Lesson Title: WWI Communication Technologies

Author: The National Museum of Military Vehicles

Mission:

This Lesson Plan has been developed by the National Museum of Military Vehicles (NMMV) to facilitate scholastic visits to our institution. This Lesson Plan provides instructors with the framework to develop a detailed lesson plan for a field trip to the NMMV, by providing references to Wyoming State educational standards. This Lesson Plan is intended to serve as a starting point, recognizing that every School District has different standards and formats for their Lesson Plans.

Description:

During World War I, soldiers used different tools to send messages on the battlefield. These tools changed over time to help with the war. Sometimes communication worked well, and sometimes it didn't. In these lessons, you'll explore how these tools improved, what problems they had, and why communication was so important during the war.

Grade Level: 3-5

Theme: Communication in History – WWI

Lesson Duration: 2–3 class periods (30–45 minutes each) with a Visit to the National Museum of Military Vehicles

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Learning Objectives

- Explain how WWI technologies met military communication needs.

- Identify benefits and defects of various WWI communication tools.

- Trace how these technologies influenced civilian life.

- Use primary and secondary sources to understand historical context.

Key Topics / Concepts

- **WWI Communication Tools**: Telegraph, radio, signal lamps, carrier pigeons, semaphore flags, written letters.

- **Cause and Effect**: How wartime needs drove innovation and shaped post-war communication.

- **Technology Evaluation**: Pros and cons of each tool (e.g., reliability, speed, vulnerability).

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- **Historical Context**: Use of primary sources to understand soldier experiences and wartime logistics.
- **Modern Connections**: Tracing the evolution of communication from WWI to today (e.g., radio → cell phones).

WWI Communication Tools Vocabulary

• **Telegraph**	A machine that sent messages using special beeps called Morse code. Like sending secret sounds through wires!
• **Telephone**	A device people talked into to hear each other far away. Like a long-distance chat with a friend!
• **Radio**	A box that played voices and sounds from far away. People listened to news and music without seeing anyone.
• **Messenger**	A person who ran or rode to deliver messages. Like a human mail carrier during the war!
• **Signal Flags**	Colorful flags waved in patterns to send messages. Like using colors to say “hello” or “help!”
• **Carrier Pigeon**	A trained bird that flew with tiny notes tied to its leg.
• **Morse Code**	A way to write messages using dots and dashes. Like secret beeps that mean letters and words!
• **Field Telephone**	A special phone used by soldiers in battle. It helped them talk to each other safely.
• **Code**	A secret way to write or talk so only certain people understand. Like a puzzle message!
• **Dispatch Rider**	A person on a motorcycle or horse who carried messages. Like a mailperson!

Primary Sources

WWI Communication Technology Overview

Letters from WWI Soldiers

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Multimedia

Codebreaking & WWI Technology – PBS LearningMedia

YouTube Animation: WWI Message Transmission

Connections to Wyoming Standards

Wyoming Standards Alignment (Grades 3–5)

Social Studies

- SS5.1.1–SS5.1.3: Historical change, cause/effect, and impact of events.
- SS5.2.1–SS5.2.3: Geography's role in communication and movement.
- SS5.3.1–SS5.3.3: Economic implications of technology (cost, production, use).
- SS5.4.4–SS5.4.5: Global connections and technological influence.

ELA (Common Core)

- RI.3.3–RI.5.3: Analyze relationships between historical events and ideas.
- W.3.2–W.5.2: Informative writing using evidence from sources.
- SL.3.1–SL.5.1: Collaborative discussions and debates.
- RI.3.7–RI.5.7: Use visuals and multimedia to interpret information.

Science / STEAM (NGSS)

- 3-5-ETS1-1: Define design problems with constraints (e.g., battlefield communication).
- 3-5-ETS1-2: Compare solutions based on effectiveness.
- 3-5-ETS1-3: Test and improve models (e.g., Morse code simulation).

Pre Museum Visit Lesson: Introduction to WWI Communication

- Show images of WWI communication tools (telegraph, pigeons, radios).

WWI Communication Technology Overview

- Read a short story or letter from a WWI soldier.

Letters from WWI Soldiers

- Class discussion: 'How do we communicate today?'

- Exit ticket – name one WWI communication tool and one modern tool.

Museum Visit Lesson
Hands-On Simulation

1. Morse Code Decoding (15 min)

   Objective: Introduce students to Morse code as a WWI communication method.

2. Reintroduce WWI Communication Tools (10 min)

   Objective: Activate prior knowledge and prepare for group research.

3. Research & Presentation Prep (20 min)

   Objective: Deepen understanding of each tool's function, strengths, and limitations.

4. Group Presentations (15 min)

   Objective: Share findings and build collective understanding.

5. T-Chart Comparison (10 min)

   Objective: Organize and analyze information visually.

6. Watch Video(s) (10 min)

   Objective: Visualize message transmission and reinforce learning.

