Mathematics: Skip-Counting by 2's, 3's, 4's

Students will:

- Communicate mathematical ideas using symbols
- Analyze mathematical relationships to connect and communicate mathematical ideas
- Display mathematical language in written or oral communication

Copies for Each Student: The Story of The Opera, The Characters, Worksheets 1&2

Copies for the Teacher: The Story of The Opera, The Characters, Worksheets 1&2, Answer Sheet

Instructional Time: One 45-minute class period

Introduction

When playing games it is important to know how many friends are involved. This lesson helps determine at a glance how many friends are playing. Have the students review the major events in the opera by reading "The Story of the Opera." Direct the students to discuss the major events, the different characters, and their attributes. Correlate numeric expressions by relating them to the characters. Ask the students to think about characters and corresponding numeric expressions of the big bully goats and goats in the opera. Review skip-counting by 2's, 3's, and 4's.

Guided Practice

Give each student a copy of Worksheet 1. Read the instructions and assist the students in calculating the answers for questions #1 and #2.

Independent Practice

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

Evaluation

1. Did the students use one-to-one number correspondence for the character in the opera?
2. Did the students complete and comprehend Worksheet 1 and Worksheet 2?

If time allows

Have the student create their own mathematical equation with picture correspondence.

TEKS

Mathematics

1st Grade
(1) Mathematical process standards.
The student uses mathematical processes to acquire and demonstrate mathematical understanding. (D. E. F. G.)

Gardner's Intelligences: Logical/Mathematical

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

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

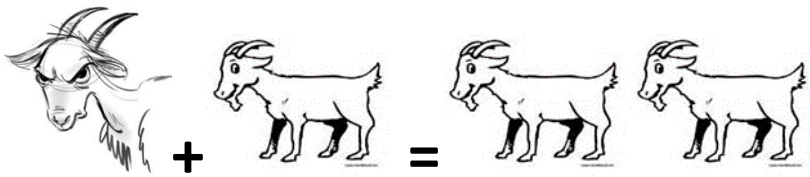
Worksheet #1 – Guided Practice

#1

Instructions:
There are many goats and big bully goats on the bridge. If each **small** goat represents **2 goats** and each **big** bully goat represents **4 big bully goats**, how many are represented? Count the number of **big** bully goats and **small** goats and create a mathematical sentence by completing the equation.

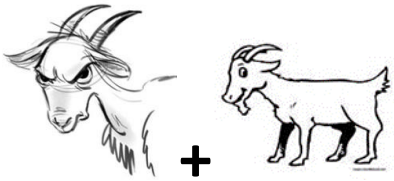
#2

Instructions:
If each goat represents **2 goats** each, how many goats do you see? Write the number in the box.



+ **=**

_____+_____=_____



+ **=**

_____+_____=_____

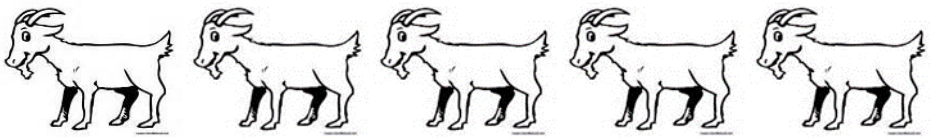
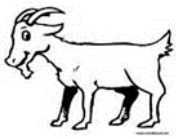
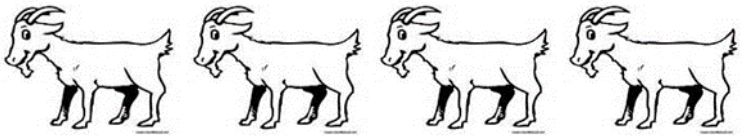
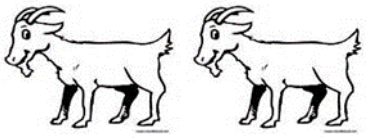
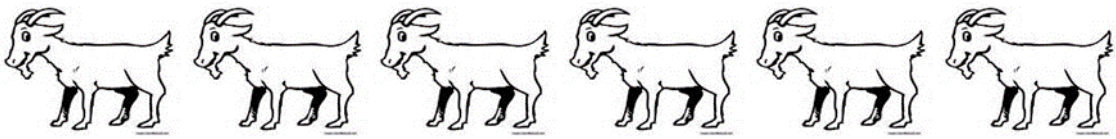
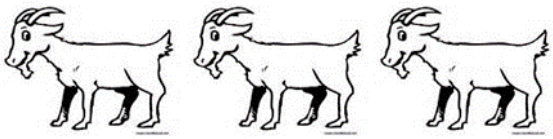
Name: _____ Date: _____

