



**THIRD SPACE
LEARNING**

Pictogram Worksheet

Measurement and Data




Grades 4 to 5

Questions

Name:

Date:

Kelly buys fruits at the farmer's market. The graph shows the total weight of the fruits Kelly buys.

Fruit	
Apples	
Oranges	
Pears	

Key

$$\text{🍏} = \frac{1}{4} \text{ pound of fruit}$$

Use the graph to answer questions 1 to 10.

1 Which fruit has the greatest total weight?

Answer

2 How many pounds of apples did Kelly buy?

Answer

3 How many pounds of oranges did Kelly buy?

Answer

4 Write an equation that shows the total weight of the pears as the sum of fractions with the same denominator.

Answer

5 How much more do the apples Kelly bought weigh than the oranges?

Answer

6 How much less do the pears Kelly bought weigh than the oranges and apples combined?

Answer

7 Show the total weight of the oranges and apples as the sum of fractions with the same denominator.

Write two different equations.

Answer

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- 8 Show that $\frac{7}{4}$ pounds of pears is the same as $1\frac{3}{4}$ pounds using a fraction model. Explain your model.


























- 9 Kelly also bought $1\frac{1}{4}$ pounds of grapes. How many 🍏 symbols will represent the grapes?

Answer

- 10 Describe how the graph would change if 🍏 = $\frac{1}{2}$ of a pound.

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The graph shows how much power, in watts, common kitchen items use.

Watts Used	
Blender	    
Coffee maker	         
Toaster	        
Ceiling fan	



Key

= 10^2 watts (a unit of power)

Use this graph to answer questions 11 to 16.

11 How many watts does the blender use?

Answer

12 How many more watts does the toaster use than the ceiling fan?

Answer

13 What is the total watts used for all four items?

Answer

- 14 Show the total watts used as **two** different powers of 10.

Answer

- 15 The dishwasher uses 1,300 watts. How many 💡 symbols represent a dishwasher?

Answer

- 16 Fill in the graph using the data:
Company A has \$5,000 in sales. Company B has \$8,000 in sales. Company C has \$2,000 in sales. Use the \$ symbol where $\$=10^3$.

Company sales	
Company A	
Company B	
Company C	

- 17 In question 16, how many more dollars did Company B make compared to Company C?

Answer

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- 18 Explain the pattern you see in the number of \$ symbols and the company sales using powers of 10.

Answer

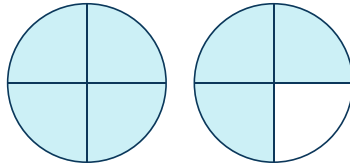
- 19 If Company A triples its sales, show the new amount as **two** different powers of 10.

Answer

- 20 Describe how the graph would change if $\$ = \10^2 .

Answers

Question number	Question	Answers	Standard
1	Which fruit has the greatest total weight?	apples	4.NF.B.3b
2	How many pounds of apples did Kelly buy?	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$ $+ \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{8}{4}$ $= 2 \text{ pounds}$ OR $8 \times \frac{1}{4} \text{ lb} = 2 \text{ pounds}$	4.NF.B.3b 4.NF.B.4b
3	How many pounds of oranges did Kelly buy?	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$ $+ \frac{1}{4} = \frac{6}{4} = 1\frac{1}{2}$ pounds OR $6 \text{ fruits} \times \frac{1}{4} \text{ lb} = 1\frac{1}{2}$ pounds	4.NF.B.3b 4.NF.B.4b
4	Write an equation that shows the total weight of the pears as the sum of fractions with the same denominator.	Answers will vary. Example answer: $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$ $+ \frac{1}{4} + \frac{1}{4} = \frac{7}{4} = 1\frac{3}{4}$ pounds	4.NF.B.3b
5	How much more do the apples Kelly bought weigh than the oranges?	$\frac{1}{2}$ pound more	4.NF.B.3b 4.NF.B.3d
6	How much less do the pears Kelly bought weigh than the oranges and apples combined?	$1\frac{3}{4}$ pounds less	4.NF.B.3b 4.NF.B.3d

