

# STEM Works

## Satellite [sat-l-ahyt]

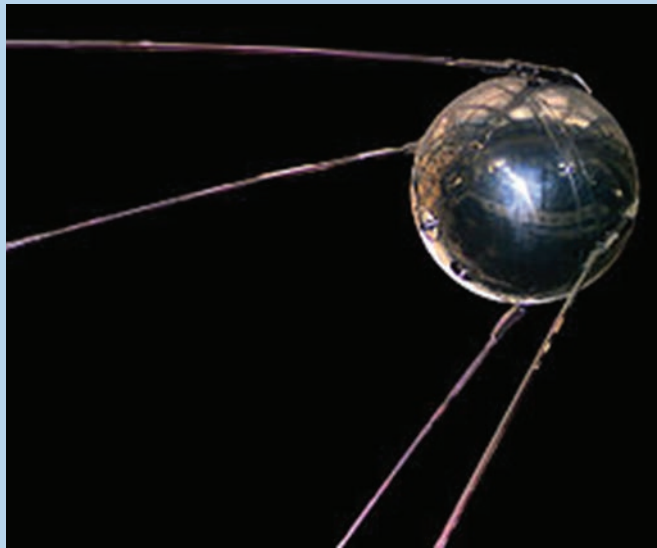
A satellite is an artificial object, which has been intentionally placed into orbit. Common types include military and civilian Earth observation, communications, navigation, weather and research. Satellite orbits vary greatly, depending on the purpose of the satellite, and are classified in a number of ways including low Earth orbit, polar orbit and geostationary orbit.

**1945** English science fiction writer Arthur C. Clarke, "Space Odyssey: 2001", provides a detailed description of the possible use of communications satellites for mass communications in a wireless world letter to the editor entitled, "Peacetime Uses for V2".

**1955** John R. Pierce of AT&T's Bell Telephone Laboratories elaborates on the utility of a communications "mirror" in space that includes a medium-orbit and a 24-hour-orbit "repeater."

**1957** The Soviet Union opens the space age with the launch of Sputnik 1, the world's first artificial satellite.

**1958** The United States launches its first artificial satellite, Explorer 1, from Cape Canaveral, Fla. Congress passes the Space Act a few months later, officially creating NASA.



**1961** NASA awards a competitive contract to RCA to build a medium-orbit (4,000 miles high) active communication satellite (RELAY). AT&T builds its own medium-orbit satellite (TELSTAR) on a cost-reimbursable basis with NASA. NASA commissions Hughes Aircraft Co. to build a 24-hour (20,000 mile high) satellite (SYNCOM).

**1976** AT&T and COMSAT launch the first of the COMSTAR series, to be used for voice and data, but television quickly became a major user.

**1979** The UN International Maritime Organization sponsored the establishment of the International Maritime Satellite Organization (INMARSAT) in a manner similar to INTELSAT.

**1987** Motorola conceives the Iridium satellite constellation, consisting of 66 active satellites in low Earth orbit. Iridium provides voice and data coverage

to satellite phones, pagers and integrated transceivers over the entire surface of the Earth.

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