



MATH: Donation of School Instruments

Students will

- Use mathematical operation to solve real world situations.
- Utilize charts and analyze data to answer questions

Copies for Each Student

- **The Story of the Opera**
- Glossary
- Cost Analysis Chart
- Activity Worksheet

For the Teacher

- **The Story of the Opera**
- Glossary
- Cost Analysis Chart
- Activity Worksheet
- **ANSWER KEY**

Getting Ready

Decide which section(s) of the lesson you wish your group to complete.

Gather materials:

- Notebook paper and Pencils

Instructional Time

One 45-minute class period

Introduction

Read **The Story of the Opera** with your class to review the story and the lessons and morals it teaches. Discuss the characters and the importance of the different roles they play in making the band a success. Focus the student's attention on how the students have applied teamwork in their lives at school and at home. Tell your students that The Bremen Town Musicians decided to work with the local Bremen Town School to raise funds to purchase instruments for the new marching band.

Guided Practice

Read the activity worksheet instructions as a class. Review the Donations Records Sheet at the top of the page with the students and discuss the different mathematical operations necessary to complete the assignment. Ensure the students pay close attention to the questions while considering the different categories of each instrument, with different donation amounts.

Independent Practice

Depending on your grade level, the ability of your students, and time constraints, you may choose to have students work as a whole class, in small groups, with a partner, or individually. Read the instructions on the Activity Worksheet and have the students fill in the missing information on the Cost Analysis Chart. Then, tell students to complete the Activity Worksheet using information from the chart.

If time allows

In small groups, have the students change the number of materials being used to create a new “Cost Analysis Chart”. Then have the groups swap charts and see which groups can complete the new projected costs first.

Evaluation

1. Did the students participate in the introductory discussion?
2. Were students able complete the list of expenses that incurred when rebuilding a house?
3. Were students able to complete the Activity Worksheet with 80% accuracy?

TEKS: Mathematics

Grade 4

- (1) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. (A) (B) (C) (E) (F) (G)
- (2) Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. (D) (E) (F) (G)
- (3) Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. (A) (B) (E) (F) (G)
- (4) Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. (A) (H)

Grade 5

- (1) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: (A) (B) (C) (F) (G)
- (3) Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations to solve problems with efficiency and accuracy. (A) (C) (D) (E) (F) (G) (K) (L)

Grade 6

- (1) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. (A) (B) (C) (E) (F) (G)
- (2) Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. (E)
- (3) Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: (A) (D) (E)

Correlates: Language Arts

Gardner’s Intelligences: Linguistic, Logical-Mathematical

Bloom’s Taxonomy: Understand, Analyze, Evaluate

References:

http://www.andersonfinancialservices.com/~anderson/files/Worksheet%20-%20Charitable%20Item%20Donation%20Guide_1.pdf

<http://operatales.com/bremen-town-musicians.shtml>

The Story of the Opera

Eddie Pensier, a rooster with operatic aspirations, is chased away from his farm for waking the entire barnyard by singing tenor arias (songs). He decides to look for some pirates, who he thinks will be his friends and help him to survive. On the very same day, Barcarolle the dog, and Dorabella the cat, are cast out by their owners for being too old to catch rabbits and mice. As Barcarolle and Dorabella make their way through the woods near the road to Bremen, they meet General Boom, a retired army donkey, who is marching along playing his drum. After hearing the reason they were forced to leave their homes, the general awards medals to them for being nice to rabbits and mice. In further appreciation of their kindness, General Boom also invites them to come to Bremen to play in his new band. Dorabella and Barcarolle are overjoyed at the invitation but must decline because they have promised to open a retirement home for old dogs and cats.

