​A Cat, a Parrot, and a Bag of Seed:

A man finds himself on a riverbank with a cat, a parrot and a bag of seed. He needs to transport all three to the other side of the river in his boat. However, the boat has room for only the man himself and one other item (either the cat, parrot or seed). In his absence, the cat could eat the parrot, and the parrot would eat the bag of seed. Show how he can get all the passengers to the other side, without leaving the wrong ones alone together.

1. a. There are items that a man needs to transport a cat, parrot and a bag of seed down a river. This transport needs to be planned carefully as there is only space on the boat for one item and some of the items cannot be left alone together. If the cat and parrot are left together, the cat may eat parrot. Also, if the parrot is left with the bag of seed, the parrot may eat the seed.

b. There is only one pair of items that would be safe if left together, which is the cat and the bag of seed. Also, it is important to remember that each side of the river plus the spot in the boat is three separate holding areas for the items.

c. The goal of this puzzle is to transfer all 3 items so they all get to the other side of the river and in such a manner that poses no threat to any of the items.

2) a) The constraints are that there is only one space in the boat to transport the item from one side to the other. Also, there are two combinations of items that if left together would foil the entire plan.

b) A sub goal for this puzzle is to make sure you only bring one item at a time. Another sub-goal is to make sure the items that cannot be left alone together are not left alone.

3) A solution to sub-goal for one item per boat is to establish a plan where there is only one item in the boat at a time. The solutions to the other goal is to separate those that cannot be left alone together by using the boat space as a place holder while traveling back on forth. Since the cat and bird or bird and seed can’t be left together, the bird should stay on the boat and then switched out to avoid leaving it alone with seed or cat.

4) a) The solutions meets the goals because it is following the rules set forth by the puzzle. Also, when the bird is in supervision of the man driving the boat instead of left alone with the seed or cat, all the items are safe.

b) The solution works for all cases because we are meeting the needs of the situation and not putting the items at risk. This will allow for successful completion of the task.

5. a) In order to successfully complete this task, there is a working solution that will fit all of the rules and keep all of the items safe. First the man will take the bird to the other side of the river and leave it there. Next, the man will go back to the original side without any items and will pick up the cat. The man will take the cat back to the river and once he arrives he will leave the cat but take the bird. Next, the man will go back to the original side with the bird in the boat and once arrives will swap the bird with the seed. Leaving the bird on the original side, the man will transport the seed to the other side of the river and leave the bag of seed. Finally the man will go back to the original side, pick up the bird and then transport the bird back to the other side where the seed and cat are waiting for them.

b) When first drawing conclusions for solutions, I never thought to keep the bird in the boat even though not transporting it from one side to the other. All I could think of is obvious solutions that were against the rules and would cause the items to be eaten or attacked. If the man is constantly watching the bird or leaving it alone, it has no way of eating the seed or getting attacked by the cat. The cat and the seed can be left alone together because the pose no harm to each other.