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| <b>Description: Clip 3 of 8: Candy hearts interview with Stephanie</b><br><b>Content: Harding Elementary School</b><br><b>Research: Amy Martino</b><br><b>Tape: Non-routine counting problems</b><br><b>Date: 1990-02-26</b> | <b>Authors: Madeline Yedman</b><br><b>Verified: Dasom Lee</b><br><b>Date: 2013-11-25</b><br><b>Page: 1 of 5</b> |
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| Line     | Time | Speaker            | Transcript  |
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| <b>1</b> |      | <b>Interviewer</b> | The first problem that the children worked on was called the candy hearts problem. This is a problem about a jar of candy hearts. Each layer of candy in the jar has the same number of pieces. Can you figure out how many candy hearts are in the jar without opening it? First discuss this problem with the people in your group. Next, explain how you solved the problem on this page. You may draw pictures to help you explain your answer. This is what the candy jar looked like to the youngsters. You will note that there are five layers of candy and each layer has twelve pieces of candy. Once the children had achieved a solution to the problem on the yellow sheet, they were given a challenge problem on the pink sheet of paper. And the problem says, Our jar has blank pieces of candy. All the jars have the same number of candy hearts. Imagine that we collect all the jars of candy and decide to share all the candy hearts. Each person in the room has to get the same number of candy hearts. Figure out how many candy hearts each person would get without opening the jars. Explain how you solved the problem on this page. You may draw pictures to help explain your answer. |
| <b>2</b> |      | <b>Interviewer</b> | How you doing today?  |
| <b>3</b> |      | <b>Stephanie</b>   | Good  |
| <b>4</b> |      | <b>Interviewer</b> | Okay, alright a little closer here. I just want to ask you a couple of questions about the problem we did the other day. Okay? Because I'm so interested you all did it differently and I wasn't there for the whole time with your group so I'm not quite sure how you all did it. Okay first of all remember both problems?   |

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| 5  |      | <b>Stephanie</b>   | Uh huh  |
| 6  |      | <b>Interviewer</b> | The yellow and the pink. Okay now can you tell me how you solved the yellow page problem.   |
| 7  |      | <b>Stephanie</b>   | Well, Jeff and all of us are trying it and we did twelve times four and we all got forty-eight. So then after that what we did, well what I did was I took the tens place from the twelve and I got fifty eight but then I added the two from the ones place and it added up to be uhh it added up to be eight and the zero one so you put the ten and you traded the ten in, well you traded the one to the four in the ten and then you've got sixty. |
| 8  |      | <b>Interviewer</b> | ohh   |
| 9  |      | <b>Stephanie</b>   | And that's how I got my answer.   |
| 10 | 2:45 | <b>Interviewer</b> | Oh boy, that's pretty neat! Okay, did Jeff and Brian do it the same way?  |
| 11 |      | <b>Stephanie</b>   | Um I don't know what they were doing (inaudible)  |
| 12 |      | <b>Interviewer</b> | You don't know, yeah. I was just asking them that too. Okay, well that's a very nice way that you did it. Did you like working with Jeff and Brian?   |
| 13 |      | <b>Stephanie</b>   | Yeah, it was fun.   |
| 14 |      | <b>Interviewer</b> | You liked working with them, okay. I'm going to ask you another question now. Can you explain this pink problem, which was a lot harder, I think.   |
| 15 |      | <b>Stephanie</b>   | Yeah  |
| 16 |      | <b>Interviewer</b> | To do. Can you explain what you did on it?  |
| 17 | 3:17 | <b>Stephanie</b>   | Jeff did something with it I think and got twenty. Then he said there's twenty left over. So I said, first I got lets split and everybody gets one extra. So then we each got twenty-   |

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|    |      |                    | one but there would still be a ten left over. So then I said everybody gets another one and then everybody gets twenty-two and then there's nothing left over.  |
| 18 |      | <b>Interviewer</b> | Oh! Do you have any idea how Jeff got the answer of twenty for each person and twenty left over?  |
| 19 | 3:50 | <b>Stephanie</b>   | Well, sixty minus, six minus two is four but six minus forty is two. So then you've got twenty left I guess that's how we figured it out.   |
| 20 |      | <b>Interviewer</b> | Oh okay, I think I can see that. Yeah yeah. I think that makes sense. So you figured that there would be twenty two for each person then. Okay, and lets see um well let me ask you another question. Say I took the same jar okay that you guys had and I added another layer of candy to it. Okay, it had the same number of pieces all the other ones did. How many candies would be in the jar now? |
| 21 |      | <b>Stephanie</b>   | Seventy...seventy four?   |
| 22 |      | <b>Interviewer</b> | Seventy four, why seventy four?   |
| 23 |      | <b>Stephanie</b>   | Well you're adding another layer on and each layer has twelve so there would be five layers here and if there were sixty you add another ten onto that layer and then you've got seventy. Wait let me think about this. That would be ten so it would be eighty I guess,  |
| 24 |      | <b>Interviewer</b> | Eighty..  |
| 25 |      | <b>Stephanie</b>   | Eighty..  |
| 26 |      | <b>Interviewer</b> | Can you talk that through for me again because I lost track.  |
| 27 |      | <b>Stephanie</b>   | Okay, um well you're adding another layer on and if each one has twelve. So that would equal seventy if you take all the tens away from the twelve because if you have sixty and then you add one more layer on and you take the ten from   |

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|    |  |                    | the twelve and it would equal seventy. But then you add all the two from the twelves together and you get eighty. Because all the two's from the twelves, it add up to eighty.  |
| 28 |  | <b>Interviewer</b> | They do? Okay, alrighty. I think I can see that. Alright one other question, say I give you a totally new jar okay with candy in it. And I want you to try to visualize this. I want to give you a jar with lets see, how about four candies, no sorry, four layers. Okay, picture four layers but this time there's six pieces of candy in each layer, not twelve. Four layers with six pieces of candy how much would that be all together? |
| 29 |  | <b>Stephanie</b>   | Twenty four.  |
| 30 |  | <b>Interviewer</b> | Twenty four, how'd you get twenty four?   |
| 31 |  | <b>Stephanie</b>   | Well, I should have started a little easier. But what I did was umm..if there were four layers and six candies on each layer, six and six is twelve. So then with another layer and then then twelve and six is in eighteen and then eighteen and six is twenty four.   |
| 32 |  | <b>Interviewer</b> | Twenty four.  |
| 33 |  | <b>Stephanie</b>   | There's an easier way   |
| 34 |  | <b>Interviewer</b> | What's an easier way to do it?  |
| 35 |  | <b>Stephanie</b>   | Well six and six is twelve already and then you know the other six and six is twelve and twelve and twelve is twenty four.  |
| 36 |  | <b>Interviewer</b> | That's pretty neat. Okay, you've been so helpful now I understand a lot better what you, Brian and Jeff were doing. And I really appreciate you're talking to me for a couple of minutes  |

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| 37 |  | <b>Interviewer</b> This is a written description of Stephanie's solution to the first problem. It states, we had twelve hearts then we times-ed twelve and four and got forty-eight then I took the ten from the twelve and put it in the ten's place and I took the two from the ones' place and added the numbers together and I got sixty. |
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