Eddie, who has now joined the Sea-sick Pirates, has been hiding and watching General Boom, Barcarolle, and Dorabella. When Dorabella and Barcarolle leave, Eddie draws his sword and startles the general with a big shout, “Cock-a-doodle-doo! AAAAAAAAAAAAAA!” General Boom, after calming himself, asks Eddie to stop trying to frighten him and invites the singing rooster to Bremen to join his new band. Eddie declines the invitation because he has promised to never think for himself and will only do whatever the pirates command. Therefore, the general bids Eddie farewell but suddenly realizes his drum is missing! Eddie confesses that the pirates commanded him to distract the general so they could steal the drum. General Boom vows to get his drum back and recruits Eddie to help. However, Eddie does not pay attention to where General Boom is marching and heads off in the wrong direction.

Meanwhile, Dorabella and Barcarolle have gotten lost and start to blame each other angrily. They spot Eddie and demand to know who he is. Eddie demands to know who they are, and all three animals begin arguing so loudly that General Boom hears their shouting. He tells them that they should learn to get along and extends another invitation for them to join his band. With the woods surrounding the Bremen Road filled with uncertainty and rumors of pirates all about, they decide that it is best for them all to stick together. Therefore, Dorabella, Barcarolle, and Eddie agree to join the general’s new band and march with him to Bremen. Eddie warns everyone that the house belonging to the Sea-sick Pirates is on the way to Bremen and that General Boom’s drum is probably there. Working together as a team, the four create a plan to scare the pirates away from the house disguising themselves as a big noisy monster! Their plan succeeds and Eddie is able to return the drum to its rightful owner, General Boom. As they make their way to their new home, the newly-formed Bremen Town Musicians celebrate the idea that friendship, cooperation, and respect for others is far better than facing problems alone.

The Characters

Eddie Pensier: (*Tenor*) A singing rooster with artistic aspirations who loves singing opera.

General Boom: (*Bass or Baritone*) A retired Army donkey and percussionist.

Barcarolle: (*Mezzo or Soprano*) An old dog and best friend of Dorabella.

Dorabella: (*Soprano or Mezzo*) An old cat and best friend of Barcarolle.

Name: _____ Date: _____

Instrument Inventory Sheet

Instructions: The Bremen School for the Talented and Gifted received a large donation of instruments for the newly organized band at the school. Mr. Harris wants to know the value of the instruments donated to the school and asked the students to create an inventory sheet to describe the number of instruments donated and their total value. Complete the inventory sheet below and answer the questions that follow.

Musical Instrument	Condition Category	Value	Quantity Per item	Total Donated
<i>Brass Horns</i>	Excellent	\$228.70	2	
	Good	\$56.35		\$225.40
	Fair		3	\$122.25
<i>Beginner Guitar</i>	Excellent		3	\$271.50
	Good	\$65.37	5	
	Fair		7	\$283.43
<i>Small Keyboard</i>	Excellent	\$100.25	7	
	Good	\$78.85	6	
	Fair	\$30.05		\$90.15
<i>Drum Set</i>	Excellent	\$750.22		\$2,250.66
	Good	\$420.35		\$2,522.10
	Fair		4	\$361.08
<i>Upright Piano</i>	Excellent	\$2,200.50		\$4,401.00
	Good	\$1,150.34	5	
	Fair		4	\$400.00
<i>Violin</i>	Excellent		3	\$602.70
	Good	\$150.25		\$901.50
	Fair	\$100.62		\$905.58
<i>Clarinet</i>	Excellent		7	\$2,278.92
	Good	\$188.50	4	
	Fair	\$51.00	2	

Name: _____ Date: _____

Activity Worksheet

1. How much is the total donation for the clarinets? _____
2. What is the total amount donated for the small keyboards?
 - a. Written Form: _____
 - b. Expanded Form: _____
 - c. Picture Form:
3. What is the average donation price for the instruments in the “Excellent” category?

4. What is the difference between the donation price for the drum sets and upright pianos in the “Good” categories?

5. What is the total donation amount for the violin and brass horns?
 - a. Excellent: _____
 - b. Good: _____
 - c. Fair: _____
6. What percent of the beginning guitars is in “Fair” condition? _____
7. What is the total value of donated instruments given to the school? _____
8. If the school donated one instrument in every category to a public school in need, what would be the total value of the donation given? _____
9. What is the fraction of the instruments donated to the other school? _____
10. What is the order of instruments from greatest to least considering the quantity of the instruments given?

