Understanding Fractions
Video Script

Scene		Full Transcript
1	**Allie:**	What's up? It's Allie. You're never going to believe where I am. I am at Galleria De Paco.
2	**Voice-Over Allie:**	Paco is famous for spray-painting the ceiling of this restaurant like the Sistine Chapel.
3	**Allie:**	I'm actually speechless, which doesn't happen very often. While his work is impressive by artistic standards, it's also a perfect model for discussing the concept of fractions. So, let's get another *Problem Solved*.
4	**Voice-Over Allie:**	It took Paco 4 months and over 5000 cans of spray paint to recreate Michelangelo's Sistine Chapel, and he has spent over 2 months painting these walls. He is a fast painter, but there is a lot of behind the scenes prep work that has to be done before the bare walls become art.
5	**Allie:**	Fractions are like that, too. Working with them makes sense if you understand the key points.
6	**Voice-Over Allie:**	Key point one: Paco begins a painting by examining the size of the canvas, ceiling, or wall. When working with fractions, you must first know the size of the unit or the size of the whole.
7	**Voice-Over Allie:**	Here is an example. Two of Paco's friends, Ed and Michele, offered to help him by painting a base coat on two walls. One wall is small and the other is pretty large. If Ed paints half of the small wall and Michelle paints half of the large wall, have they painted the same amount? Not if the walls are different sizes. One key point to working with fractions is knowing the size of the unit – in this case, the size of the wall. One half of this wall does not equal $\frac{1}{2}$ of this wall, because the units are different sizes. Here are two cans of spray paint that Paco used this morning, red and blue. If he used $\frac{1}{2}$ can of the red paint and $\frac{1}{2}$ can of the blue paint, does it mean he used the same amount of each color? All you have to do is compare the size of the cans; they're different. And, as with the walls, $\frac{1}{2}$ of this can does not equal $\frac{1}{2}$ of this can, because the units

		are different sizes.
8	**Voice-Over Allie:**	Key point two: When working with fractions, you must have equal-sized parts. When you are looking at $\frac{1}{2}$ of something, the whole is made up of two equal-sized parts. You can't have one part this big and the other part this big; they need to be equal. Here is a question for you: If Paco emptied one large can of green paint and then emptied two small cans of purple paint, is $\frac{2}{3}$ of the paint he used purple? Be careful. Look, the cans are not the same size. Remember, fractions are made up of equal-sized parts.
9	**Voice-Over Allie:**	Key point three: You must know the number of equal-sized parts in the unit, which is the denominator.
10	**Voice-Over Allie:**	For example, if we divide the wall into two equal parts, the denominator would be 2. We could divide the same wall into five equal parts, or fifths, or even 20 equal parts, or twentieths. The denominators are different, and you probably noticed that the more equal-sized parts in the unit, the smaller each part, and the larger the denominator. Here is a case of spray paint containing 12 cans. Since there are 12 cans in a case, each can represents $\frac{1}{12}$ of the case. But, you can also see that there are rows of yellow, white, black, and brown paint, with three cans in each of the four rows. Each row represents one of four or $\frac{1}{4}$ of the case. We could also divide the case into thirds (*pause*) or sixths. The denominator always tells the number of equal-sized parts.
11	**Voice-Over Allie:**	And, last but not least, key point four: When you are working with fractions, you must know the number of equal-sized parts being considered, which is the numerator.

12	**Voice-Over Allie:**	Back to our case of paint… Now, we can see that 3 of the 12 cans of paint are yellow. The numerator is 3 because it tells us how many of the 12 cans are yellow. The fraction is $\frac{3}{12}$ of the case. Try this. If we divided a wall into six equal sections and then painted four of the six sections, what fraction represents how much we painted? Four sixths; very good. Four is the numerator and 6 is the denominator. Fractions are a work of art! Today we have discussed the key points behind the concept of fractions.
13	**Voice-Over Allie:**	We have used walls as an area model and cans of paint as a set model. We could also use rulers to show a linear model and measuring cups to show a volume model.
14	**Allie:**	If you keep these key points in mind, you will never paint yourself into a corner. *Problem Solved*.