

THE BILLY GOATS GRUFF

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Mathematics: Billy Goat Worksheets – Second Grade

Students will:

- Recall basic facts to add and subtract, and simple division.
- Solve one-step and multi-step word problems.
- Generate and solve problem situations for a given mathematical number sentence involving addition, subtraction, and simple division.
- Determine the value of a collection of coins up to one dollar.

Copies for Each Student: The Story of the Opera, The Characters, Worksheet 1, Worksheet 2

Copies for the Teacher: The Story of the Opera, The Characters, Worksheet 1, Worksheet 2, Answer Sheets

Instructional Time: One 45-minute class period

Getting Ready

Read the “Story of the Opera” and “The Characters” as a class. Discuss and familiarize the students with the story and themes. Explain that the Goats from the story will be involved in completing math equations. At that time, review basic math operations you will be using in this lesson.

Guided Practice

Give each student a copy of the guided practice worksheet. Read the instructions on the guided practice. Have the students calculate the answers on Worksheet 1. Assist the students with completing the problems as needed.

Independent Practice

Give each student a copy of the independent practice worksheet. Depending on the class size, you may choose to have students work as a whole class, in small groups, or individually. Have the students complete Worksheet 2. Allow for time to check answers in class.

Evaluation

1. Did the students complete and comprehend Worksheet 1 and Worksheet 2?

If time allows

Have the student create their own solo or multi word problems and past them around to see if their peers are able to solve the problems.

TEKS

Mathematics

2nd Grade

(4) Number and operations.

The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve addition and subtraction problems with efficiency and accuracy. (A. C. D.)

(5) Number and operations.

The student applies mathematical process standards to determine the value of coins in order to solve monetary transactions. (A)

(6) Number and operations.

The student applies mathematical process standards to connect repeated addition and subtraction to multiplication and division situations that involve equal groupings and shares. (B)

Correlates: Language Arts, Drama

Gardner's Intelligences: Linguistic, Logical -Mathematical

Bloom's Taxonomy: Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation

Sources:

The Billy Goats Gruff Libretto

Warrack, John and West, Ewan, The Oxford Dictionary of Opera, Oxford University Press, 1992.

The Story of the Opera

The Billy Goats Gruff is a one-act opera adapted from a traditional fairy tale, and features music by Mozart, Donizetti, and Rossini.

The story takes place in a forest clearing, along the road between the Billy Goats' home and school. The road crosses a bridge over a stream, and this bridge is the central focus of all the action.

The story begins as three billy goats named Lucy, Ernesto, and Dandini celebrate on their way home from school. From the other side of the bridge, another billy goat named Osmin watches them sing and play. When they begin a game of hide-and-seek, he declares that he will spoil their game. Hearing his voice, the three billy goats begin to feel afraid, but reassure each other and begin their game. Dandini is the first to count, and Lucy and Ernesto run off to hide.

Meanwhile, Osmin brags about being a bully. When the three friends return, he hides behind a tree. Then they hear Osmin's voice, asking sarcastically if he can join their game. The three billy goats are afraid, and decide to go home, but Osmin declares that he will not allow them to cross the bridge without a fight. He begins calling them names, steals Lucy's doll, and chases them all away. Then he puts up a sign next to the bridge reading "KLOSED," and leaves.

The three friends return, and Ernesto tells Lucy and Dandini that he recognizes Osmin, warning them about all the mean things a bully might do. They decide to avoid the bridge, taking the long way home, but Lucy refuses to leave her doll, which is still "hiding" in the tree on the other side of the bridge. The three billy goats muster up their courage to cross the bridge and get the doll, and declare that they will teach the bully a lesson. Osmin overhears them and steps onto the bridge, scaring the three friends away.

The three billy goats return again, whispering a plan to tiptoe across the bridge. Meanwhile, Osmin listens from a distance. Ernesto manages to sneak over the bridge to retrieve Lucy's doll. Osmin pops up to scare him and Ernesto is so startled that he throws the doll up in the air.

Osmin catches the doll, plays with it in a mocking way, and declares that he will keep it. He puts the doll in the tree and hides again.

From his hiding place, Osmin warns the three billy goats to go away, threatening the doll. Ernesto and Dandini leave to tell an adult about trouble they have been having with the bully, but Lucy still refuses to go anywhere without her doll. She confronts Osmin, asking him to give her doll back. She steps onto the bridge and approaches Osmin to take back the doll. Osmin threatens her and says she's "just a girl," but she does not listen. When Osmin grabs Lucy's arm, she hits him in self-defense, causing him to fall off the bridge. He comes out of the water on the verge of tears, and Lucy reproaches him, telling him never to mess with a mother. Then she asks Osmin if he is all right. He says he is, and then asks Lucy if she is all right. She says she is all right, but that her doll doesn't like to be thrown.

When Ernesto and Dandini return, they are surprised to see that Lucy has her doll back. When they ask how she did it, Lucy says that Osmin was nice enough to give it back. She even claims that Osmin has promised to play nicely and consider others' feelings in the future. When Osmin looks surprised, she whispers to him, asking if he would like her to tell them that a *girl* pushed him into the swamp. He agrees to this understanding, and all four billy goats become friends, joining in a game of hide-and-seek.

