

5th Grade UNIT 5: Multiplication and Division of Partial Numbers
REAL WORLD EXPERIENCE

You are planning a carnival to celebrate the end of the school year. Local businesses have donated many materials, and you will have to rent some supplies. Your budget for additional materials is \$1,000. Your job is to plan, order materials, and design the layout for the carnival.

TASK 1

The carnival runs from 10:00 A.M. to 5:30 P.M. For how many hours will the carnival run?

(7.5 hours total or $7\frac{1}{2}$ hours).

Below is the list of items you may rent from local suppliers using the \$1,000 budget:

- Wild Willy's Waterslide - \$52.50 per hour
- Jimmy's Jumpy House - \$32.20 per hour
- Franny's Face Painting Service - \$10.80 per hour
- Penelope's Purple Picnic Table - \$15.00 per hour

In order to facilitate or help your planning, you need to complete the chart below. Compute the cost of renting each item and compute the total amount needed if you rent all of these items for the carnival.

Rental Item	Cost Per Hour	Calculations	Total Cost
Waterslide	\$52.50	$\\$52.50 \times 7.5 =$	\$393.75
Jumpy House	\$32.20	$\\$32.50 \times 7.5 =$	\$241.50
Face Painting	\$10.80	$\\$10.80 \times 7.5 =$	\$81.00
Picnic Tables	\$15.00	$\\$15.00 \times 7.5 =$	\$112.50
TOTAL	\$110.50	$\\$110.5 \times 7.5 =$	\$828.75

Is the \$1,000 budget adequate? Explain why or why not.

Yes, the budget is adequate because the total cost is \$828.75 and it is less than the budget of \$1,000.

TASK 2

If tickets cost \$0.25, how many tickets will you need to sell to recover the cost of the rented materials?

$$828.75 \div 0.25 = 3,315 \text{ tickets}$$

TASK 3

Complete the table using the space in the table to calculate the area of each event.

Ring Toss 6 ½ ft. x 7 ½ ft.	Concessions 10 ft. x 4 ft.	Frisbee Toss 8 ft. x 12 ft.
Ring Toss area = 48 ¾ sq. feet or 48.75 sq. feet	Concessions area = 40 sq. feet	Frisbee Toss area = 96 sq. feet
Wild Willy's Water Slide 11 ½ ft. x 6 ft.	Jimmy's Jumpy House 9 ¾ ft. x 7 ft.	Franny's Face Painting 3 ¾ ft. x 2 ft.
Water Slide area = 69 sq. feet	Jumpy House area = 68 ¾ sq. feet or 68.25 sq. feet	Face Painting area = 7 ½ sq. feet or 7.5 sq. feet
Potato Sack Races 14 ½ ft. x 6 ft.	Bean Bag Toss 7 ft. x 6 ft.	Water Balloon Toss 4 ½ ft. x 6 ½ ft.
Sack Race area = 87 sq. feet	Bean Bag Toss area = 42 sq. feet	Balloon Toss = 29 ¼ sq. feet or 29.25 sq. feet

Half of the concession area will be used as a kitchen space and half will be used for eating. Write an equation using a fraction to determine what the area is for both the kitchen space and the eating space. Solve the equation.

$$40 \text{ square feet} \times \frac{1}{2} = k \quad k = 20 \text{ square feet}$$

$$40 \text{ square feet} \times \frac{1}{2} = e \quad e = 20 \text{ square feet}$$

TASK 4

1. Determine which activities you will have at the carnival remembering the space and money requirements.

2. Determine the cost of the rentals you need.

Show calculations below.