The Billy Goats Gruff

Worksheet #2 – Independent Practice

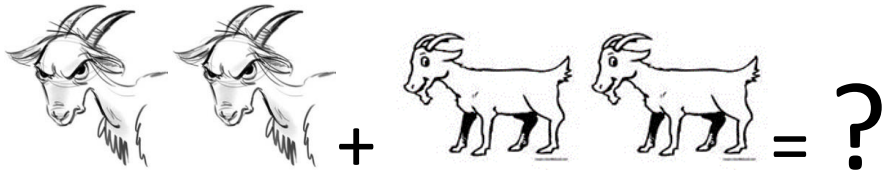
#1

Instructions: If each goat represents **3 goats** each, how many goats do you see? Write the number in the box.

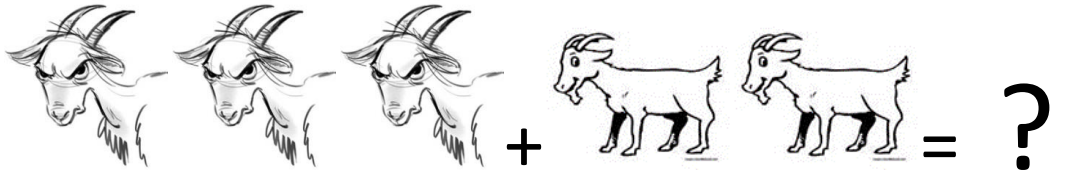
	
	
	
	
	
	

#2

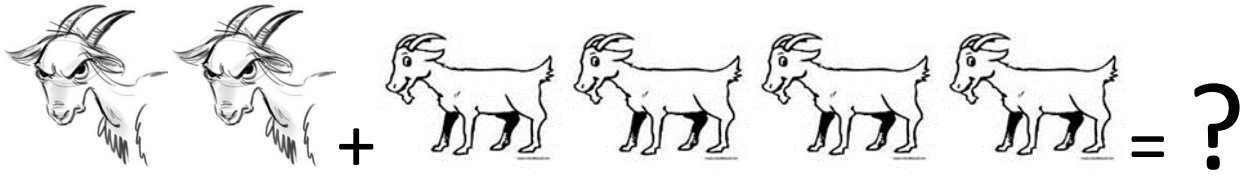
Instructions: There are many goats and big bully goats on the bridge. If each goat represents **4 goats** each and each big bully goat represents **3 big bully goats**, how many are represented? Count the number of big bully goats and goats and create a mathematical sentence by completing the equation below.



_____+_____=_____



_____+_____=_____



_____+_____=_____

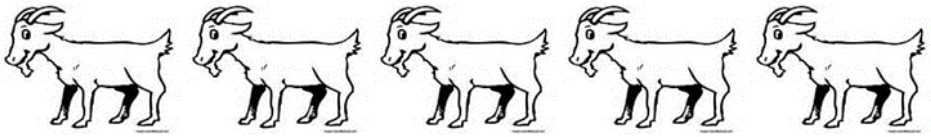
_____+_____=_____

ANSWER SHEET

The Billy Goats Gruff
Worksheet #1 – Guided Practice

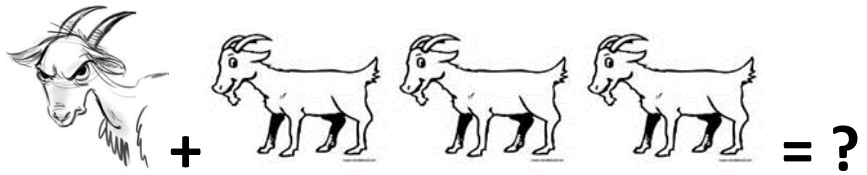
#1

Instructions:
If each goat represents **2 goats** each, how many goats do you see? Write the number in the box.

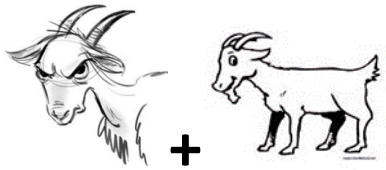
	6
	**10**

#2

Instructions:
There are many goats and big bully goats on the bridge. If each **small** goat represents **2 goats** and each **big** bully goat represents **4 big bully goats**, how many are represented? Count the number of **big** bully goats and **small** goats and create a mathematical sentence by completing the equation.



