1. Caesar Cipher Handout

Caesar Cipher Overview:

https://computerscienced.co.uk/site/caesar-cipher-wheel/caesar-cipher/

Definition: A substitution cipher where each letter is shifted by a fixed number.

- How to Encode:
    - Choose a shift value (e.g., 3).
    - Shift each letter in your message by that value (A → D, B → E).

Example:

- Original: HELLO
- Shift by 3: KHOOR

Practice Exercise:

1. Encode the following words using a shift of 3:
    - CAT → _____
    - DOG → _____
2. Decode the following:
    - ZRU → _____ (Shift of 3)

2. Atbash Cipher Handout

https://www.boxentriq.com/code-breaking/atbash-cipher

Atbash Cipher Overview:

Definition: A substitution cipher where the alphabet is reversed (A ↔ Z).

- How to Encode:
    - A becomes Z, B becomes Y, C becomes X, etc.

Example:

- Original: HELLO
- Encoded: SVOOL

Practice Exercise:

1. Encode the following words:
    - BAT → _____
    - FISH → _____
2. Decode the following:
    - GSV JFRXP → _____

3. Vigenère Cipher Handout

https://www.boxentriq.com/code-breaking/vigenere-cipher

Vigenère Cipher Overview:

Definition: A polyalphabetic cipher that uses a repeating keyword to shift letters.

- How to Encode:
    - Write the keyword above the message, repeating it as necessary.
    - Shift each letter of the message according to the corresponding letter of the keyword.

Example:

- Keyword: KEY
- Message: HELLO
- Encoding: H + K = R, E + E = I, L + Y = J, etc.

Practice Exercise:

1. Using the keyword “KEY,” encode the message “MEET ME AT DAWN.”
2. Decode the following using the keyword “KEY”: “RIJVS UYVJN.”

4. Substitution Cipher Handout

https://planetcalc.com/8047/

Substitution Cipher Overview:

Definition: Each letter is replaced with a different symbol or letter based on a key.

- How to Create a Cipher:
    - Create a key (e.g., A → @, B → #, C → $, etc.).

Example Key:

- A → %, B → @, C → #, D → &, E → $

Practice Exercise:

1. Encode the following using your key:
    - HELLO → _____
2. Decode the following using your key:
    - @#&%$ → _____

Group Presentation Outline

Group Name: _____

Encryption Method: _____

---

1. How It Works:

- Explain the method clearly:

- Describe the encoding and decoding process:

---

2. Demonstration:

- Show how to encode/decode a sample message:

  Sample Message: _____

  Encoded Result: _____

  Decoded Result: _____

---

3. Strengths and Weaknesses:

- What makes this method strong?

_____

_____

- What makes this method weak?

_____

_____

- Real-world applications:

_____

_____

_____