



Learner Analysis

I. General Characteristics:

Grade Level:	Fifth grade/10-11 year old students
Ability Levels:	Third to fourth grade reading/LD, and EH Mainstreamed
Behavior Considerations: Previous experience:	Short attention spans 10 min. Students have had little experience with Encryption
Attitudes Toward Content	At this grade level students love secrecy. They will enjoy using this on the internet too.
Attitudes Toward Facilitator	Respond well to new exciting subjects Use life skills well in class

II. Entry Competencies:

Prior Knowledge:

Login on computer, some prior use of Microsoft Word, and file saving.

Third or fourth grade reading and writing abilities.

III. Learning Styles:

Try to include these in the lesson.

- Visual Images

- Class feedback

- problem solving

- Why subject is relevant to them

- hands-on activities

- Feed back, exp. a test grade, a participation grade, or a product grade

- If possible group work

Things to avoid while presenting:

- Students shall not try the procedures while being instructed on what to do.

- Too much time spent without an activity to do.

- Not connecting the lesson to them.

Objectives:

1. Through class models, the fifth grade students will be able to code notes and, or information pertaining to class.
2. During a class meeting, the fifth grade students will be able to describe how codes are used.
3. During an in class assignment, the fifth grade students will encrypt a message using the Simple Ciphers handout.
4. The students will be able to make a code and then encode a message using the Cipher Clock model.
5. Through the use of a search activity the students will be able to describe decoding techniques and who may possibly use encoding techniques.

Learning Process

1. Previewing the Materials:

- The teacher will preview all materials prior to instruction. This includes:
 - Word list of related ideas and people
 - Handout - Simple Ciphers
 - Handout - History of Cryptology
 - Handout - Cipher Clocks
 - The computer lab and Internet connection

2. Prepare the Materials:

- The teacher will copy appropriate number of handouts (Word List, Simple Ciphers, History of Cryptology, and Cipher Clocks)
- The teacher will preview search engine results to look for inappropriate sites.

3. Prepare the environment:

- The teacher will provide chalk, and overhead markers.

4. Prepare the learners:

- The teacher will provide an overview of the lesson.
- The teacher will provide students with appropriate handouts when necessary.
- The teacher will provide an overview of all activities.

5. Provide the Learning Experience:

Day 1

- ⇒ Handout wordlist Monday morning to be defined by Friday. (2 min)
- ⇒ Write the word “code” on the board, students should be ready to take notes. Openly discuss ways codes are used. Also why and how they are used. (6-7 min)
- ⇒ Handout activity sheet with simple cipher. Lead students through the handout and assign for class work. (15-20 min)

Day 2

- ⇒ Discuss Cipher handout. (2 min)
- ⇒ Discuss the handout History of Cryptology (encoding). (10 min)
- ⇒ Discuss ways to use encoding. Notes to friends, Private E-mail to people (5 min).
- ⇒ Show students different methods of encoding using handout Cipher Clocks. (10 min)
- ⇒ Assignment: Design and encode a message for tomorrow to show the class. Try to stump the other students. (3 min)

Day 3

- ⇒ Students write encoded messages on the board. (8 min)
- ⇒ Students try to decode or solve the messages. Discuss what method they used to solve the message or to encode it. (14 min)
- ⇒ Discuss who may need to use secret methods of encoding. The military, Governments, Secret Organizations. (8 min)

Day 4

- ⇒ In the lab using kid friendly search engines, search for encoding techniques, companies and government agencies that use encoding. Ask students to write a one-page report about their findings . (50 min)

Participation Checklist:

Object #	Activity	Learner Participation
1	Handout wordlist Monday morning to be defined by Friday. (2 min)	Requires the learner to familiarize themselves with the vocabulary.
1, 2	Write the word "code" on the board, students should be ready to take notes. Openly discuss ways codes are used. Also why and how they are used. (6-7 min)	Requires participation in a group activity and note taking skills.
1, 3	Handout activity sheet with simple cipher. Lead students through the handout and assign for class work. (15-20 min)	Requires active listening techniques, and focuses the learner on the task.
1, 3	Discuss Cipher handout. (2 min)	Requires participation in a class discussion.
2, 5	Discuss the handout History of Cryptology (encoding). (10 min)	Requires reading skills and class participation.
1, 2, 5	Discuss ways to use encoding. Notes to friends, Private E-mail to people (5 min).	Requires participation in a group activity and note taking skills.
1, 2, 4	Show students different methods of encoding using handout Cipher Clocks. (10 min)	Requires the learner to think in a varied manner.
1, 2, 4	Assignment: Design and encode a message for tomorrow to show the class. Try to stump the other students. (3 min)	Requires to practice the desired skill, and is mentally stimulating.
1, 3, 4	Students write encoded messages on the board. (8 min)	Requires participation in a group activity and note taking skills.