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**Class 01**

**Problem Solving**

Predicting Fingers:

1) Define the problem:

a) Counting fingers

b) Repeat same numbers until 1000

c) To count from 1 to 10, 1 to 100, 1 to 1000

2) Break the problem apart:

a) reverse counting

b) finger position 10, 100 and 1000

3) Identify potential solutions:

a) count by blocks

4) Evaluate each potential solution:

a) yes1) count first block 2) times 10 to the second block 3) times 10 to third block

b) yes

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

a) 1) count first block 2) times 10 to the second block 3) times 10 to third block1) count first block 2) times 10 to the second block 3) times 10 to third block

b) First Block: counting from 1to10 = finger position A (same position for all others)

Socks in The Dark:

1) Define the problem:

a) Selecting socks on dark.

b) half of the socks are black

c) - one matching pair - one matching pair of each color.

2) Break the problem apart:

a) Dark, different colors of socks

b) separate colors

3) Identify potential solutions:

a) Select 8 socks

4) Evaluate each potential solution:

a) find 2 pair of same color, find 1 pair of each color (6 pairs)

b) yes

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

a) I choose the total 8 socks, and if I check I didn’t get, I get to select more 8 socks.

b) First: Select socks

Second: Check if is matching

If yes: good

If no: back to selection

A cat, a Parrot, and a Bag of Seed:

1) Define the problem:

a) Four passengers need to cross the river by boat, but the boat only a takes man and one more item.

b)

c) To cross all.

2) Break the problem apart:

a) The boat has room for only a man and one item..

b) Don’t leave the cat alone.

3) Identify potential solutions:

a) The man takes the cat.

4) Evaluate each potential solution:

a) Yes

Identify potential solutions:

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

a) The parrot eats seeds, the cat eats the parrot, and the man takes the cat to the other side of the river.

b)

Seeds

Man

Cat

Parrot