

SARAH & SARAH SOLVE A PROBLEM

Facilitating
constructivist
problem-
solving

THE PROBLEM

- Sarah J. found a small black, volcanic-looking rock on the playground that was very interesting. She loves science and loves to collect interesting natural things and she thought it was exceptionally ‘cool.’
- She showed it to her good friend Sarah S., who also liked it a lot, so she (impulsively) gave it to her.
- But then Sarah J. had second thoughts....
- When she asked for it back however, Sarah S. said “No,” she wanted to keep it.

The Infamous Rock



THE PROBLEM (PART 2)

- Patrick (the TA) intervened and after the girls described the problem, he initially posed a potential solution: find another rock together and we would keep searching until we found one that Sarah S liked. Sarah did not like that idea.
- Then he asked the girls to think of problem-solving ideas and 3 more ideas were floated:
 - Find a new rock, but neither of them wanted to give up the original rock;
 - Split the rock in half, but (Patrick) said that it may be too difficult to cut such a rock in equal portions;
 - Keep the rock in the classroom for everyone to share, but once again, neither of them wanted to give up ownership.

REACHING AN IMPASS

- The girls argued back and forth and realized they would not be able to come to an agreement about what to do. (The closest they came was to take turns taking the rock home at night)
- Tears were flowing!!!
- They talked with Miss Jane, and decided to come to see Dr. J. to talk about it.
- Sarah S. said when you give something away, it wasn't fair to ask for it back.
- Sarah J. said they had discussed several alternate solutions but none were acceptable to both of them and she thought that wasn't fair either.
- Miss Jane said that a 'satisfying' solution did not mean that everyone had to be 100% happy.
- Dr. J. suggested some problems need more time to solve and that this might be a good problem to 'sleep on.'

WE HAVE STOPPED CRYING BUT ARE STILL NOT HAPPY AND THE PROBLEM REMAINS TO BE SOLVED



The girls decided on a secure spot in Dr. J's office to keep the rock till the next day. They agreed they would think hard overnight on a solution to the problem.

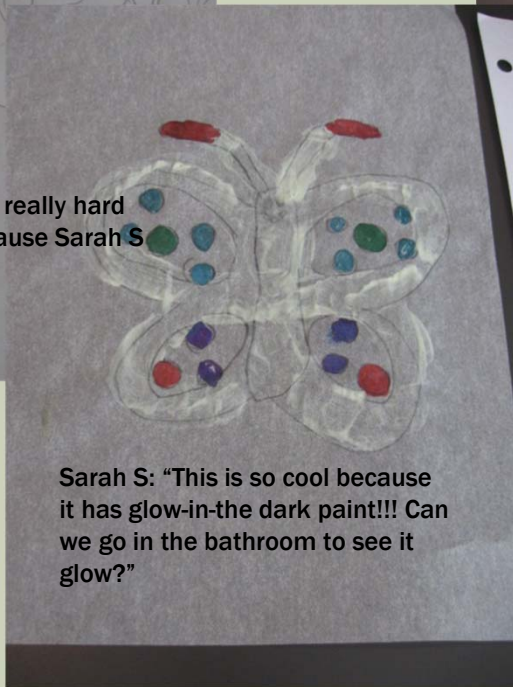
TOMORROW IS A NEW DAY!

- Sarah and Sarah try several times in the morning, to get time with Miss Jane or Miss Mary to discuss their problem, but it is not a good morning at ECDC! The teachers have some other immediate problems that need attention. They talk with the girls about 'priorities' and they understand.
- Sarah and Sarah were very patient, and finally, just before lunchtime, they came with Miss Jane to see Dr. J. and announce a possible solution to their problem.
- Sarah J. brought 3 things she had made at home that she thought Sarah S. might like to trade for the rock, and just to be sure, made something extra-specially new that she thought Sarah S. would like.
- Sarah S. really liked all of them and said she would take any one of them for the rock. Sarah J. said she could have them all.

ITEMS FOR TRADE

• $100 + 100 = 200$
 $4 + 4 = 8$
 $200 + 200 = 400$
 $400 + 400 = 800$
 $800 + 800 = 1600$

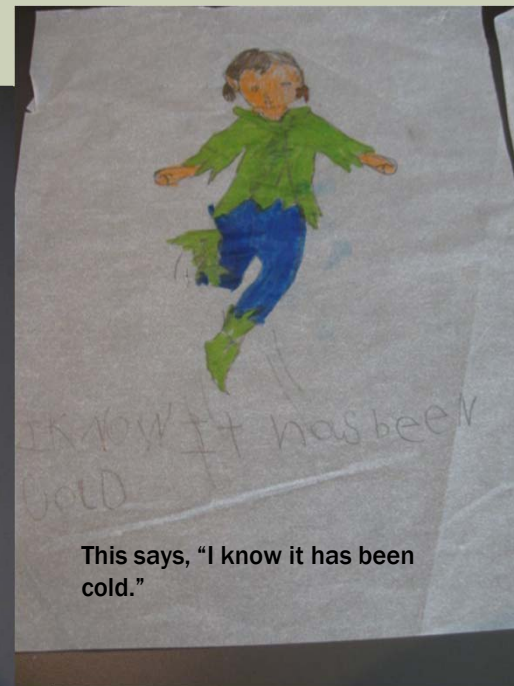
Sarah J: "I did some really hard math problems because Sarah S likes math!"



Sarah S: "This is so cool because it has glow-in-the dark paint!!! Can we go in the bathroom to see it glow?"



Sarah S: "Sarah J is my really, really good friend, because this is really beautiful"



This says, "I know it has been cold."

Sarah J brought a wide variety of items to trade hoping that at least one would work!

FINAL AGREEMENTS

- Sarah S asked if she could hold the rock one last time....
- Dr. J. and Miss Jane commented on the obvious value of the rock to Sarah J., given what she was willing to trade for it.
- Sarah S. said she was very, very happy that Sarah J. still wanted to be friends.
- Sarah J. asked to keep the big, see-through envelope she had brought the trade items in.
- A blue see-through envelope was then found for Sarah S.
- Sarah S. offered it to Sarah J. because it had a special pocket that she could put the rock in.
- Sarah J. was happy to accept.



THE PROBLEM IS SOLVED



TEACHER REFLECTIONS

It is important to:

- Identify exactly what the problem is, as often there is an underlying issue that is being masked by the incident.
- Give the children as much ownership over the process as they can developmentally handle.
- Give enough time to the process.
- Restate the children's words as needed so everyone understands.
- Determine ahead of time that the grown-ups will accept the children's solution, as it is often something the adults might not predict.