



## Codes and code-breaking



### Activity

The teacher should begin by writing a statement on the blackboard using one of the four methods provided below. Students should then attempt to decipher the code. Show the students how the code works.

- Use numbers to represent letters of the 26-letter alphabet.
- Write words backward so they appear correct in a mirror. (Reverse imaging).
- Scramble the letters within the sentence.
- Develop a secret pattern using the alphabet. For example, for each letter of the sentence, move up one letter on the alphabet to develop the code. (i.e., Csfbl uif dpef = Break the code).

Next, the teacher should divide the class into four groups and have each group create a coded message of their own using one of the four methods provided above.

Finally, the teacher and students should discuss the importance of learning how to write and break codes. One discussion might center on code breaking during WWII and planning the D-Day invasion.

### Objective

Students will learn different methods of breaking codes.

### Materials

Pen/pencil and paper; *Cracking the code* briefing

### Supplemental materials

1. Articles on cia.gov:
  - *Break the code* game located in the games section of Spy Kids
  - [Navajo Code Talkers and the Unbreakable Code](#)
  - [The Son of a Navajo Code Talker Shares his Father's Story](#)
  - [The Enigma of Alan Turing](#)
  - [Kryptos](#)

GRADE LEVEL

SUBJECTS INVOLVED

TIME

Middle/High school

Math/History/English

30-45 min



## Gathering and analyzing information



### Activity

To begin the lesson, the teacher will hand out *The Intelligence Cycle* briefing and discuss its five steps: planning & direction, collection, processing, analysis & production, and dissemination.

After the students understand the intelligence cycle, the teacher should write the following on the blackboard: "Back in my day...." Begin a discussion by asking students how many of them have heard their parents or grandparents use that phrase in conversation and what they learned about their family's past from those reminiscences.

Next, the teacher should ask students to pick a parent or grandparent they can interview before the next class and write three paragraphs comparing the student's current day-to-day life to their subject's life at the same age. Discuss what kind of questions to ask to see the differences in the student's life compared to their subject's life at the same point.

The teacher should then break the class into smaller groups so students can make up a list of questions to ask to gather the best information. After a few minutes, each group should share their best questions with the class.

### Objective

Students will learn how to plan, gather, and analyze data by providing a simulation of the CIA's Intelligence Cycle—the process used by CIA employees to collect and disseminate intelligence.

*\*This lesson will take place over two class sessions and include a homework assignment*

### Materials

Pen/pencil and paper;  
*The Intelligence Cycle* briefing

### Supplemental materials

1. *Who we are & what we do* briefing



## Gathering and analyzing information

In addition to the questions that the students come up with, the teacher can provide students with some of the sample interview questions listed below:

- Where did you live?
- What did you study in school?
- What did you do after school?
- What did you do for fun?
- Where did you go with your friends?
- How did you communicate with your friends?
- Family photos can also be sources of information:
  - Where did your relatives vacation when they were younger?
  - How does that compare to where your family vacations now?

In the next class, the teacher should break the class into small groups and have students compare their findings with one another and then have the groups report to the class. Ask students to talk about the process for gathering information and analyzing the data. What would they have done differently? What additional questions should have been asked? What have they learned about their subject's day-to-day lives versus their own? Here are some questions the teacher can ask the students to help them analyze their findings:

- How important is geography?
- Did your subject live in the city, suburbs, or the country growing up?
- What role did geography play in how your subject grew up? What about in how you were raised?
- How do people decide where to live and raise families?
- What role do things like extended family, economics, and personal preference play?
- In what way has technology impacted lives of you and your friends today versus when your subject was growing up?
- In what ways have school and education changed from when your subject was in school to your experience now? How has it stayed the same?

GRADE LEVEL	SUBJECTS INVOLVED	TIME
Middle/High school	Social studies/History/English	Two class periods/30-45 min each



## Gathering and analyzing information

Finally, the teacher should ask the students to write a paragraph about how the intelligence cycle helped, or hindered, their information gathering and analysis in this project. Some questions to consider:

- In what ways were you able to use elements from the intelligence cycle when gathering and analyzing information for this assignment?
- What did this teach you about how the intelligence cycle works?
- Were there elements of the intelligence cycle that were not helpful for gathering and analyzing information? If so, what were they and what was more helpful instead?

GRADE LEVEL	SUBJECTS INVOLVED	TIME
Middle/High school	Social studies/History/English	Two class periods/30-45 min each



## Intelligence's role in war



### Activity

The teacher should write on the blackboard: "Ben Franklin," "Washington's Crossing of the Delaware," "Yorktown," and "D-Day."

The teacher and students should then discuss the role of intelligence and espionage in wartime. Discussion topics could include the main goals of intelligence during war, including tracking troop movements, enemy intentions, battle plans, and where arms are stored. Advancements in technology to enhance intelligence gathering could also be discussed, although the basic purpose of intelligence gathering has remained the same.

Below are four examples that highlight the use of intelligence from US history and how the successful use of intelligence has shortened conflict or effectively ended wars. (For more examples, see the supplemental materials suggested).

The teacher should divide the class into four groups and assign one of the following examples to each group. The students should research each example and report back to the class.

### Objective

Students will learn the positive impact of gathering intelligence.