The Characters

Osmin: (baritone) A big boy billy goat who has no friends. Osmin is a bully. He is mean and gets enjoyment from making other people feel bad. At the end, he explains that he has been very lonely and really does want to play with the other billy goats. It takes getting knocked off the bridge by little Lucy to get his attention and make him behave.

Lucy: (soprano) A young girl billy goat who loves to play with her doll, Lucy D. Lammermoor, and her best friends Ernesto and Dandini. Lucy is small and not very strong, but she is very brave and not afraid to do the right thing. She is also smart, and is the reason everyone becomes friends in the end.

Ernesto: (mezzo soprano) A young boy billy goat who loves his friends. Ernesto is brave when he tries to get Lucy's doll back, but is also not afraid to ask for help when he needs it.

Dandini: (tenor) A young boy billy goat who also loves his friends, Lucy and Ernesto. Dandini goes with the flow and chooses to accompany Ernesto to ask a grownup for help with the bully.

Link to Musical Excerpts:

<http://www.operatales.com/billy-goat.shtml>

Name: _____

Date: _____

The Billy Goats Gruff
Worksheet 1 – Guided Practice

Show your work

1. The smallest billy goat, Lucy, eats one pound of grass for breakfast, two pounds of grass for lunch, and three pounds of grass for supper. How many pounds does Lucy eat in one day?

2. The Lucy, Dandini, and Ernesto go to school at 9:00 a.m. They come back from school six hours later. What time do they come home?

3. Apples are a real treat for the billy goats. Apples cost \$0.16 each. Lucy has one dime, four nickels, and two pennies. How many apples can Lucy buy?

Name: _____

Date: _____

The Billy Goats Gruff Worksheet 2 – Independent Practice

Show your work

1. Let's say Osmin, the big bully billy goat, and his 2 brothers live under the bridge. Although real billy goats do not have toes, let's pretend that they do. If they have 14 toenails on one foot and the same number on the other foot. How many toenails do Osmin and his brothers have all together?

2. Lucy eats two pounds of grass for breakfast, four pounds of grass for lunch, and five pounds of grass for supper. How many pounds does she eat in 4 days?

3. During the winter, Lucy, Dandini, and Ernesto stay in the barn and eat hay. Hay costs \$0.50 for each bale. They all share two bales each day. How much does it cost each week for hay?

4. Apples are a real treat for the billy goats. Apples cost \$0.16 each. Dandini has one quarter, one dime, three nickels, and ten pennies. How many apples can Dandini buy?

5. When he is not eating the sweet green grass, Ernesto likes to count clover leaves. Help him finish counting:
36, 39, _____, 45, _____, 51, 54, _____, _____

6. Osmin went to visit his mother in Texas. There are seven big bully goats children in his family. He is the second child. How many siblings are older than him? _____
How many siblings are younger than him? _____

The Billy Goats Gruff
Worksheet 1 – Guided Practice

Show your work.

1. The smallest billy goat, Lucy, eats one pound of grass for breakfast, two pounds of grass for lunch, and three pounds of grass for supper. How many pounds does Lucy eat in one day?

$$1 + 2 + 3 = 6 \text{ pounds}$$

2. The Lucy, Dandini, and Ernesto go to school at 9:00 a.m. They come back from school six hours later. What time do they come home?

$$9:00\text{am} + 6 \text{ hours} = 3:00\text{pm}$$

3. Apples are a real treat for the billy goats. Apples cost \$0.16 each. Lucy has one dime, four nickels, and two pennies. How many apples can Lucy buy?

$$\$0.10 + .20 + .02 = \$0.32$$

$$\$0.32 \div 0.16 = 2$$

Lucy can buy two apples.

ANSWER KEY

The Billy Goats Gruff
Worksheet 2 – Independent Practice

Show your work

1. Let's say Osmin, the big bully billy goat, and his 2 brothers live under the bridge. Although real billy goats do not have toes, let's pretend that they do. If they have 14 toenails on one foot and the same number on the other foot. How many toenails do Osmin and his brothers have all together?

$$14+14=28, 28+28+28=84$$

2. Lucy eats two pounds of grass for breakfast, four pounds of grass for lunch, and five pounds of grass for supper. How many pounds does she eat in 4 days?

$$2+4+5=11, 11+11+11+11=44$$

3. During the winter, Lucy, Dandini, and Ernesto stay in the barn and eat hay. Hay costs \$0.50 for each bale. They all share two bales each day. How much does it cost each week for hay?

$$.50+.50=1.00(\text{per day}), 1.00+1.00+1.00+1.00+1.00+1.00+1.00= \$7.00 \text{ per week.}$$

4. Apples are a real treat for the billy goats. Apples cost \$0.16 each. Dandini has one quarter, one dime, three nickels, and ten pennies. How many apples can Dandini buy?

$$\$0.25+.10+.15+.10= .60, .60-.16=.44, .44-.16=.28, .28-.16=.12$$

OR:

$$\$0.25+.10+.15+.10= .60; \$0.60 \div .16 = 3 \text{ apples and a remainder of } \$0.12$$

Dandini can buy 3 apples and have \$0.12 change left.

5. When he is not eating the sweet green grass, Ernesto likes to count clover leaves. Help him finish counting:

$$36, 39, \underline{42}, 45, \underline{48}, 51, 54, \underline{57}, \underline{60}$$

6. Osmin went to visit his mother in Texas. There are seven big bully goats children in his family. He is the second child. How many siblings are older than him? 1
How many siblings are younger than him? 5