

SUBJECT: KAY OSS

OPERATION RESTORE ORDER

The Great
CLASSROOM
escape



6th
Grade
Math

Order of Operations with exponents

Print or Digital Escape Room

ODE TO CHAOS

ORDER OF OPERATIONS...
WHY DOES IT HAVE TO BE SO?
THAT PARENTHESES THEN EXPONENTS
GET TO BE THE FIRST TO GO?

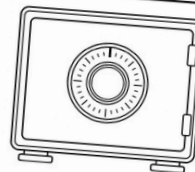
WHY SHOULD MULTIPLICATION AND DIVISION
LEFT TO RIGHT BE NEXT IN LINE?
POOR ADDITION AND SUBTRACTION
DESERVE THE RIGHT TO WHINE!

TOP SECRET

CLUE 3 THE VILLAINGRAM

The password worked to unlock the computer. Here is the message that popped up on the screen. "I've got over 3 million followers on Villaingram. I bet none of them even realize the code to my safe is hidden right on that page!"

There's a safe under the desk! Let's see if we can solve this clue and open it up. We are loading the Villaingram account now.



Villaingram

FOLLOWING 917 FOLLOWERS 3,541,811

Name: Kay Oss
Villain Name: Chaos
Birthday: 1/1/29
Home: Tumult, Mr.

Quote: "Chaos was the law of nature; order was the dream of man." -Henry Adams

I have (0.P)(53,000) dollars in the bank. Writing it like that makes things sound pretty good!

People are always asking me how old I am. My age is the number that goes in the box:

$$\frac{2}{5}(8 + 2 \cdot 6)] + 2 \cdot \square = 88$$

Once I solved this math problem on the internet:

$$2^3 + \square = \square$$

People were actually fighting online about it, saying the answer was 33! Bwahahahahaha I love causing chaos.

What is the combination to the safe?

- -

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escape

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Standards

6.EE.A.1

Fast Facts

6th Grade Math Skills

- Find powers of whole numbers, fractions, and decimals (only one decimal problem is included)
- Use order of operations to evaluate expressions including positive exponents
- Place parentheses in the proper location to make equations true
- Solve variable expressions with exponents when given the value of the variable.

Example: $x^3 - y^2$ when $x=3$ and $y=4$.



