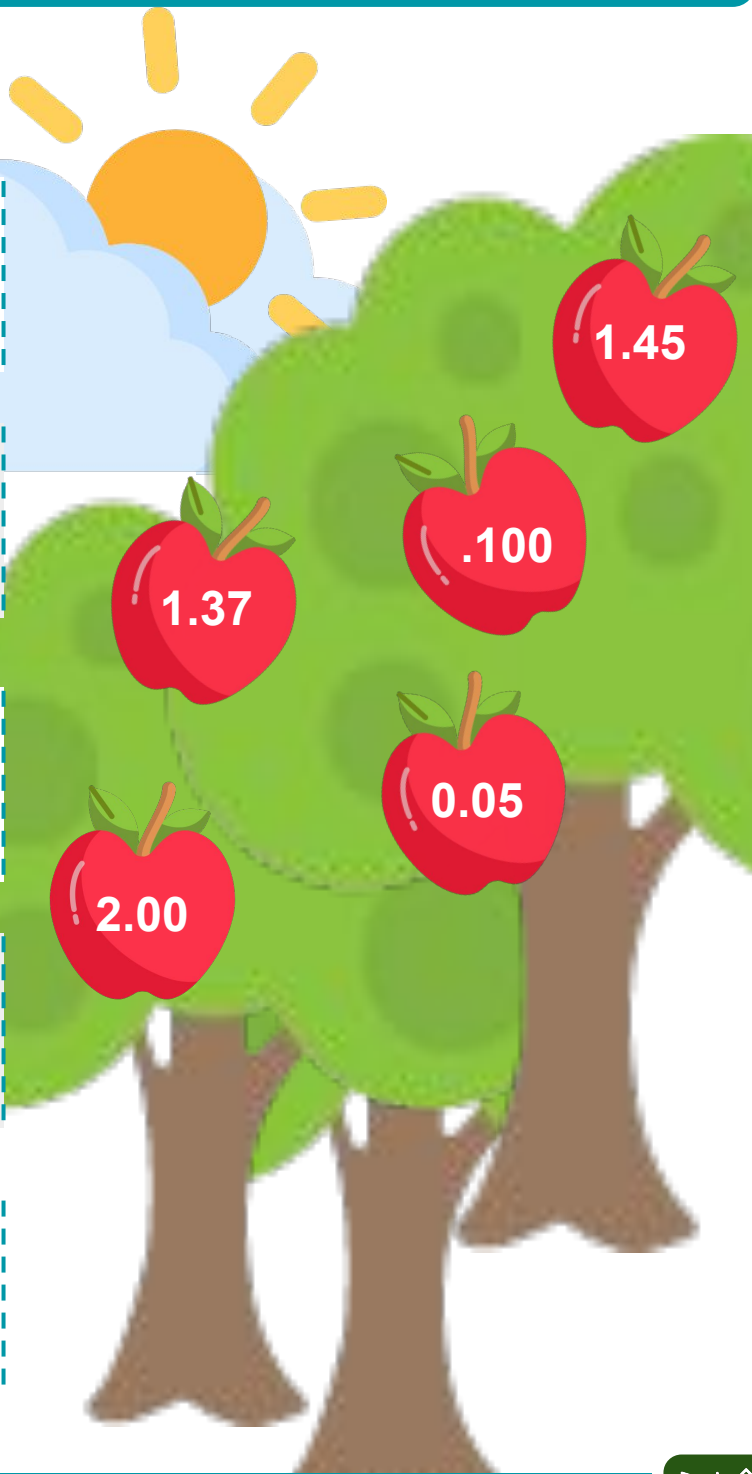
1 $1.40 \text{ kg} < \underline{\hspace{2cm}} \text{ kg}$

2 $\underline{\hspace{2cm}} \text{ kg} > 0.550 \text{ kg}$

3 $0.90 \text{ kg} < \underline{\hspace{2cm}} \text{ kg}$

4 $1.87 \text{ kg} < \underline{\hspace{2cm}} \text{ kg}$


5 $\underline{\hspace{2cm}} \text{ kg} = 0.05 \text{ kg}$



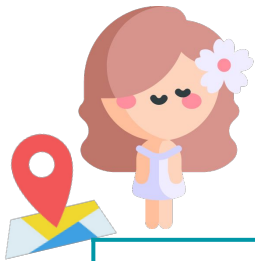
GO ANNA!

Help Anna find her way to fruit stall. Identify whether each decimal is $<$, $>$ or $=$ to 0.5. Follow the given color code, this will reveal the yellow path to fruit stall.

 < 0.5

 $= 0.5$

 > 0.5




	0.69	0.78	0.56	0.88	0.510
	0.42	0.25	0.09	0.62	0.500
0.51	0.87	0.52	0.067	0.77	0.84
0.711	0.90	0.48	0.05	0.81	0.70
0.22	0.15	0.36	0.69	0.57	0.77
0.012	0.532	0.50	0.88	0.91	0.85
0.07	0.18	0.35	0.29	1.00	0.99
0.66	0.55	0.82	0.410	0.62	0.73
0.80	0.75	0.60	0.091	0.90	
0.72	0.84	0.95	0.05	0.49	




CHOOSE ONE

Try to win in this game! Solve each problem and then find the correct answer out of the choices given. It will lead you to the next problem you need to solve.