### Materials

Pen/pencil and paper

### Supplemental materials

1. *Cracking the code* briefing
2. Articles on cia.gov:
  - [The Legend of Hercules Mulligan](#)
  - [The Spymaster's Toolkit](#)
  - [Intelligence in the War of Independence](#)
  - [The Enigma of Alan Turing](#)



## Intelligence's role in war

**Ben Franklin's Most Successful Intelligence Gambit:** Revolutionary War: Knowing French spies followed him, Benjamin Franklin made sure he was observed meeting British government officials shortly after the American revolutionary victory at Saratoga. Worried that the Americans and British would reconcile their differences, the French rushed into an alliance – thanks to Franklin's ploy – with the Americans that helped lead to America's ultimate victory. Discuss Franklin's influence overseas as a diplomat and covert "spy," the political tenor in America before and after the Battle of Saratoga, and French and English relations in the era.

**Washington's Surprise Attack:** Revolutionary War: In 1776, American spy John Honeyman reported to Gen. George Washington how lazy and unprepared a garrison of Hessian troops in Trenton, New Jersey, had become. Honeyman was involved in persuading the Hessians that the Americans would not attack. Washington and his troops crossed the Delaware River at night and recorded a major victory on Dec. 26, 1777. Discuss American espionage in the Revolutionary War, Hessian troops in the Revolutionary War, Washington's army and their desperate situation at the time of the attack, and how the war turned with the American victory.

**Code-Breaking Sets Stage for D-Day:** World War II: A Japanese ambassador in Berlin, who was a military man, studied German military deployments and reported them at length back to Tokyo via "Purple"-enciphered messages. He reported troop placements on the Atlantic wall fortifications along the coasts of France and Belgium. Allied forces used the intercepted transmissions to plan the D-Day invasion of Western Europe. Discuss American espionage and intelligence operations in WWII, the German Enigma machine and the use of code-breaking in WWII, and D-Day invasion planning.

**Eisenhower's D-Day Deception:** World War II: Allied force commander Gen. Dwight Eisenhower chose to land in Normandy, France, because he knew the German command expected the invasion to come in Calais, France. The Germans posted 19 divisions in Calais as Eisenhower built an elaborate fake headquarters across the channel from Calais. Details of a Calais invasion were deliberately leaked to known German agents. For every aerial scouting mission flown over Normandy, one was also flown over Calais. The Calais area was bombed as heavily as Normandy. The deception worked so well that even after the Normandy invasion began, the German divisions stayed in Calais, sure that Normandy was just a diversion. Discuss American espionage, intelligence, and counterintelligence operations in WWII.

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GRADE LEVEL

SUBJECTS INVOLVED

TIME

Middle/High school

Social studies/History

Several class periods, 60 min each



## Problem solving



### Activity

The teacher should have students explore the online CIA Museum collection and select an item from the artifacts, read about it, and then write a short story about how it might be used today. Encourage students to use their imagination to create the story as a homework or in-class assignment.

In the next class, the teacher should ask volunteers to read their stories, and then encourage class discussion. Direct the discussion toward the use of today's advanced technology for practical uses in national security – e.g., micro-technology, satellite reconnaissance, or virtual reality. Bring relevance to the discussion by introducing applications from everyday life, such as the micro-cameras available in cell phones or GPS navigation such as Google Maps and Waze.

### Objective

Students will learn how technology and problem solving have been used throughout CIA history by applying those tools in their own scenarios.

### Materials

Access to [CIA Museum](#) or printouts of those pages

### Supplemental materials

- Articles on [cia.gov](#):
  - [The Spymaster's Toolkit](#)
  - [How Missile Detection Technology Helps Fight Breast Cancer](#)
  - [Directorate of Science and Technology Innovations: Lithium-Ion Battery](#)
  - [CIA's Impact on Technology](#)
  - [Flying with Sharks: A Plan for Every Outcome](#)

GRADE LEVEL

SUBJECTS INVOLVED

TIME

Middle/High school

Social studies/History/Science/English

30 min/two 30 min sessions



## The importance of accurate communications (The "Telephone" Game)



### Activity

The teacher should divide the class into multiple groups of four or more, and give each group a different spoken message to relay. For example, "My dog was feeling blue about the book he read at the cafeteria" or "When I went to start the car, the bunny high-fived the squirrel." Random sentences such as these will work the best.

Students will then whisper their "interpretation" of the message to the next student in the group, spreading the message around a small circle. The last student will write the message down and then share with the entire class. The teacher will then share what the message(s) should have been. The activity can be repeated several times, increasing group size, as well as reversing directions and increasing the complexity of the message.

At the end of the activities, the teacher can talk about the importance of clear and accurate communications and how messages can get mixed up when more people get involved.

In summary, the teacher should ask students to consider some incidents in history where accurate communications were vital, such as Paul Revere knowing that two lanterns in the Old North Church meant the British were advancing on the Charles River instead of over land.

### Objective

Students will learn how messages can become jumbled in common communication.

### Materials

None

### Supplemental materials

1. *Who we are & what we do* briefing
2. Articles on [cia.gov](http://cia.gov):
  - [Intelligence in the War of Independence](#)
  - [Intelligence in the Civil War](#)

#### GRADE LEVEL

Elementary, Middle, High school

#### SUBJECTS INVOLVED

Social studies, History, English

#### TIME

15-30 min