The activities I chose to include at the carnival are:

SOME POSSIBLE SOLUTIONS ARE:

concessions waterslide ring toss Frisbee toss <u>face painting</u> 261 $\frac{3}{4}$ sq. ft.	concessions waterslide ring toss Frisbee toss <u>potato race</u> 340 $\frac{3}{4}$ sq. ft.	concessions waterslide ring toss Frisbee toss <u>bean bag</u> 295 $\frac{3}{4}$ sq. ft.	concessions waterslide ring toss Frisbee toss <u>water balloon</u> 283 sq. ft.	concessions jump house ring toss Frisbee toss <u>potato sack</u> 340 sq. ft.
concessions jump house waterslide water balloon <u>bean bag</u> 248 $\frac{1}{2}$ sq. ft.	concessions waterslide ring toss Frisbee toss <u>face painting</u> 261 $\frac{1}{4}$ sq. ft.	concessions waterslide ring toss Frisbee toss <u>potato sack</u> 340 $\frac{3}{4}$ sq. ft.	concessions waterslide ring toss Frisbee <u>water balloon</u> 283 sq. ft.	concessions jump house ring toss Frisbee toss <u>face paint</u> 260 $\frac{1}{2}$ sq. ft.
concessions jump house ring toss Frisbee toss <u>bean bag</u> 295 sq. ft.	concessions jump house ring toss Frisbee toss <u>water balloons</u> 282 $\frac{1}{4}$ sq. ft.	concessions jump house water slide ring toss <u>Frisbee toss</u> 322 sq. ft.	concessions jump house waterslide ring toss <u>face painting</u> 233 $\frac{1}{2}$ sq. ft.	concessions waterslide ring toss Frisbee toss <u>bean bag</u> 295 $\frac{3}{4}$ sq. ft.
concessions jump house waterslide ring toss <u>water balloon</u> 255 $\frac{1}{4}$ sq. ft.	concessions jump house waterslide ring toss <u>potato sack</u> 313 sq. ft.	concessions jump house waterslide ring toss <u>bean bag</u> 268 sq. ft.	concessions jump house waterslide Frisbee toss <u>face painting</u> 280 $\frac{3}{4}$ sq. ft.	
concessions jump house waterslide Frisbee toss <u>water balloon</u> 302 $\frac{1}{2}$ sq. ft.	concessions jump house waterslide Frisbee toss <u>potato sack</u> 360 $\frac{1}{4}$ sq. ft.	concessions jump house waterslide Frisbee toss <u>bean bag</u> 315 $\frac{1}{4}$ sq. ft.	concessions jump house waterslide face painting <u>potato sack</u> 271 $\frac{3}{4}$ sq. ft.	
concessions jump house waterslide face painting <u>bean bag</u> 226 $\frac{3}{4}$ sq. ft.	concessions jump house waterslide face painting <u>water balloon</u> 214 sq. ft.	concessions jump house waterslide potato sack <u>bean bag</u> 306 $\frac{1}{4}$ sq. ft.	concessions jump house waterslide potato sack <u>water balloon</u> 293 $\frac{1}{2}$ sq. ft.	

The cost of the activities I chose to include is:

(Keep in mind that there is not cost for the activities of Ring Toss, Concessions, Frisbee Toss, Potato Sack Races, Bean Bag Toss, and Balloon Toss.)

answers will vary

Write a paragraph to explain your thinking and include the following:

- your chosen activities and their individual areas
- the total area that will be used for the chosen activities
- how much of the \$1,000 budget you will use
- why your plan will work

answers will vary

Name: _____

Scoring Guide 5th Grade Unit 5: Multiplying and Dividing Partial Numbers

Real World Experience

Meeting	<p>Student develops at least one comprehensive paragraph explanation</p> <p>Student explanation includes the specific activities that he/she proposes for the carnival</p> <p>Student accurately calculates the total area required for all the activities he/she proposes</p> <p>Student explanation includes the total amount of area required for all the activities he/she proposes</p> <p>Student accurately calculates the total amount of money required to set up the carnival he/she is proposing</p> <p>Student explanation includes the total amount of money required to set up the carnival he/she is proposing</p> <p>Student explanation includes why the plan for activities will work given the limits or constraints of area and money</p>
Developing	Meets 5 of 7 criteria
Beginning	Meets less than 5 criteria

Comments: