



## **Lesson Plan:** Encoding and Decoding Data

**Topic Description:** Today the students will learn methods to encode and decode letters and numbers and gain intuition for finding patterns in given sequences.

### **Objectives:**

The student will be able to:

- Encode and decode letters according to ciphers
- by identifying patterns in sequences.
- Learn the importance of encoding and decoding data.

### **Outline of the Lesson:**

- Present (15 minutes)
- Agent Zhivago (5 minutes)
- Codes Worksheet Activity (30 minutes)
- Imperfections in Encoding and Decoding (5 minutes)

### **Teaching/Learning Strategies:**

Present

- Use sample slides as a jumping off point for the ciphers we'll cover today!

Agent Zhivago

- Ask students why spies would need

Codes Worksheet Activity

- Watch set up video for activity that introduces different kinds of ciphers.
- Have students complete worksheet (in pairs or small groups).
- Go over solutions given in "Worksheet Solutions."

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- Watch wrap up video for activity.

### "Problems in Encoding and Decoding"

- Watch the video starring Carly Rae Jepsen.
- Go through the discussion questions with the class.

### **Resources:**

- Presentation Slides (on Encoding and Decoding muddX page)
- Worksheet and Solutions (on Encoding and Decoding muddX page)