**Activity: Problem Solving**

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Scalable Data Infrastructures 04WDD

**1) Define the problem: A Cat, a Parrot, and a Bag of Seed**

a) A man must get a cat, parrot, and bag of seed to the other side of a river.

b) Think of this in terms of objects to visualize the process.

c) Get items to the other side of the river while adhering to set rules.

2) **Break the problem apart**

a) Cannot have the cat and parrot left alone or the parrot and bag of seed. Can only bring one at a time in the boat.

b) Rearrange objects within the set parameters to achieve goal.

3) Identify potential solutions

a) Change Cat, Parrot, and Bag of Seed to C,P, and S. Use a visualization of the problem to create potential ways to get C,P, and S to the other side of the river while adhering to the parameters.

4) Evaluate each potential solution

a) Solution will work as long as it is in the set parameters. No sub solution will work.

5) Choose a solution and develop a plan to implement it

a) To get all three across the river while following the set parameters the man will take the parrot over the river first to side B. He will then go back to side A and get the cat and bring it over to side B. Next he will take the parrot back to side A and retrieve the see while leaving the parrot alone. He will take the seed to side B where the cat is and leave it. He will then go to side A and get the parrot and travel back to side B. It helped to draw this out visually on paper, drawing a river and then using arrows to show the steps of bringing them across the river.

**1) Define the problem: Socks in the Dark**

a) Must select the smallest number of socks to guarantee getting both a matching pair and a matching pair of each color.

b) Think of the objects visually to come up with the answer.

c) Getting a matching pair of each color while choosing in the dark

2) **Break the problem apart**

a)

b)

3) Identify potential solutions

a).

4) Evaluate each potential solution

a)

5) Choose a solution and develop a plan to implement it

a)