START

 $0.40 \text{ kg} \underline{\quad} ? \underline{\quad} 0.04 \text{ kg}$

>

 $0.89 \text{ kg} \underline{\quad} ? \underline{\quad} 0.76 \text{ kg}$


<

 $0.45 \text{ kg} \underline{\quad} ? \underline{\quad} 1.05 \text{ kg}$


<

>


>

 $0.05 \text{ kg} \underline{\quad} ? \underline{\quad} 0.50 \text{ kg}$

>

 $1.50 \text{ kg} \underline{\quad} ? \underline{\quad} 1.50 \text{ kg}$

<

 $0.22 \text{ kg} \underline{\quad} ? \underline{\quad} 2.02 \text{ kg}$


<

=

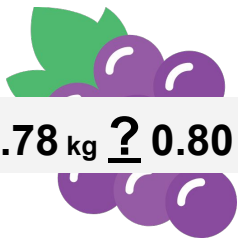
<

=

<

 $1.05 \text{ kg} \underline{\quad} ? \underline{\quad} 0.50 \text{ kg}$

>

 $0.78 \text{ kg} \underline{\quad} ? \underline{\quad} 0.80 \text{ kg}$

<

 $.120 \text{ kg} \underline{\quad} ? \underline{\quad} 1.00 \text{ kg}$


>

<

>

 $0.28 \text{ kg} \underline{\quad} ? \underline{\quad} 0.45 \text{ kg}$

<

 $0.28 \text{ kg} \underline{\quad} ? \underline{\quad} 0.45 \text{ kg}$

>

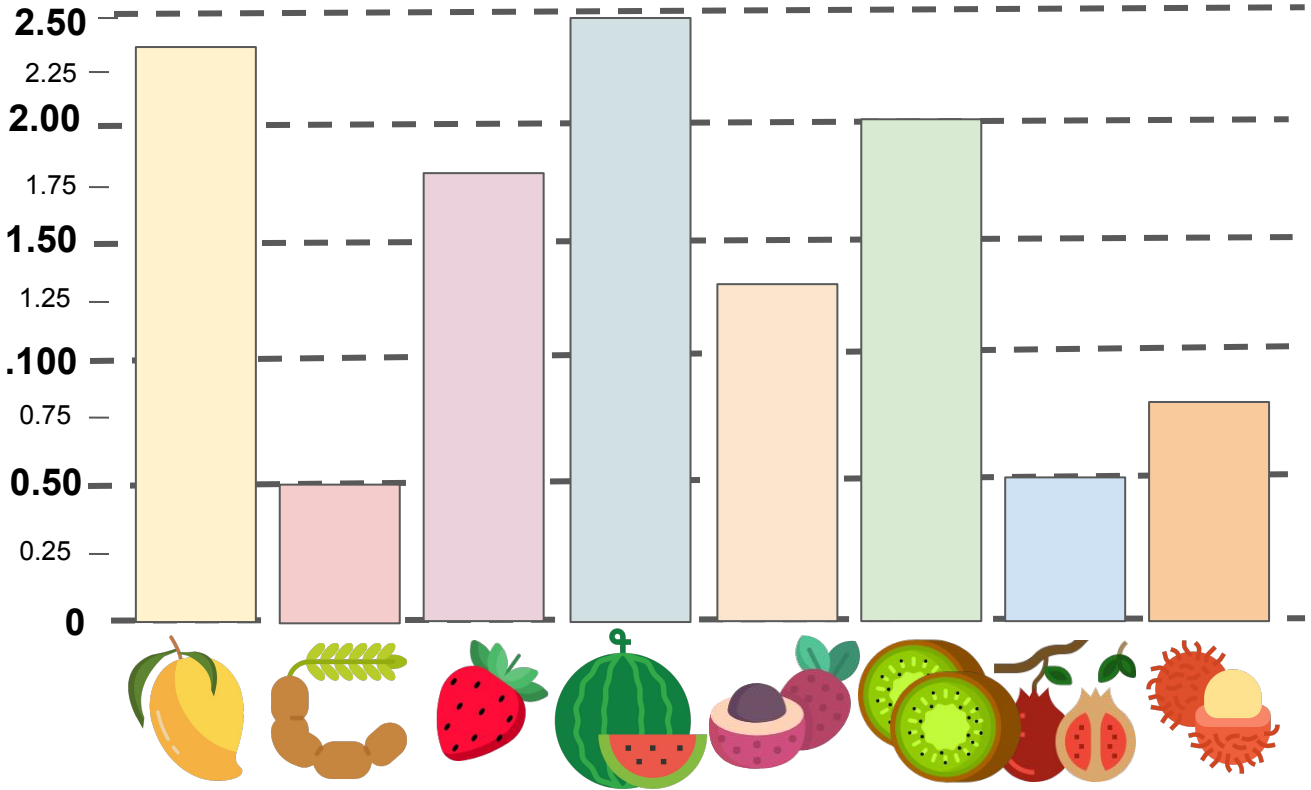
 $0.77 \text{ kg} \underline{\quad} ? \underline{\quad} 0.17 \text{ kg}$

