**2010 *Back to History* Lesson Plan
"Dominion of War"**

Team Members:	Monica Klarer Julie Pratt
Instructional Unit:	Inventors and Inventions
Title of Lesson:	Joseph Desch and the Enigma Machine
Grade Level:	2nd
Description:	How one inventor used technology in his job to make a change and how that invention changed World War II.
Standards: Include Standard, Benchmark Letters, and GLI numbers	2 History 3: Timeline 2 History 5: Identify the work that people performed to make a living in the past and explain how jobs in the past are similar and/or different from those of today. 2 History 6a: Communication past and present. 2 Geography 1: Maps 2 Soc. Studies Skills and Methods 2: Identify sources used to gather information about people, printed materials and electronic sources. 2SSSM 6: Use problem solving/decision making skills
Duration	2-4 days 40 min. lessons

Materials and Resources:

1. World Map
2. Venn Diagram
3. *World War II* (Eyewitness Books) by Simon Adams. New York: DK
    Children, 2007.
4. *World War II: The War in Europe* by John J. Vail. Lucent Books, 1991.
5. *A World War Two Submarine* by Richard Humble and Mark Bergin.
    Peter Bedrick, 2001.
6. *Germany and Japan Attack* by Sean Sheehan. Raintree Steck-
    Vaughn, 2001.

Primary Source Materials with citations:

National Cash Register Co. photograph, Ohio Federal Writer's Project. Ohio
    Historical Society, Ohio Guide Photographs, State Archives Series
    1039 AV, accessed at *Ohio Memory*,
    http://www.ohiomemory.org/cdm/ref/collection/p267401coll34/id/2108.

"Deutsches U-boot versenkt englischen frachtdampfer," Adolf Brock, 1941.
    Library of Congress Prints and Photographs Division,
    http://www.loc.gov/pictures/item/2008678875

Applications of Technology
    http://www.pdowgiert.com/central/apps1/readings/1_info_tech_history.htm

Secondary Source Materials:

"The Dayton Code Breakers Project." Deborah Desch Anderson.

    http://daytoncodebreakers.org

"The US Bombes, NCR, Joseph Desch, and 600 WAVES: The First Reunion
    of the US Naval Computing Machine Laboratory." John A.N. Lee, Colin
    Burke, and Deborah Anderson. IEEE Annals of the History of

Computing, Vol. 22, Issue 3 (July-September 2000): 27-41.
http://ei.cs.vt.edu/~history/WAVES.pdf

Warm Up:

Previous lessons included Ben Franklin and the Wright Brothers.

Students will create a timeline of inventions studied to date.

Introduce the time frame of WWII and the geography of Europe and the Atlantic Ocean.

Instructional Strategies:

Teacher led instruction about the beginning of WWII, U-boats, and spying, especially the use of the first enigma machine. Students will prepare a Venn Diagram comparing transportation then and now. Students will be given information about the development of the American enigma machine, Joe Desch, and National Cash Register (NCR). Students will then work in small groups to determine the correct order of events and then will prepare a class sequence of the events. Teacher will then lead discussion of the activity. Students will answer "What if…" questions.

Homework and Practice:

Various coding activities such as spelling practice in code.

Assessment Question:

Explain how the development of the American enigma machine was able to end World War II.

(See attached rubric.)

Re-teach Activity:

Compare Joe Desch's job to a job an inventor might have today at NCR.

Extension Activity:

1.   Answer "What if…" questions.

2.   Research other inventors

3.   Decode spelling words

4.   Create a machine from Lego's or recycled materials

5.   Research women in the military (WAVES) in conjunction with Women's History Month.

RUBRIC FOR ASSESSMENT QUESTION:

4 PTS: Response indicates that the student has a thorough understanding of the historical concept. The student has provided a response that is accurate, complete, and has correct sentence structure.

3 PTS: Response indicates that the student has an understanding of the historical concept. The student has provided a response that is accurate but is lacking details.

2 PTS: Response indicates that the student has a partial understanding of the historical concept. The student has provided a response that is too general or simplistic. Student omitted information or details.

1 PT: Response indicates the student has very limited understanding of the history concept. The response is incomplete, may exhibit many flaws, and may not address all requirements of the task.

0 PTS: Response indicates that the student does not demonstrate an understanding of the historical concept.