

Standard 5-4: The student will demonstrate an understanding of the economic boom-and-bust in America in the 1920s and 1930s, its resultant political instability, and the subsequent worldwide response.

5.4.6 Summarize key developments in technology, aviation, weaponry, and communication and explain their effect on World War II and the economy of the United States. (P, E, H)

Taxonomy Level: B 2 Understand/ Conceptual Knowledge

Previous/future knowledge:

All concepts associated with this indicator are new for 5th grade students.

In Global Studies, students will exemplify the lasting impact of World War II, the moral implications of military technologies and techniques such as the atomic bomb (GS 5.6).

In United States History, students will summarize and illustrate on a time line the major events and leaders of World War II, including the dropping of atomic bombs on Hiroshima and Nagasaki (USHC-8.2). They will explain the lasting impact of the scientific and technological developments in America after World War II, including new systems for scientific research, medical advances, improvements in agricultural technology, and resultant changes in the standard of living and demographic patterns (USHC-8.5).

It is essential for students to know:

Key developments in technology, aviation, weaponry, and communication had a significant impact on World War II and on the economy of the United States both during the war years and in the postwar period. With the increase in production necessary to sustain the war effort, the economy of the United States experienced a boost, lifting the nation out of the Great Depression. Medical advances in the treatment of infection and disease such as penicillin have helped to prolong the lives of many Americans and contributed to an aging population.

Aviation innovations included improved bombers that were able to fly farther and the use of radar to track these planes and to spot enemy planes. By the end of the war, jets were being developed. After the war, personal and business air travel and the transportation of goods around the world grew significantly because of the technology of the airplane.

Secret **communications** codes developed during the war contributed to the development of computer systems designed to break those codes. The first computers were room-sized machine. The computer industry has grown tremendously in the last 60 years and as a result Americans enjoy almost instant access to information through the use of their personal computers and lap tops.

Advances in **weaponry** were made in response to wartime needs. The two atom bombs that were dropped on Japan were developed by a team of scientists in the United States who were trying to beat the Germans to the technology. [Although Albert Einstein encouraged President Franklin Delano Roosevelt to establish the Manhattan Project that developed the bomb, he was not involved in the process (5-3.2).] Atomic technology has had a significant impact on the economy of the United States since World War II. The arms race started as a result of America's exclusive control of the atom bomb. This race to develop new and better bombs and ways to deliver them to the target have resulted in extensive government spending which has both stimulated the economy and focused spending on the military. Peacetime uses of nuclear technology may include a clean and renewable source of energy however Americans are cautious about this technology.

It is not essential for students to know:

Students do not need to be able to recall specific people, places, or events associated with the development of the improvements to technology addressed. Although helpful as a part of the discussion, the assistance of Albert Einstein and the term Manhattan Project are not required for students to associate with the development of the atomic bomb.

Assessment guidelines:

Appropriate assessments require students to **summarize** key developments in technology, aviation, weaponry, and communication and how these developments played a role in World War II. In addition, students should be able to **describe** how these advancements had an impact on the economy of the United States.