__4__ + __6__ = __10__



__4__ + __2__ = __6__

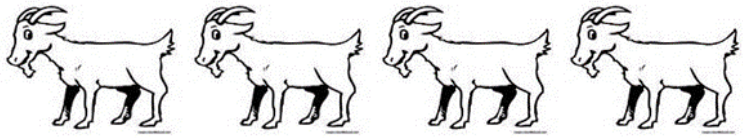
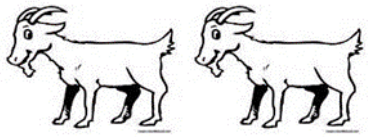
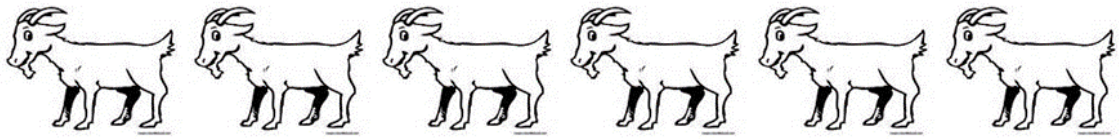
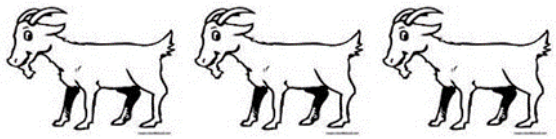
ANSWER SHEET

The Billy Goats Gruff

Worksheet #2 – Independent Practice

#1

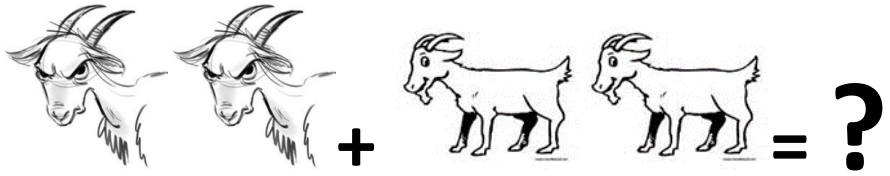
Instructions: If each goat represents **3 goats** each, how many goats do you see? Write the number in the box.

	15
	3
	**12**
	**6**
	**18**
	**9**

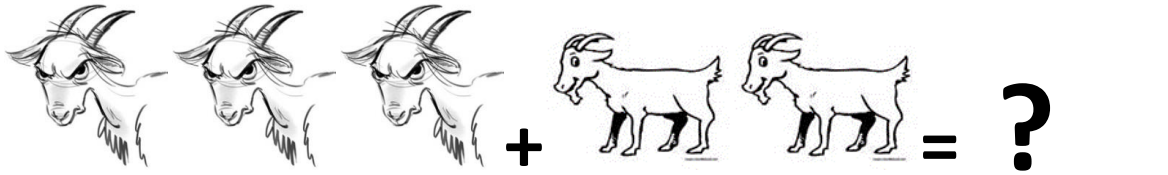
ANSWER SHEET

#2

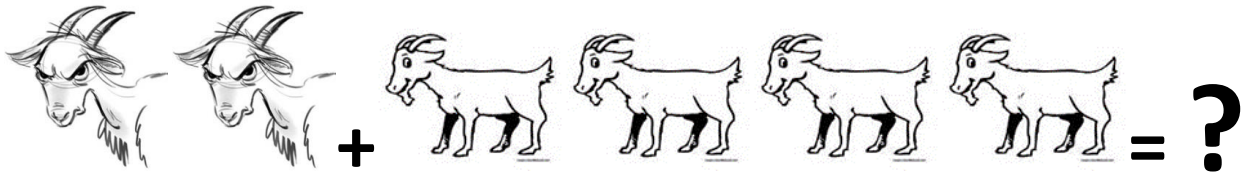
Instructions: There are many goats and big bully goats on the bridge. If each goat represents **4 goats** each and each big bully goat represents **3 big bully goats**, how many are represented? Count the number of big bully goats and goats and create a mathematical sentence by completing the equation below.



6 + 8 = 14



9 + 8 = 17



6 + 16 = 22

12 + 4 = 16