



# ARTS + ACADEMIC EXTENSIONS

**GRADES 1-2: MATH/MUSIC**

## Singing Solutions: Music and Word Problems

In this lesson, students will learn the terms piano (soft) and forte (loud). They will use this knowledge of music dynamics to identify the key words and phrases in word problems that indicate whether you are working with addition or subtraction. When a word in a word problem indicates adding, the cast of the episode says or sings it forte since that ADDS volume. When the key word in a word problem indicates subtraction, the cast sings and says it piano, since volume is taken away.

**CONNECTED OBJECTIVE:** Students will use music dynamics to help identify key words in math problems.

**MATERIALS NEEDED DURING EPISODE:** none





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## Standards:

CCSS.MATH.CONTENT.1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

MU:Cr2.1.1b. With limited guidance, use iconic or standard notation and/or recording technology to document and organize personal musical ideas.

## ARTS EXTENSIONS:

**Storyboard a word problem:** Show students how to break a math word problem down into scenes: beginning, middle and end. Lead them through storyboarding or drawing a comic that illustrates the problem. Have students think up their own problem and storyboard it. Ask them to hold up their work and share

**Illustrated Words:** Think about the words piano and forte. Talk about their meanings and the fact that they come from Italian and do not have the same meaning as they do in English. How could you write the words and illustrate so they look like what they mean? What lines, colors, patterns could you use with the word forte to make it look loud? Challenge: Introduce the full dynamics chart (below) How could you choose one of the other words and illustrate it to look like what it means. Have students share their choices.

**Draw to music:** Talk about abstract expressionism and how lines and color and shape can communicate a feeling. Introduce the art of Wassily Kandinsky. Play samples of music that have forte parts and piano parts (classical is good for this. You could use the music track that accompanies the Wassily Kandinsky video below) And ask students to draw how the music makes them feel. Have students hold up their drawings to share.

Link to The Noisy Paint Box about Wassily Kandinsky: [https://www.youtube.com/watch?v=\\_E0AxcBeK3k](https://www.youtube.com/watch?v=_E0AxcBeK3k)

Here is a video with the illustrator of the Noisy Paint Box: <https://www.youtube.com/watch?v=qg-C8ubmS8I>



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## ACADEMIC EXTENSIONS:

### Word Problems:

- Matt went to the store and bought 5 lollipops. He went back the next day and bought 6 more lollipops. How many lollipops does he have altogether?
- Ms. Thomas bought 10 boxes of pencils. She gave her students 7 boxes of pencils. How many boxes does she have left over?
- There are 5 yellow flags and 9 purple flags. How many flags are there in all?
- Dylan had 9 blocks. He gave Sasha 4 blocks. How many blocks does he have left?

Teachers can make a chart to review the key words from the video.

Addition (+)	Subtraction (-)
and	take away
altogether	remaining
in all	left over
in total	how many left
more	
how many	

### Reflection questions:

- What are some takeaways from the video?
- What were some key words for subtraction math stories?
- What were some key words for addition math stories?
- Why do you think it's important to know the difference between the key words for addition and subtraction? Why would this be something important in our lives?