

Think & Matics

STUDENT COMPANION

NAME: _____



Take a look at Coco's recipes. To get warmed up for this task, you are going to make alterations to the recipes by completing the tables below in your student companion.

YAPPLES



Ingredient	4	$\frac{1}{2}$	<u></u>	2	3	4
$\frac{1}{2}$ cup white sugar						
$\frac{3}{4}$ tbsp ground cinnamon						
$\frac{1}{8}$ tsp ground nutmeg						
1 apple (peeled)						
$\frac{1}{4}$ cup water						
1 cup finely chopped walnuts					6	
1 (14 oz) package individually wrapped caramels						
$\frac{3}{4}$ cup finely chopped salted peanuts						
Servings						
Calories per Batch						

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М	v	v	н	v	E.



Ingredient	$\frac{1}{4}$	$\frac{1}{2}$	3 4	2	3	4
60 Cherries						
$3\frac{1}{2}$ tbsp of corn syrup						
$\frac{3}{4}$ tbsp butter, softened						
$1\frac{1}{2}$ cups sifted confectioner sugar						
$1rac{1}{4}$ cups chocolate confectioner sugar						
Servings						
Calories per Batch						

FRAZZLES



Ingredient	$\frac{1}{4}$	$\frac{1}{2}$	3 4	2	3	4
1 (12 oz) can evaporated milk		21				
$2\frac{2}{3}$ cups white sugar						
$1\frac{1}{2}$ tbsp butter						
$1\frac{1}{2}$ cups sifted confectioner sugar						
$1\frac{3}{4}$ cups sliced strawberries						
2 tbsp lemon juice						
Servings						5
Calories per Batch						5

SWIRVLES



Ingredient	$\frac{1}{4}$	$\frac{1}{2}$	3 4	2	3	4
10 slices of bacon						
8 (1oz)squares of semi – sweet chocolates						
2 bananas peeled						
$4\frac{1}{4}$ tbsp smooth peanut butter divided						
Servings						
Calories per Batch						

WIBBLES



Ingredient	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	2	3	4
$1\frac{3}{4}$ cups white chocolate chips						
2 tsp shortening						
2 bananas peeled						
$1\frac{1}{2}$ lb seedless grapes						
$\frac{3}{4}$ cup finely chopped salted peanuts						
Servings						
Calories per Batch						

Think & Matics



1. If 155 MooMoos are produced every five minutes, what is the unit rate (MooMoos produced every minute)?

- a. 775 MooMoo's per minute
- b. 31 MooMoo's per minute
- c. 155 MooMoo's per minute
- d. 45 MooMoo's per minute

2. If 525 Wibbles are produced every three and a half minutes, what is the unit rate (Wibbles produced every minute)?

- a. 150 Wibbles per minute
- b. 155 Wibbles per minute
- c. 542.5 Wibbles per minute
- d. 543 Wibbles per minute

3. If 576 Swirvles are produced every nine minutes, what is the unit rate (Swirvles produced every minute)?

- a. 5184 Swirvles per minute
- b. 57.6 Swirvles per minute
- c. 64 Swirvles per minute
- d. 7 Swirvles per minute

4. If 252 Frazzles are produced every six minutes, what is the unit rate (Frazzles produced every minute)?

- a. 102 Frazzles per minute
- b. 42 Frazzles per minute
- c. 62 Frazzles per minute
- d. 1512 Frazzles per minute

5. If 285 Yapples are produced every four and three-quarter minutes, what is the unit rate (Yapples produced every minute)?

- a. 380 Yapples per minute
- b. 60 Yapples per minute
- c. 71 and ¼ Yapples
- d. 1354 Yapples

CSDT: SC 1: TREAT PRODUCTION continued

6. Utilizing the unit rate for the Wibbles, how many Wibbles could be produced in two and a quarter hour?

- a. 375 Wibbles
- b. 337.5 Wibbles
- c. 20025 Wibbles
- d. 20250 Wibbles

7. Utilizing the unit rate for the Yapples, how many Yapples could be produced in three-quarters of a minute?

- a. 2700 Yapples
- b. 45 Yapples
- c. 15 Yapples
- d. 27 Yapples
- 8. Utilizing the unit rate for the MooMoos, how many MooMoos could be produced in one day?
 - a. 744 MooMoos
 - b. 44640 MooMoos
 - c. 111600 MooMoos
 - d. 46500 MooMoos



Calculate the unit rate for each of Coco's Delectable Treats.

Coco's Treat	Unit Rate					
MooMoo's						
Wibbles						
Swirvles	22					
Frazzles						
Yapples	Matics					

Construct a table of values to produce each of the delectable treats over a time span of one hour.