Question number	Question	Answers	Standard
7	Show the total weight of the oranges and apples as the sum of fractions with the same denominator. Write two different equations.	<p>Answers will vary.</p> <p>Example answer:</p> <p>First way: $\frac{8}{4} + \frac{6}{4} = \frac{14}{4}$ $= 3\frac{2}{4} = 3\frac{1}{2}$ pounds</p> <p>Second way: $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$ $+ \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$ $+ \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{14}{4} =$ $3\frac{1}{4} = 3\frac{1}{2}$ pounds</p>	4.NF.B.3b
8	Show that $\frac{7}{4}$ pounds of pears is the same as $1\frac{3}{4}$ pounds using a fraction model. Explain your model.	<p>Answers will vary.</p> <p>Example answer:</p>  <p>My model shows 1 and $\frac{3}{4}$, because there is 1 whole shaded in one circle and the other has $\frac{3}{4}$ shaded. It also shows $\frac{7}{4}$, because both circles are split into fourths and there are 7 parts shaded in.</p>	4.NF.B.3b
9	Kelly also bought 114 pounds of grapes. How many 🍇 symbols will represent the grapes?	<p>$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$ $= 1\frac{1}{4}$ pounds</p> <p>OR</p> <p>$5 \times \frac{1}{4} \text{ lb} = 1\frac{1}{4}$ pounds</p> <p>Answer: 5 🍇 symbols</p>	4.NF.B.3b 4.NF.B.3d 4.NF.B.4b

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Question number	Question	Answers	Standard
10	Describe how the graph would change if 🍏 = $\frac{1}{2}$ of a pound.	Answers will vary. Example answer: $\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$ or $\frac{1}{2}$ so you would replace 2 apples with 1 apple. The apples would have 4 🍏, the oranges would have 3 🍏. The pears would have 3 🍏 but also a half of an 🍏, because 3 🍏 is $1\frac{1}{2}$ pounds, but 4 🍏 is 2 pounds.	4.NF.A.1 4.NF.B.3b 4.NF.B.4b
11	How many watts does the blender use?	5 symbols $\times 10^2 = 5 \times 100 = 500$ watts	5.NBT.A.2
12	How many more watts does the toaster use than the ceiling fan?	8 symbols less $\times 10^2 = 8 \times 100 = 800$ more watts	5.NBT.A.2
13	What is the total watts used for all four items?	25 symbols $\times 10^2 = 25 \times 100 = 2,500$ watts	5.NBT.A.2
14	Show the total watts used as two different powers of 10.	250×10 25×10^2 AND/OR 2.5×10^3	5.NBT.A.2
15	The dishwasher uses 1,300 watts. How many 💡 symbols represent a dishwasher?	$1300 \div 10^2 = 1300 \div 100 = 13$ symbols	5.NBT.A.2

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Question number	Question	Answers	Standard																
16	<p>Fill in the graph using the data: Company A has \$5,000 in sales. Company B has \$8,000 in sales. Company C has \$2,000 in sales.</p> <p>Key: \$ = \$10³</p> <table><tr><th colspan="2">Company sales</th></tr><tr><td>Company A</td><td></td></tr><tr><td>Company B</td><td></td></tr><tr><td>Company C</td><td></td></tr></table>	Company sales		Company A		Company B		Company C		<p>Key: \$ = \$10³</p> <table><tr><th colspan="2">Company sales</th></tr><tr><td>Company A</td><td>\$\$\$\$\$</td></tr><tr><td>Company B</td><td>\$\$\$\$\$\$\$\$\$</td></tr><tr><td>Company C</td><td>\$\$</td></tr></table>	Company sales		Company A	\$\$\$\$\$	Company B	\$\$\$\$\$\$\$\$\$	Company C	\$\$	5.NBT.A.2
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17	In question 16, how many more dollars did Company B make compared to Company C?	\$6000 more	5.NBT.A.2																
18	Explain the pattern you see in the number of \$ symbols and the company sales using powers of 10.	Answers will vary. Example answer: The number of symbols multiplied by \$10 ³ is the company sales. For example, 5 symbols for Company A means \$5 × 10 ³ = 5,000 dollars. The number of symbols is always the digit of the thousands position.	5.NBT.A.2																
19	If Company A triples its sales, show the new amount as two different powers of 10.	\$1.5 × 10 ⁴ dollars \$15 × 10 ³ dollars \$150 × 10 ² dollars AND/OR \$1,500 × 10 dollars	5.NBT.A.2																

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Question number	Question	Answers	Standard
20	Describe how the graph would change if \$ = \$10 ² .	Answers will vary. Example answer: 10 ² is 10 times less than 10 ³ , so to show the same dollars, you would need 10 times as many symbols for each company.	5.NBT.A.2

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