No prep digital - optional printable supplements



Low-prep black-and-white printable version



Escape Time ~45-60 minutes



Best used in pairs or small groups



Digital requires internet connected device



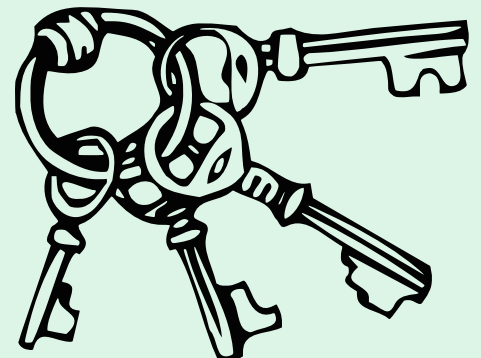
Self-checking digital version



Virtual or in-person

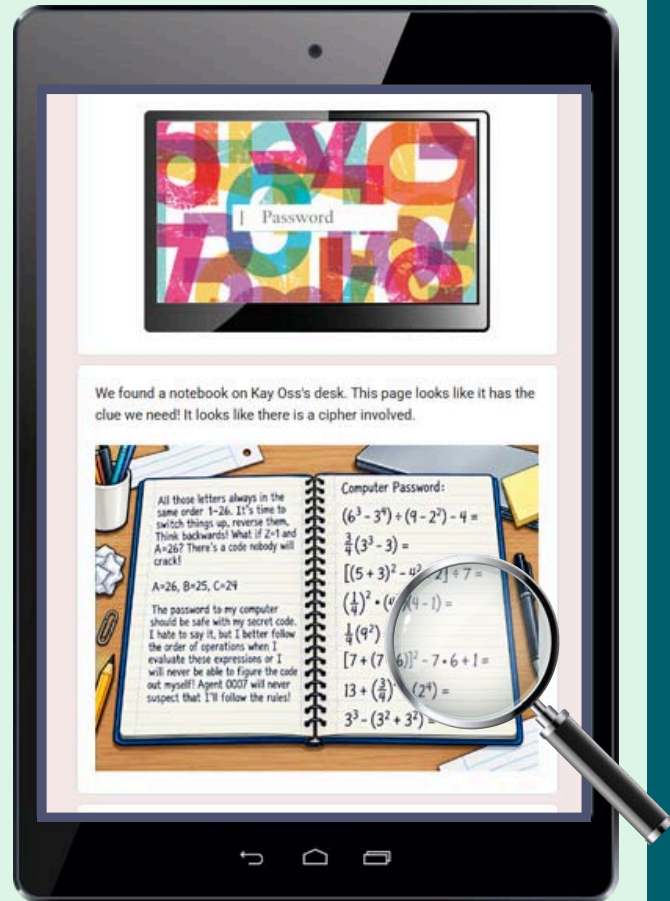


Five Engaging Puzzles



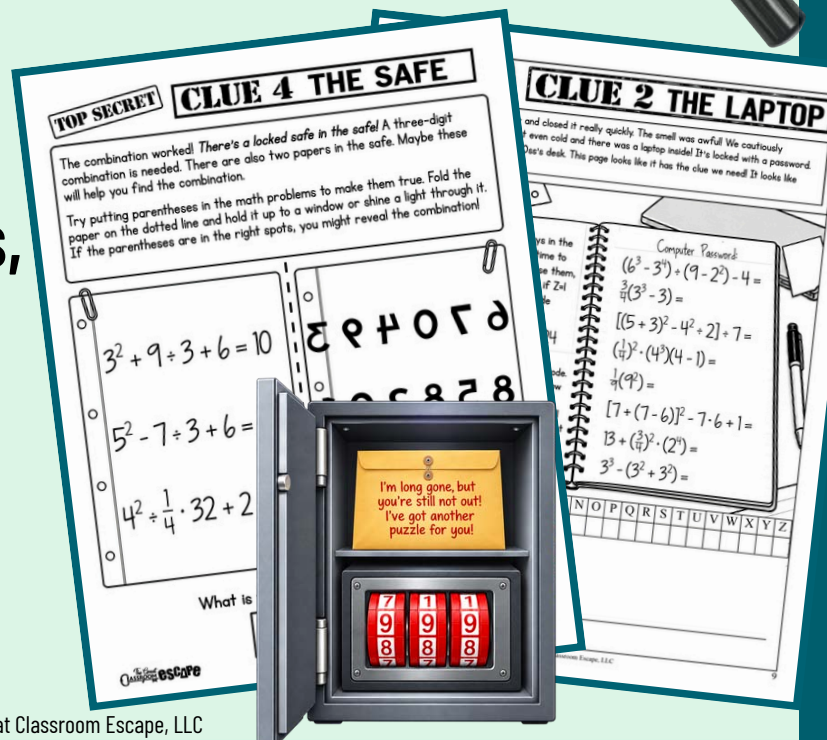
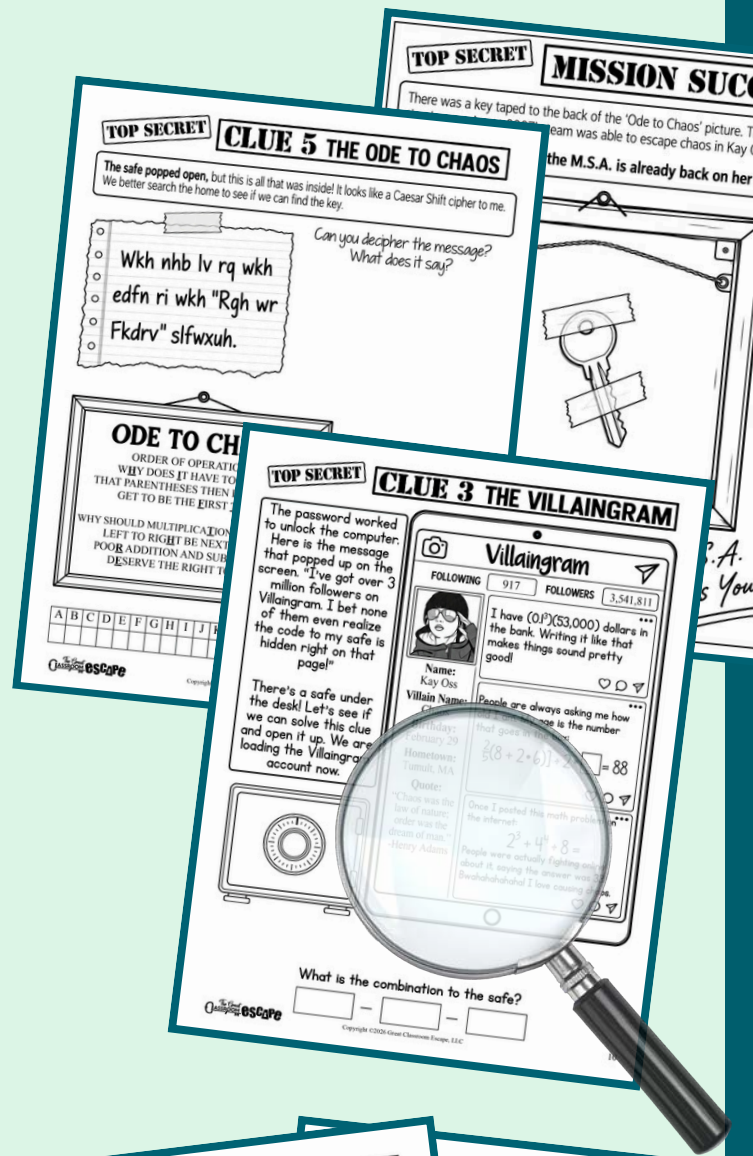
How it Works - Digital:

- The escape room is automated by a Google Form™ (Google™ accounts are not required).
- Use the quick start link to click & go, or create a copy of the form to save to your drive (the teacher must have a Google Account to save a copy).
- Students only progress through the puzzles when correct answers are entered.
- The form provides hints if students enter incorrect answers.

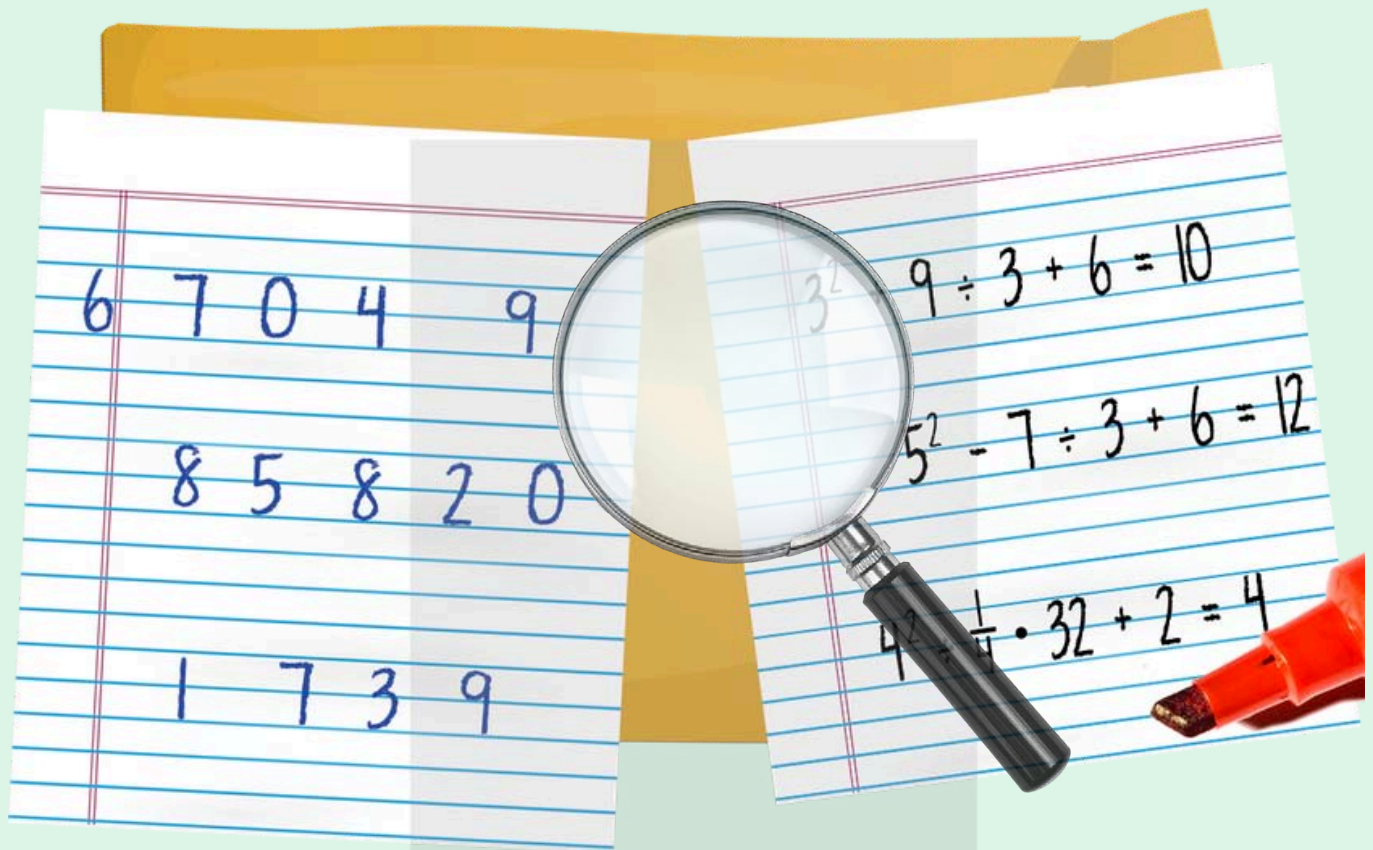
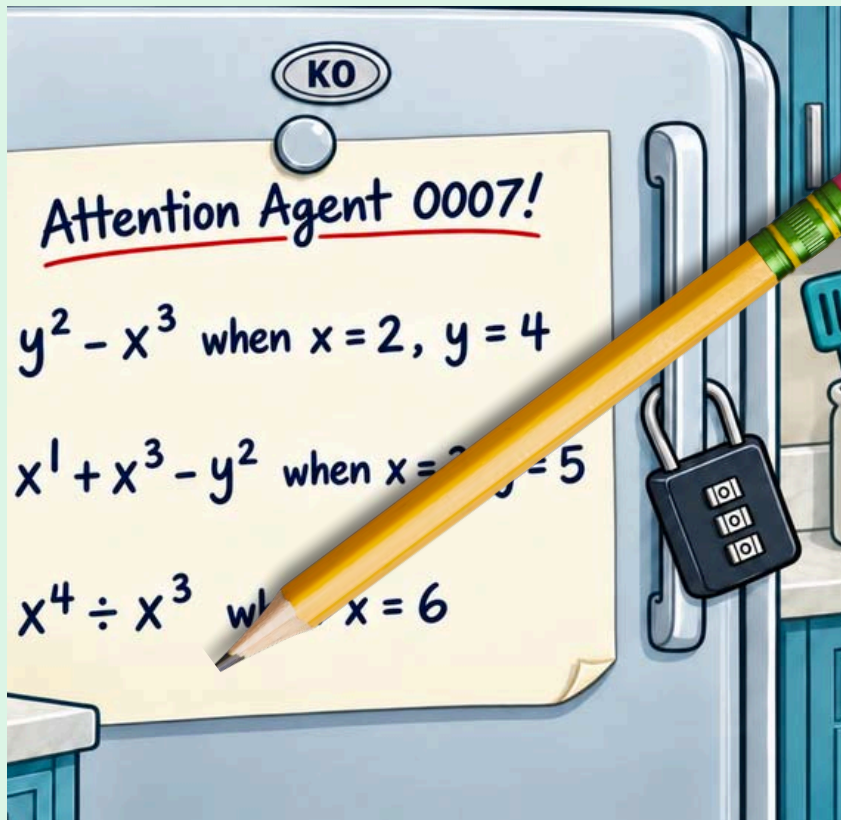


How it Works - Print:

- Low prep!
- Print the five clues, intro, and success page
- Give students the intro and clue 1 to begin
- When students solve a clue, they bring the answer to you.
- If the answer is correct, give the next clue.
- Continue until students solve the final clue.
- Use individually, in pairs, in small groups, or as a whole class.
- Great for centers!



Puzzle Preview



Puzzle Preview



Villainogram

BIO:

Name:
Kay Oss

Villain Name:
Chaos

Birthday:
February 29

Hometown:
Tumult, MA

Quote:
"Chaos was the law of nature; order was the dream of man."
-Henry Adams

FOLLOWING

WH

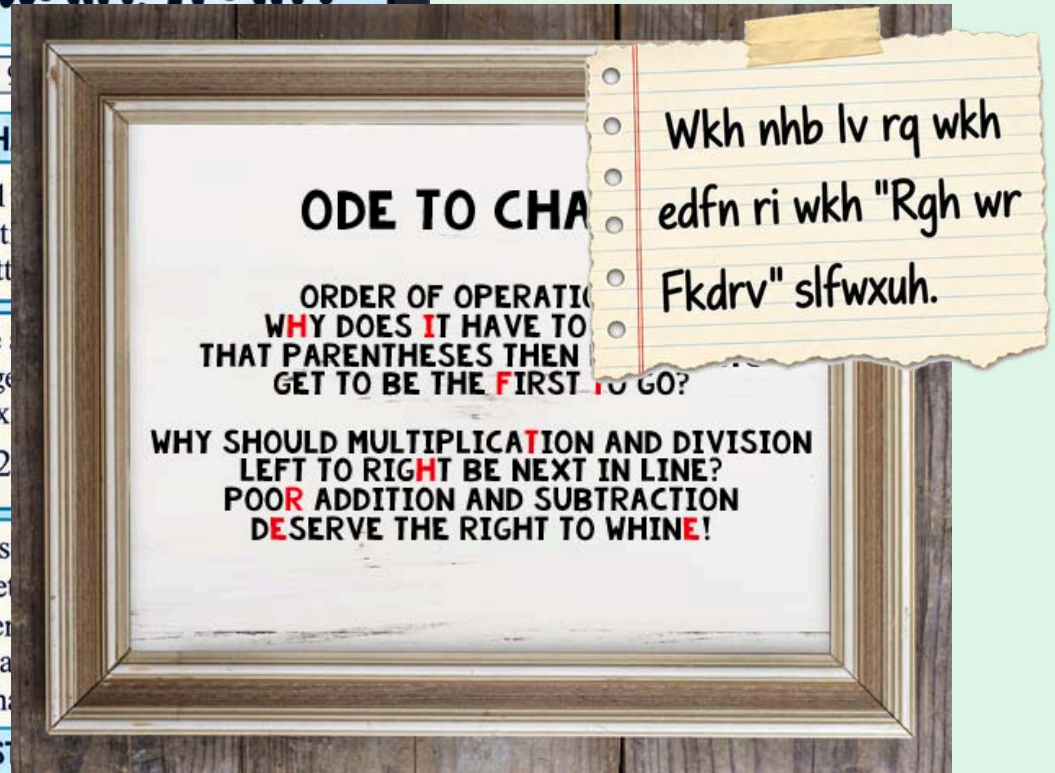
I have (0.1 bank. Write sound pretty

People are am. My age the red box

$\left[\frac{2}{5}(8 + 2\right)$

Once I posted the internet. People were about it, said Bwahahaha

OLDER POST

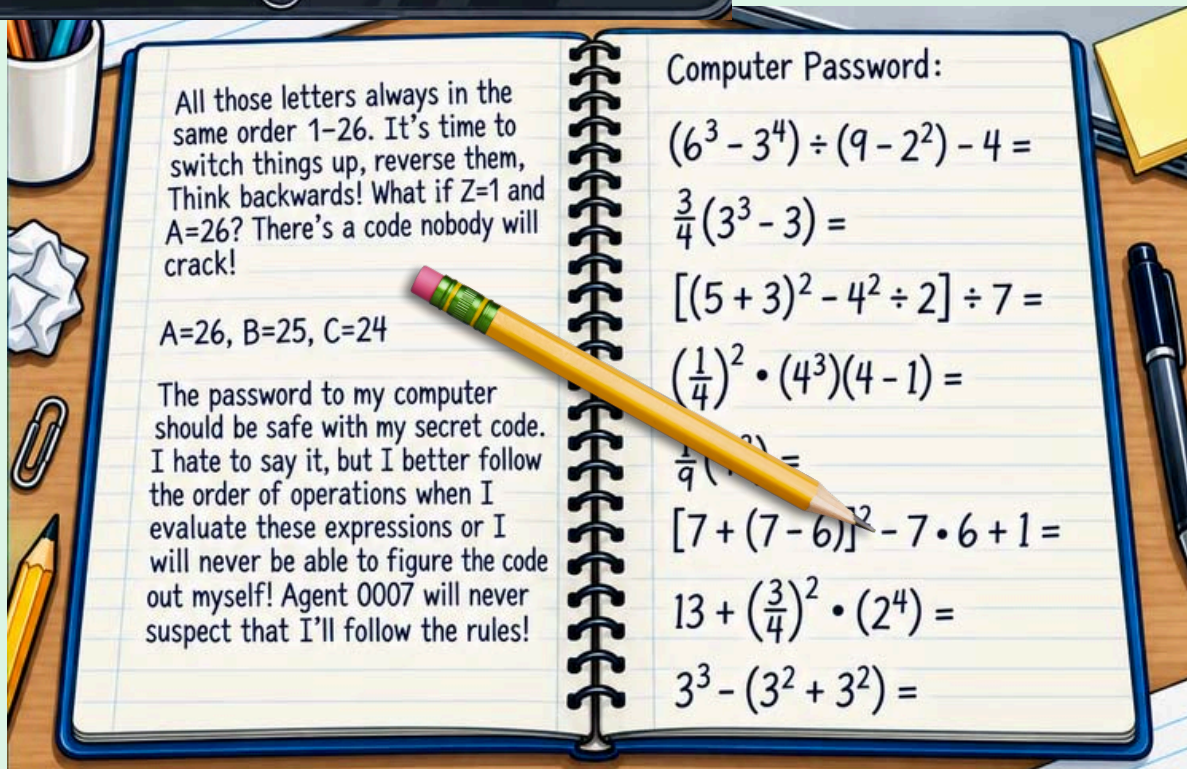


ODE TO CHAOS

ORDER OF OPERATIONS
WHY DOES IT HAVE TO BE THAT PARENTHESES THEN GET TO BE THE FIRST TO GO?

WHY SHOULD MULTIPLICATION AND DIVISION LEFT TO RIGHT BE NEXT IN LINE? POOR ADDITION AND SUBTRACTION DESERVE THE RIGHT TO WHINE!

Wkh nhb lv rq wkh edfn ri wkh "Rgh wr Fkdrv" slfwxuh.



All those letters always in the same order 1-26. It's time to switch things up, reverse them, Think backwards! What if Z=1 and A=26? There's a code nobody will crack!

A=26, B=25, C=24

The password to my computer should be safe with my secret code. I hate to say it, but I better follow the order of operations when I evaluate these expressions or I will never be able to figure the code out myself! Agent 0007 will never suspect that I'll follow the rules!

Computer Password:

$$(6^3 - 3^4) \div (9 - 2^2) - 4 =$$

$$\frac{3}{4}(3^3 - 3) =$$

$$[(5 + 3)^2 - 4^2 \div 2] \div 7 =$$

$$\left(\frac{1}{4}\right)^2 \cdot (4^3)(4 - 1) =$$

$$\frac{1}{9}(\quad) =$$

$$[7 + (7 - 6)]^2 - 7 \cdot 6 + 1 =$$

$$13 + \left(\frac{3}{4}\right)^2 \cdot (2^4) =$$

$$3^3 - (3^2 + 3^2) =$$

Optional Extras

Recruits: These cipher key creators may come in handy as you help in this mission.

 Cipher Key Creator 

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

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 Cipher Key Creator 

T	U	V	W	X	Y	Z



T	U	V	W	X	Y	Z

TOP SECRET

NAME: Oss, Kay
KNOWN ALIAS: Chaos

WANTED FOR:

Kay Oss is suspected of causing mass confusion by teaching people that math problems must be solved from left to right instead of by following the order of operations. This has resulted in chaos and disputes as people fight over the correct answer to math problems.

Oss has been known to tear the pages out of math books that teach order of operations and replace them with instructions of her own.

METHODS OF OPERATION:

Kay Oss has evaded capture by encrypting messages using a variety of methods that mix up the order of the alphabet such as Caesar Shift Ciphers. It is suspected that she is also devising new techniques for keeping her messages secure using other substitution ciphers.

CONFIDENTIAL



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Cipher
Key &
Dossier

Success
Signs