7. Revisit T-Chart & Reflective Writing (10 min)

   Objective: Synthesize learning and express opinions.

Visiting NMMV: Additional Interactive Resources

- Students will explore inside tanks and vehicles to see the communication tools or lack of. This will give students the visual idea of being a part of the war with what was available for communication.
- Students will see a signal lamp and how it was mounted to a vehicle for use.
- Visiting will include classroom time with hands on artifacts of semaphore flags and morse code demonstrations.

- WWI artifacts viewing of letters, carrier pigeon replica, and signal flags.

Post Museum Visit Lesson: Legacy and Modern Connections

- Class Timeline project: Create a timeline to show the advancements in communication technology from WWI → post-war → modern equivalents.

- Class debate: 'Which WWI innovation changed the world the most?'

- Write a short response answering the question:

'What modern technology do you think evolved from WWI communication tools and why?'

Wyoming's 3-5 Standards and Common Core/ISTE-aligned technology standards.
Time, Continuity, and Change

Analyzing change over time, cause and effect

Social Studies

- **Grade 3 SS5.1.1**: Identify how people and events shape history.
- **Grade 4 SS5.1.2**: Explain cause and effect relationships in Wyoming and U.S. history.
- **Grade 5 SS5.1.3**: Analyze how historical events and people influenced the development of the U.S.

ELA

- **RI.3.3 / RI.4.3 / RI.5.3**: Explain relationships or interactions between events, ideas, or concepts in a historical or scientific text.
- **W.3.3 / W.4.3 / W.5.3**: Write narratives that recount real or imagined experiences, including sequences and cause/effect.

Science

- **3-LS4-1**: Analyze and interpret data from fossils to provide evidence of organisms and environments that existed long ago.
- **4-ESS1-1**: Identify evidence from patterns in rock formations and fossils to support explanations of changes in landscape over time.

Technology, Literacy & Global Connections

Evaluating pros/cons, connecting to current tech

Social Studies

- **Grade 4 SS5.4.4**: Explain how technology has changed communication and transportation.
- **Grade 5 SS5.4.5**: Evaluate how global connections impact individuals and communities.

ELA

- **RI.4.8 / RI.5.8**: Explain how an author uses reasons and evidence to support points in a text.
- **SL.3.1–5.1**: Engage effectively in collaborative discussions, building on others' ideas and expressing their own clearly.
- **W.3.1 / W.4.1 / W.5.1**: Write opinion pieces supporting a point of view with reasons and information.

Science

- **3-5-ETS1-1**: Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost.
- **3-5-ETS1-2**: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints.

STEAM / NGSS Engineering Design

- **3-5-ETS1-1**: Define a design problem with constraints.
- **3-5-ETS1-2**: Compare solutions based on criteria.
- **3-5-ETS1-3**: Test and improve models or prototypes.

Production, Distribution & Consumption

Understanding cost, production, and use

Social Studies

- **Grade 3 SS5.3.1**: Identify goods and services and explain how people use them.

- **Grade 4 SS5.3.2**: Describe how natural resources and geography influence economic activities.
- **Grade 5 SS5.3.3**: Analyze how supply and demand affect prices and production.

ELA

- **RI.3.2 / RI.4.2 / RI.5.2**: Determine the main idea of a text and explain how it is supported by key details—useful for analyzing economic texts or infographics.
- **W.3.2 / W.4.2 / W.5.2**: Write informative/explanatory texts to examine a topic and convey ideas clearly.

Math

- **3.MD.A.1 / 4.MD.A.2 / 5.MD.B.2**: Solve problems involving measurement and estimation—applicable to cost analysis and budgeting.

STEAM Integration

- **STEAM K–5 Framework**: Explore real-world applications of economics through design thinking and budgeting in projects.

People, Places, & Environments

Geography's role in communication

Social Studies

- **Grade 3 SS5.2.1**: Use maps and other geographic tools to locate and describe places.
- **Grade 4 SS5.2.2**: Explain how physical and human characteristics influence settlement and communication.
- **Grade 5 SS5.2.3**: Analyze how geography affects culture, communication, and movement.

ELA

- **RI.3.7 / RI.4.7 / RI.5.7**: Use information from maps, charts, and other visuals to understand text.
- **SL.3.5 / SL.4.5 / SL.5.5**: Include multimedia components to enhance presentations—ideal for mapping and geographic storytelling.

Science

- **ESS2-2 (Grades 4–5)**: Analyze and interpret data from maps to describe patterns of Earth's features.

STEAM Standards Overview (Grades 3–5)

Integrated Science, Technology, Engineering, Art, and Math

NGSS Engineering Design (STEAM Core)

- **3-5-ETS1 Series**: Problem-solving through design, testing, and iteration.

STEAM Framework (K–5)

- **Career Awareness**: Explore STEM careers through project-based learning.
- **Art Integration**: Use visual design and storytelling to enhance STEM understanding.
- **Systems Thinking**: Apply cross-disciplinary skills to real-world challenges.