

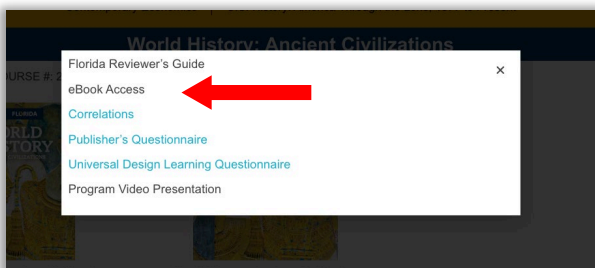
2022-2023 Florida Social Studies Instructional Materials

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AMERICAN STORIES | **NATIONAL GEOGRAPHIC**

ONE GIANT LEAP

On the evening of July 20, 1969, most Americans were fixated on a television screen, witnessing one of the greatest feats of engineering and technology in history: the first landing of a human on the moon. Years later in an interview, Neil Armstrong shared the credit for his lunar landing with a team of hundreds of thousands of men and women whose feet never left Earth, remarking, "Every guy that's setting up the tests, cranking the torque wrench, and so on, is saying—man or woman—"If anything goes wrong here, it's not going to be my fault."

APOLLO 11
mission patch

THE SPACE RACE
Much of the technology needed to put Neil Armstrong and Buzz Aldrin on the moon was developed in a remarkably short span of time. One of the motivations for inventing that technology—competition—is as old as humanity.

As you have read, in 1957, the United States and the Soviet Union were engaged in a period of mutual distrust and hostility—the Cold War. Each country worried about the other developing more advanced weaponry or spying capabilities. When the Soviet Union launched Sputnik on October 4 of that year, Americans fretted that if the Soviets were more advanced in space technology, they might be ahead in weapons technology as well.

The American public was not reassured when, in December 1953, the U.S. Navy attempted to launch a satellite aboard a Vanguard rocket that caught fire upon take-off and crashed, earning the nickname "Froggie" from the press. A month later, however, the first U.S. satellite reached space atop a Jupiter rocket launched by the army. The space race between the Americans and Soviets was on.

HUMAN COMPUTERS
In May 1941, President Kennedy set out an ambitious goal in a speech before Congress, telling legislators, "I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to the earth." It was time to get to work.

Neil Armstrong's estimate of "hundreds of thousands" of people needed to place him on the moon was not an exaggeration. By one account, around 30,000 employees from NASA and 376,703 from universities or private industry worked on aspects of the lunar landing.

Armstrong was also correct to note that both men and women were involved in the massive effort. During the early years of space exploration, digital computers were not very advanced and could not perform the complex mathematics of placing a satellite, or a human being, in orbit or on the moon. That job fell to humans who held the job title of "computer" at NASA facilities such as Jet Propulsion Laboratory (JPL) in California and the Langley Research Center in Virginia. Most of the human computers were women.

Astronauts Buzz Aldrin (shown here) and Neil Armstrong set up scientific experiments near their landing site on the moon. One of the experiments used seismometers powered by solar panels to measure lunar shock waves caused by seismic activity—moonquakes. It also measured the impact of meteoroids or other objects on the lunar surface.

654 CHAPTER 16

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