ANSWER KEY

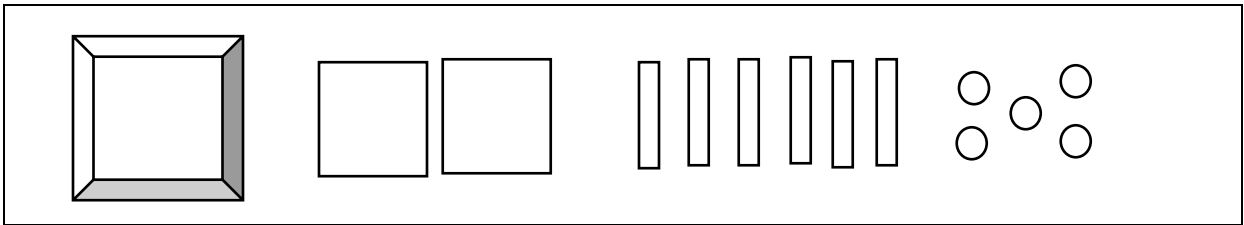
Instrument Inventory Sheet

Musical Instrument	Condition Category	Value	Quantity Per item	Total Donated
<i>Brass Horns</i>	Excellent	\$228.70	2	\$457.40
	Good	\$56.35	4	\$225.40
	Fair	\$40.75	3	\$122.25
<i>Beginner Guitar</i>	Excellent	\$90.50	3	\$271.50
	Good	\$65.37	5	\$326.85
	Fair	\$40.49	7	\$283.43
<i>Small Keyboard</i>	Excellent	\$100.25	7	\$701.75
	Good	\$78.85	6	\$473.10
	Fair	\$30.05	3	\$90.15
<i>Drum Set</i>	Excellent	\$750.22	3	\$2,250.66
	Good	\$420.35	6	\$2,522.10
	Fair	\$90.27	4	\$361.08
<i>Upright Piano</i>	Excellent	\$2,200.50	2	\$4,401.00
	Good	\$1,150.34	5	\$5,751.70
	Fair	\$100.00	4	\$400.00
<i>Violin</i>	Excellent	\$200.90	3	\$602.70
	Good	\$150.25	6	\$901.50
	Fair	\$100.62	9	\$905.58
<i>Clarinet</i>	Excellent	\$325.56	7	\$2,278.92
	Good	\$188.50	4	\$754.00
	Fair	\$51.00	2	\$102.00

ANSWER KEY

Activity Worksheet

1. How much is the total donation for the clarinets? **\$3,134.92**
2. What is the total amount donated for the small keyboards?
 - a. Written Form: **One thousand two hundred sixty-five**
 - b. Expanded Form: **$1000 + 200 + 60 + 5$**
 - c. Picture Form:



3. What is the average donation price for an instrument in the excellent category?
 $\$10,963.93 / 27 = \406.07
4. What is the difference between the donation price for the drum sets and upright pianos in the “Good” categories? **$\$5,751.70 - \$2,522.10 = \$3,229.60$**
5. What is the total donation amount for the violin and brass horns?
 - a. Excellent: **\$1,060.1**
 - b. Good: **\$1,126.90**
 - c. Fair: **\$1,027.83**
6. What percent of the beginning guitars is in “Fair” condition? **$7/15 = .466 = 47\%$**
7. What is the total amount of donated instruments given to the school? **95**
8. If the school donated one instrument in every category to a public school in need, what would the total value of the donation given? **\$6,459.82**
9. What is the fraction of the instruments donated to the other school? **21/95**
10. What is the order of instruments from greatest to least, considering the quantity of the instruments given?
Violin, Keyboards, Guitars, Drum, Clarinet, Piano, Brass Horns