INSTRUCTIONS

Place your name and the name of your teacher for each group member on this slide (required to earn credit).

Complete the puzzles on the following four slides by working as a team.

Record the solutions on the final slide.

Filip Kin (Mr. Shelton)

Rishi Sajay (Munro)

Jeffrey Xue (Mrs. Williams)

Maggie Jones (Draeger)

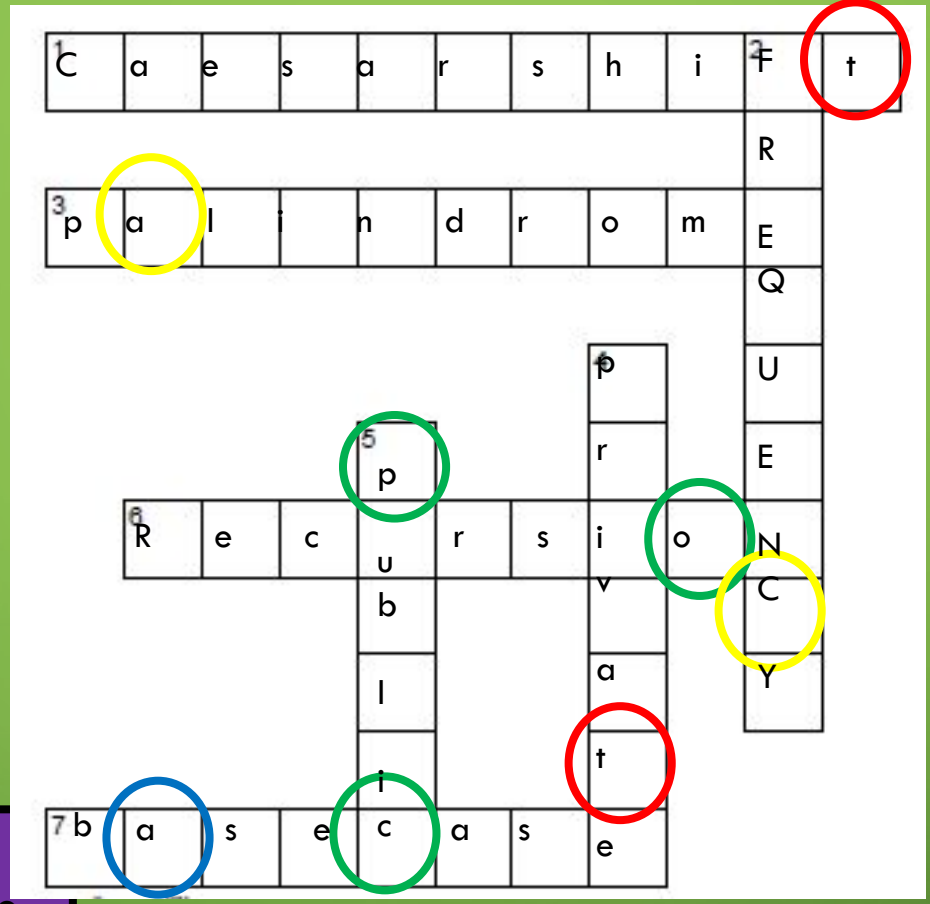
Yolanda Zhu (Mr. Shelton)

Oswaldo Cherubini (Mrs. Williams)

kelvin Wang

Puzzle #1

Directions: Click on your colored link to get information for part of the crossword puzzle. Then return here and put your answers in the puzzle. When all members are done, work together to unjumble the circled letters to form the KEY phrase and move to the next room!



DOWN

2 In ___ analysis, the study of the number of letters is used to decode cyphertext

4 In cryptography, this key is only known to the owner

5 In cryptography, this key is used to verify that a message was sent from the owner

ACROSS

1 A typle of encryption algorithm based on substitution where letters are replaced by another letter x number of positions down the alphabet (two words, no spaces)

3 A sequence of characters that reads the same forwards as backwards

6 A method that calls itself to dived and conquer a problem

7 The stopping point for recursion (two words, no space)

Clues A3
http://tinyurl.com/FLVSAPCS-Palindrome

Clue A1 & D2
http://tinyurl.com/FLVSAPCS-CipherKey

Clues A6 & A7
http://tinyurl.com/FLVSAPCS-Recursion

Clues D4 & D5
http://tinyurl.com/FLVSAPCS-PublicKey

Room Lock: t a c o c a t

Hint: Room Lock is a palindrome

Locksmith: don't forget to record the key!

PUZZLE #2 - CAESAR SHIFT

A Caesar shift is a Cypher Key type of encryption. You can read more about cypher keys here:

See an example of a Caesar shift here: http://tinyurl.com/FLVSAPCS-CipherKey

Your job is to decode the part of the room lock based on your color!

Cty ayl Eva can	E oaa I see
ybbp fk bees in	v xvqz a cave

Room Lock: _____

Hint: Room Lock is a palindrome

PUZZLE #3 - DECRYPT USING PRIVATE KEY

Two factor authentication first encodes a message and then encrypts it. Here will use private key encryption to decrypt a coded message and then decode it.

First you decrypt the message using the private key and then decode code it.

You can find an example of how to decrypt and then decode here:

http://tinyurl.com/FLVSAPCS-DecryptExercise Private Key: 5

Message: 9 0 17 0 13
Decrypted: 14 5 22 5 18
Decoded: N E V E R

Message: 10 -1 -1
Decrypted: 15 4 4
Decoded: O D D

Message: 10 13
Decrypted: 15 18
Decoded: O R

Message: 0 17 0 9
Decrypted:
Decoded: E V E N

Room Lock: _____ _____ _____ _____

PUZZLE #4 - PUBLIC KEY ENCRYPTION

- In this last step in our game, your team will encode and encrypt a palindrome to be decrypted and decoded by another team in the main room
- You can find an example of how to encode and encrypt a message here:

http://tinyurl.com/FLVSAPCS-EncryptExercise RACECAR

- To encode a message to send to someone, use the public key -1
- Use your room number as the private key for this exercise 1
- Multiply the private key by -1 to determine the public key -1
- Pick a palindrome between 1 and 3 words, and up to 12 characters. You can find some possible palindromes from here: Palindrome site: http://www.palindromelist.net/
- Avid diva
- Encode and encrypt the message – be ready to write the message and public key on the board 18 1 3 5 3 1 18 > 17 0 2 4 2 0 17

ANSWERS

- Room 1 lock (decrypted palindrome from crossword):
- Room 2 lock (decrypted palindrome from Caesar shift):
- Room 3 lock (decrypted palindrome from private key):
- Room 4 lock (encrypted message from public key):