Escape Room Challenge Activity, Scenario Ideas, Prompts for Reflection, and Online Adaption

Overview This activity is designed to enhance students' learning by engaging them in interactive and collaborative tasks. By solving puzzles in teams, students improve their critical thinking and problem-solving skills, which are essential for academic success and real-world challenges. Working in groups fosters teamwork and creativity, encouraging students to brainstorm and develop innovative solutions collectively. Managing time efficiently in a time-bound challenge teaches students to prioritize tasks and work under pressure, skills that are valuable in both academic and professional environments. Participating in competitive activities boosts engagement and motivation, making learning more enjoyable and encouraging active participation. Reflecting on their experiences and assessing their performance promotes self-awareness and continuous improvement, helping students to recognize their strengths and areas for growth

Objective: Solve puzzles and riddles to "escape" the classroom.
Steps:
1. **Preparation**: Create a series of puzzles and riddles related to the course material.
2. **Setup**: Arrange the classroom with clues and locks.
3. **Introduction**: Explain the rules and objectives to the students.
4. **Activity**: Students work in teams to solve the puzzles and find the key to "escape."
5. **Debrief**: Discuss the solutions and how they relate to the course content.
Example:

Escape Room Challenge: The Mystery of the Lost Artifact
Solve puzzles and riddles related to historical events and figures to find the "lost artifact" and "escape" the room.
- Arrange the classroom with clues. Use envelopes, boxes with combination locks, and hidden items to create a sense of mystery.
- Example setup:
    - Place the first clue in an envelope on the teacher's desk.
    - Hide the second clue inside a book, which can only be opened after solving the first puzzle.
    - Use a combination lock on a box that contains the final clue.
2. **Materials Needed**:
    - Envelopes
    - Combination locks
    - Boxes or containers
    - Printed puzzles and clues
    - Props related to the historical theme (e.g., maps, artifacts)

Introduction:
1. **Explain the Rules**:
    - Divide students into small teams.
    - Explain that they need to solve a series of puzzles to find the lost artifact and escape the room.
    - Set a time limit (e.g., 45 minutes) for the challenge.

2. **Provide the First Clue**:
   o Hand out the first clue to each team and start the timer. Students work in teams to solve each puzzle and find the next clue.

First Clue is:

Cipher Puzzle:
   o **Clue**: "Use the Caesar cipher with a shift of 3 to decode this message: 'Wklv lv wkh iluvw foxh.'"
   o **Solution**: "This is the first clue."

First Clue: A cipher puzzle that, when decoded, reveals the location of the next clue (e.g., "Look under the map of Europe" or "under the whiteboard ledge")

Creating a Caesar cipher is a fun and straightforward way to encode and decode messages. The Caesar cipher is a type of substitution cipher where each letter in the plaintext is shifted a certain number of places down or up the alphabet. Here's how you can create and use a Caesar cipher:

Steps to Create a Caesar Cipher
1. **Choose a Shift Value**:
   - Decide on the number of positions each letter in the plaintext will be shifted. This number is called the "shift" or "key."
   - **Example**: If you choose a shift of 3, then A becomes D, B becomes E, C becomes F, and so on.
2. **Create the Cipher Alphabet**:
   - Write down the alphabet.
   - Shift the alphabet by the chosen number of positions to create the cipher alphabet.
   - **Example**: With a shift of 3:
     - Plain Alphabet: 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
     - Cipher Alphabet: D E F G H I J K L M N O P Q R S T U V W X Y Z A B C
3. **Encode the Message**:
   - Replace each letter in the plaintext with the corresponding letter in the cipher alphabet.
   - **Example**: Encoding the message "HELLO" with a shift of 3:
     - H -> K
     - E -> H
     - L -> O
     - L -> O
     - O -> R
     - Encoded Message: "KHOOR"
4. **Decode the Message**:
   - To decode, shift the letters in the encoded message back by the same number of positions.
   - **Example**: Decoding the message "KHOOR" with a shift of 3:
     - K -> H
     - H -> E
     - O -> L
     - O -> L
     - R -> O
     - Decoded Message: "HELLO"

Second Clue: A timeline puzzle. Students must arrange events in the correct order to unlock a combination lock.
   o Example: "Arrange these events in chronological order: [The signing of the Magna Carta, The fall of Constantinople, The Declaration of Independence]."

