Subtraction Procedure
Video Script

Scene		Full Transcript
1	**KT:**	Hi everybody! Zander and I are volunteering today at the community greenhouse. They grow flowers and vegetables that are used in public gardens throughout the area. I love diggin' in the dirt, but I'm a little worried about Zander. He keeps thinking there are bees in here. While looking at the delivery log, I realized that we have a growing problem. Someone needs a review in subtracting big numbers. Let's go save Zander and get another *Problem Solved*.
2	**KT:**	Hey, look at this. The logbook says that yesterday they started with 523 plants and sent out 189.
	Zander:	Wow, 189, they were pretty busy.
	KT:	Yeah, but look at this. The logbook says that 523 minus 189 equals 466…that doesn't make sense. If we only subtract 100, we get less than that.
	Zander:	Yeah, I see what's going on here. Unfortunately, this kind of thing happens all the time. They make the mistake of doing the problem symbolically, which means that they take the smaller number away from the larger number without considering order. So you have 9 minus 3 is 6, 8 minus 2 is 6, and 5 minus 1 is 4. Let's check that answer using a model.
3	**Voice-Over Zander:**	Each table can hold 100 plants: 10 rows of 10 pots. To show 523, we have five tables, two rows of 10 plants, and three individual plants to start the day. We need to take away 189 plants. We start with the ones. We have 3, but we need to subtract 9. Obviously, we cannot take away 9 from 3, so we need to trade one row for 10 individual plants. Now we have 13 individual plants. Now, subtract 9 from 13 and get 4. Then, we need to look at our tens. Since we have to subtract 8 tens but we only have 1 ten, we need to trade one of the tables. When we trade in one table of 100 for 10 tens, we have 11 tens. Eleven tens minus 8 tens is 3 tens. Finally, we reach the hundreds. We subtract one table of 100 from our four tables and find that we have three full tables of 100. So, we have three full tables or 300, three rows or 30 plants, and four individual plants. 523 minus 189 is 334. We better change *that* in the log. But before we do, KT, why don't you go back and do the same problem? But this time, record the trading and subtracting that we did with the plants.
4	**Voice-Over**	You bet! We start with 523 plants. We need to subtract 189 plants. There are only 3 ones, so we cannot take away 9. Instead, we have to trade one of our tens for 10 ones. So, 1 ten is combined with the 3 ones, giving us

	KT:	13 ones. We record that by changing 2 tens to 1 ten and 3 ones to 13. Then, we subtract 9 ones from 13 ones, leaving us with 4 ones. The 4 that are left can be written in the answer. Next, we need to subtract 8 tens. There is only 1 ten, so we cannot take away 8. We must trade a hundred for 10 tens. We combine the 10 tens with our remaining 1 ten to give us 11 tens. We record that by changing 5 hundreds to 4 hundreds and 1 ten to 11 tens. Eleven tens minus 8 tens equals 3 tens. The 3 that are left are written in the answer. In our final step, we subtract 100 from our remaining 4 hundreds, leaving us with 3 hundreds. So we can write the 3 hundreds in the answer. Our answer is 334. Subtraction just involves trading and taking away. Each action gets recorded in the problem.
5	**KT:**	When subtracting big numbers, you need to remember to work through the problem step-by-step. We both recommend spending time with models so that you can visualize what's taking place within the problem. We're using plants, but you could also use money, drawings, or blocks like these that I keep in my bag for just this kind of emergency. Zander, I told you there aren't any bees in here. I think it's time to get back to work.
6	**Zander:**	We just need to remember that no matter how large the numbers grow, we need to work through it, step-by-step, in order to get the *Problem Solved*. *(KT makes buzzing sounds.)* Stop it!