

Nostr

Building on earlier activities about trust, message passing, and interception, students now compare open information transfer with encoded communication. Learners first experience how relaying information requires trusting intermediaries and how messages can be overheard or altered. They then introduce cipher wheels to protect messages, discovering that information can remain private even when passed through untrusted or public channels. Pre-requisites 4.2 - Telephone 4.3 - Cypherpunks Write Code

ACTIVITY TYPE Simulation · Creative craft · Game	DURATION 50–60 min	PARTICIPATION Small groups
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OBJECTIVES

By the end of this activity, learners will:

- Review how information transmission requires trust in intermediaries
- Recognize how messages can leak or change when transmitted openly;
- Understand that encoding protects information even when intermediaries are untrusted
- Successfully encode and decode vocabulary using a cipher wheel.

MATERIALS

- Prepared word or sentence cards for transmission
- Cipher wheel templates for each student (See Appendix A)
- Worksheets or blank paper for transcription
- Pencils or markers
- Example simple and complex messages (See Appendix B) (*nice to have*)
- Scissors
- Split pins or brads for cipher wheels
- Open classroom space for movement
- Timer (*nice to have*)

PROCEDURE

OPENING

1. Arrange the room with two tables per team placed far apart to create distance.
2. Place open message cards at each sender table.
3. Prepare cipher wheel materials but keep them hidden until Phase 2.

PRE-ACTIVITY

5 minutes

1. Ask students to recall the previous activity where messages were whispered or relayed.
2. Ask what problems they noticed with trust, mistakes, or overhearing.
3. Remind students that last time they could not keep messages private.
4. Explain that today they will test whether that problem can be solved.

Objective In Student's Words

- “Find a better way to send messages without everyone needing to be trusted.”

ACTIVITY

40–45 minutes

Setup

1. Divide students into teams of three.
2. Assign roles: Player 1 is the Sender, Player 2 is the Runner, Player 3 is the Receiver.
3. Explain that roles will stay the same throughout the activity.

Model

1. Demonstrate a short running dictation round using an open message.
2. Point out that the runner must remember and repeat the message exactly.
3. Remind students that anyone nearby can overhear the message.

Phase 1 – Open Transmission (Trust Required)

1. Player 1 silently reads the message at the sender table.
2. Player 1 quietly reads the message to Player 2 at the sender table.
3. Player 2 runs to Player 3 and relays the message verbally.
4. Player 3 writes down what they hear.
5. Player 2 may run back and forth as needed.
6. The first team to successfully transmit the message wins.

Checkpoint Discussion

- Ask whether the final message matched the original.
- Ask whether runners overheard other teams.
- Ask whether the runner had the power to change the message.
- Reinforce that the system only worked if the runner was trusted.

Phase 2 – Encoded Transmission (Trust Reduced)

1. Distribute cipher wheel materials and allow students to assemble them.
2. Sender and Receiver privately agree on a letter shift using the wheel.
3. Player 1 encodes a new message using the agreed cipher.
4. Player 2 relays only the encoded message without knowing its meaning.
5. Player 3 transcribes and decodes the message using the cipher wheel.

Competition Rules

- Teams earn points for correct decoding.
- Speed and accuracy both matter.
- Runners are not allowed to learn the cipher.

Reflection

1. Ask what changed between open and encoded transmission.
2. Ask whether trust in the runner was still necessary.
3. Ask who controlled access to the message in each phase.

FOLLOW-UP

5–10 minutes

1. Review that earlier activities showed how messages can be intercepted or altered.
2. Review that encoding allows messages to travel through public space safely.
3. Connect this to the idea of choosing what information is public or private.

CLOSE

5 minutes

1. Collect shared materials and reset the room.
2. Allow students to keep their cipher wheels.
3. Final message to students: “You don’t need to trust everyone when your message is protected.”

NOTES

Classroom management

- Older Students can choose their role in the relay
- Control running paths and enforce walking if needed.
- Emphasize that mistakes are expected and part of learning.

Extensions & Sponge Activities

- Rotate roles and repeat with a new cipher.
- Increase message length or add decoy messages.

Differentiation

- Younger students: single words and fixed letter shift.
- ELL/Accessibility: alphabet charts and slower pacing.
- Safety: clear movement rules and supervised tool use.