Solution: [The signing of the Magna Carta (1215), The fall of Constantinople (1453), The Declaration of Independence (1776)].
- o Enter the first/last/ number in the lock

Third Clue: A matching puzzle inside the locked box. Students match historical figures with their achievements to find the final clue.
1. **Matching Puzzle**:
   - o **Clue**: "Match the historical figures with their achievements: [Julius Caesar, Napoleon Bonaparte, Queen Elizabeth I] with [Conquered Gaul, Emperor of France, Defeated the Spanish Armada]."
   - o **Solution**: [Julius Caesar - Conquered Gaul, Napoleon Bonaparte - Emperor of France, Queen Elizabeth I - Defeated the Spanish Armada].

The final clue leads to the location of the lost artifact/prize/etc.
Debrief:
1. **Discuss the Solutions**:
   - o Review each puzzle and discuss the correct solutions.
   - o Explain how each puzzle relates to the course material.
2. **Reflect on the Experience**:
   - o Ask students to reflect on what they learned and how they worked together as a team.
   - o Discuss any challenges they faced and how they overcame them.
3. **Celebrate Success**:
   - o Congratulate the teams on their efforts and celebrate their success in finding the lost artifact.

Other Scenario Example Ideas:

The Lost Manuscript
Scenario: A famous author's unpublished manuscript has been hidden away. Students must solve literary puzzles to find the manuscript.
Puzzles and Riddles:
- **Cipher Puzzle**: Decode a message using a Caesar cipher that reveals the location of the next clue.
- **Character Match**: Match famous literary characters with their corresponding quotes.
- **Plot Sequence**: Arrange events from a novel in the correct order to unlock a combination lock.

The Time Traveler's Dilemma
Scenario: A time traveler has scattered important historical documents across different eras. Students must solve historical puzzles to retrieve the documents.
Puzzles and Riddles:
- **Timeline Puzzle**: Arrange historical events in chronological order to find the next clue.
- **Artifact Identification**: Identify historical artifacts and their significance to unlock a box.
- **Map Challenge**: Use a historical map to locate hidden clues.

The Social Experiment
Scenario: A sociologist has hidden the results of a groundbreaking social experiment. Students must solve sociological puzzles to uncover the findings.
Puzzles and Riddles:
- **Survey Analysis**: Analyze survey data to find patterns and unlock the next clue.
- **Theory Match**: Match sociological theories with their key proponents and concepts.

- **Case Study Puzzle**: Solve a case study by identifying social dynamics and relationships.

The Diplomat's Secret
Scenario: A diplomat has hidden crucial documents related to an international treaty. Students must solve political puzzles to retrieve the documents.
Puzzles and Riddles:
- **Policy Analysis**: Analyze different policy proposals to find the most effective solution and unlock the next clue.
- **Government Structure**: Identify the structure of different government systems to solve a riddle.
- **International Relations**: Match countries with their diplomatic stances and treaties.

Reflection Prompts:
1. **Problem-Solving Process**:
   - "What strategies did your team use to solve the puzzles?"
   - "How did you collaborate with your teammates to find solutions?"
2. **Challenges and Solutions**:
   - "What challenges did you encounter during the escape room activity?"
   - "How did you overcome these challenges?"
3. **Learning Insights**:
   - "What did you learn about the course material through this activity?"
   - "How did this activity enhance your understanding of the subject?"
4. **Collaboration and Communication**:
   - "How did effective communication contribute to your team's success?"
   - "What role did each team member play in solving the puzzles?"

Adopting and Tools for Online Classes:
1. **Cipher Puzzle**:
   - **Tool**: Google Forms
   - **Description**: Decode a message using a Caesar cipher that reveals the location of the next clue.
2. **Timeline Puzzle**:
   - **Tool**: Kahoot
   - **Description**: Arrange historical events in chronological order to unlock a digital lock.
3. **Artifact Identification**:
   - **Tool**: Google Sites
   - **Description**: Identify historical artifacts and their significance to find the next clue.
4. **Map Challenge**:
   - **Tool**: Google Maps
   - **Description**: Use a historical map embedded in Google Sites to locate hidden clues.

Setup:
- Google Sites: Create a virtual escape room with embedded puzzles and clues.
- Teams Use breakout rooms for team collaboration.
- Google Forms: Create digital locks and clues.

Introduction:
- Explain the rules and objectives using Teams
- Breakout Rooms: Divide students into teams.

Activity:

- Solve Digital Puzzles: Students work in teams using collaborative tools.
- Monitor Progress: Check in on teams and provide hints if necessary.

Debrief:
- Discuss Solutions: Bring students back to the main video call to discuss solutions.
- Reflect on the Experience: Use reflective prompts to encourage reflection.