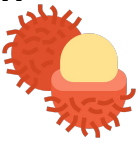

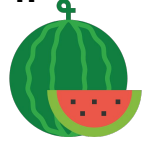

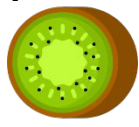
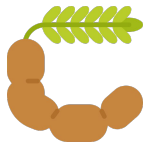
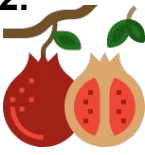
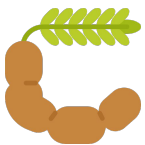

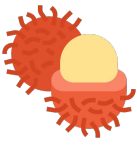



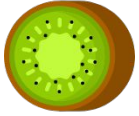
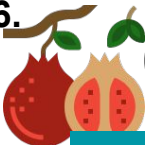

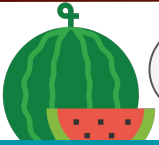
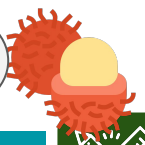
VICTORY!



FRUIT CHART

Study the graph below. Write the appropriate symbol in each circle to compare the equation of fruits in each set.

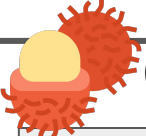


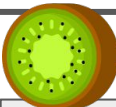
1.  <input type="text"/> 	4.  <input type="text"/> 	7.  <input type="text"/> 
2.  <input type="text"/> 	5.  <input type="text"/> 	10.  <input type="text"/> 
3.  <input type="text"/> 	6.  <input type="text"/> 	9.  <input type="text"/> 

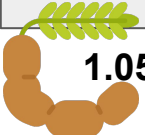



PACMAN FRUITY ATTACK


Help Pacman eat all the fruits that are less than 1.00 calories.
Cross (X) the fruits that are greater than 1.00.


0.48 


0.72 

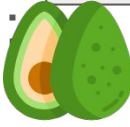
1.05 


1.12 


1.32 

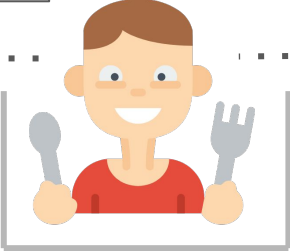
0.96 

1.011 

0.058 

1.44 

0.69 





ANSWER KEY

Activity 1

$<$	$=$	$>$
0.75	0.80	3.00
0.68		1.20

Activity 2

$0.81 > 0.75$
 $1.90 > 0.9$
 $1.00 > 0.84$
 $2.2 < 2.28$
 $0.60 = 0.6$

Activity 3

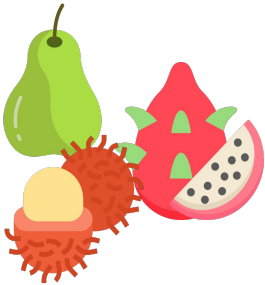
$0.45 > 0.200$
 $1.05 < 1.50$
 $0.77 < 0.92$
 $0.3 > 0.003$
 $0.54 < 0.69$
 $0.90 < 1.00$

Activity 4

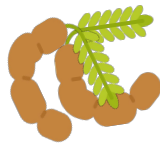
$0.60 = 0.60$
 $2.48 > 0.88$
 $0.98 < 1.10$
 $1.17 > 1.05$

Activity 5

< 1.00 kg



$= 1.00$ kg



> 1.00 kg



ANSWER KEY

Activity 6

$1.40 \text{ kg} < 1.45 \text{ kg}$
 $1.37 \text{ kg} > 0.550 \text{ kg}$
 $0.90 \text{ kg} < .100 \text{ kg}$
 $1.87 \text{ kg} < 2.00 \text{ kg}$
 $0.05 \text{ kg} = 0.05 \text{ kg}$

Activity 8

$0.40 \text{ kg} > 0.04 \text{ kg}$
 $0.89 \text{ kg} > 0.76 \text{ kg}$
 $1.50 \text{ kg} = 1.50 \text{ kg}$
 $.120 \text{ kg} < 1.00 \text{ kg}$
 $0.78 \text{ kg} < 0.80 \text{ kg}$
 $0.28 \text{ kg} < 0.45 \text{ kg}$

Activity 7

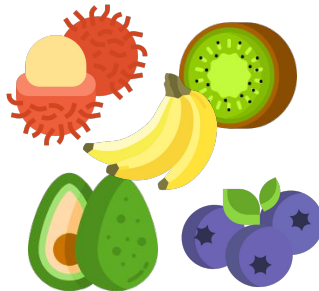
0.42
0.25
0.09
0.067
0.05
0.48
0.36
0.15
0.22
0.012
0.07
0.18
0.35
0.29
0.410
0.091
0.05
0.49

Activity 9

1. <	4. >	7. >
2. =	5. >	8. <
3. <	6. <	9. >

Activity 10

< 1.00 calories



> 1.00 calories



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