Minutes	0	10	20	30	40	50	60
MooMoos							

Minutes	0	10	20	30	40	50	60
Wibbles							

CSDT EXTEND YOUR THINKING 2: "TREAT PRODUCTION" continued

Minutes	0	10	20	30	40	50	60
Swirvles							

Minutes	0	10	20	30	40	50	60
Frazzles							

Minutes	0	10	20	30	40	50	60
Yapples							

Write a linear equation that represents the production of the MooMoos, Swrivles, Wibbles, Yapples, and Frazzles. You should have an equation for each delectable treat.

Coco's Treat	Linear Equation
MooMoo's	
Wibbles	
Swirvles	
Frazzles	
Yapples	

CSDT EXTEND YOUR THINKING 2: "TREAT PRODUCTION" continued

Graph each linear relationship on the same coordinate plane. Are any of the relationships proportional? Explain why the relationships are proportional or not proportional.







THINKeMATICS: Coco Sweet's Delectable Treats Student Companion



Can You Crack Coco's Code?

Code Crack'n Work Space



Let's work it out!

	Jumbo Boxes	Extra-Large Boxes	Large Boxes	Medium Boxes	Small Box
Number of Boxes					
Treats in Each Box					

	Jumbo Boxes	Extra-Large Boxes	Large Boxes	Medium Boxes	Small Box
Number of Boxes					
Treats in Each Box					

	Jumbo Boxes	Extra-Large Boxes	Large Boxes	Medium Boxes	Small Box
Number of Boxes					
Treats in Each Box					

	Jumbo Boxes	Extra-Large Boxes	Large Boxes	Medium Boxes	Small Box
Number of Boxes					
Treats in Each Box					

Explain how Coco developed the code to determine how many of each treat was needed to prepare the packaging.

The ticket number is IRRELEVANT.



Develop a new code that Coco could utilize to package the delectable treats. Be sure to explain how your code works and the rationale behind the construction.



Check out the following order sent to the packaging department. The ticket below shows the quantity (servings) of each treat ordered (not represented in code). Write the correct code for each treat from Ticket Number: 049.

COCO SWEET'S DELECTABLE TREATS Ticket Number: 049					
MooMoos	400				
Wibbles	60				
Swirvles	225				
Frazzles	70				
Yapples	550				

	Jumbo	Extra-Large	Large	Medium	Small
	Boxes	Boxes	Boxes	Boxes	Box
Number of Boxes					
Treats in Each Box					
	Jumbo Boxes	Extra-Large Boxes	Large Boxes	Medium Boxes	Small Box
Number of Boxes					
Treats in Each Box					
	Jumbo	Extra-Large	Large	Medium	Small
	Boxes	Boxes	Boxes	Boxes	Box
Number of Boxes					
Treats in Each Box					
	Jumbo	Extra-Large	Large	Medium	Small
	Boxes	Boxes	Boxes	Boxes	Box
Number of Boxes					



Calculate the volume of each package. The following table is provided to organize your calculations.

	Jumbo	Extra Large	Large	Medium	Smal
MooMoos					
Wibbles					
Swirvles					
Frazzles					
Yapples					



• Volume of a Cylinder: $(\pi r^2)h$



What was the cost for the delectable treats based on the above order? One treat equals a serving. For example, 10 MooMoos would be equivalent to 10 servings. Complete the following table.

Treat	Quantity/Servings	Cost per Serving	Total
MooMoos		\$1.75	
Wibbles		\$1.50	
Swirvles		\$1.95	
Frazzles		\$2.15	
Yapples		\$1.50	
Totals	-	-	

CSDT EXTEND YOUR THINKING 5: "Order Up!" continued



Based on the customer's order, which size box should be selected to ensure all the treats will fit in the box? Explain how you ascertained your solution.





National Delivery Service arrived at Coco's plant to pick up the package for delivery. The drone was supposed to have a fully charged battery. The drone arrived with the battery at 63%. The drone cannot fly any higher than 400 feet. The drone carrying a Priority package can fly at a rate of 51 and 1/3 feet per second.

• If the drone can travel 51 and 1/3 feet per second, how fast is the drone traveling in miles per hour? Explain how you ascertained your solution.



CSDT EXTEND YOUR THINKING 6: "Drone Delivery" continued

• Evaluate the information above. If the battery loses 0.5% every 1/10 of a mile, would the drone have enough battery to make it to the customer and back to the factory? Show all computation and explain how you determined your response.



CSDT EXTEND YOUR THINKING 6: "Drone Delivery" continued

• Construct a table of values showing the battery life (y) and the distance (x). Then construct a graph of the relationship. Is the relationship described linear? How about proportional? Explain how you arrived at your determination.



CSDT EXTEND YOUR THINKING 6: "Drone Delivery" continued





