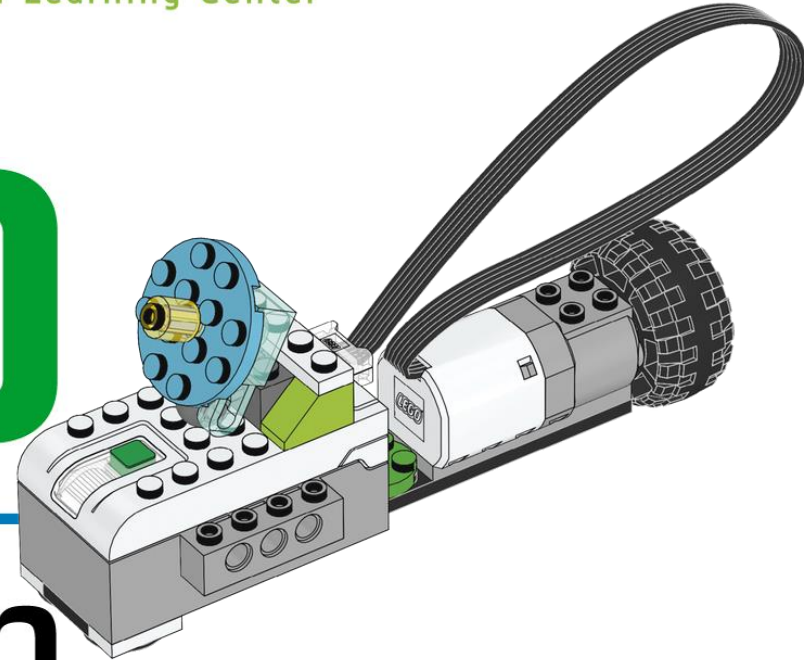


# WeDo 2.0



**education**



**Lesson: Satellite**



Satellites are used mainly for communications, such as beaming TV signals and phone calls around the world. A group of more than 20 satellites make up the Global Positioning System, or GPS. If you have a GPS receiver, these satellites can help figure out your exact location.



## Why Are Satellites Important?

The bird's-eye view that satellites have allows them to see large areas of Earth at one time. This ability means satellites can collect and send more information, more quickly, than instruments on the ground.



With satellites, TV signals and phone calls are sent upward to a satellite. Then, almost instantly, the satellite can send them back down to different locations on Earth.





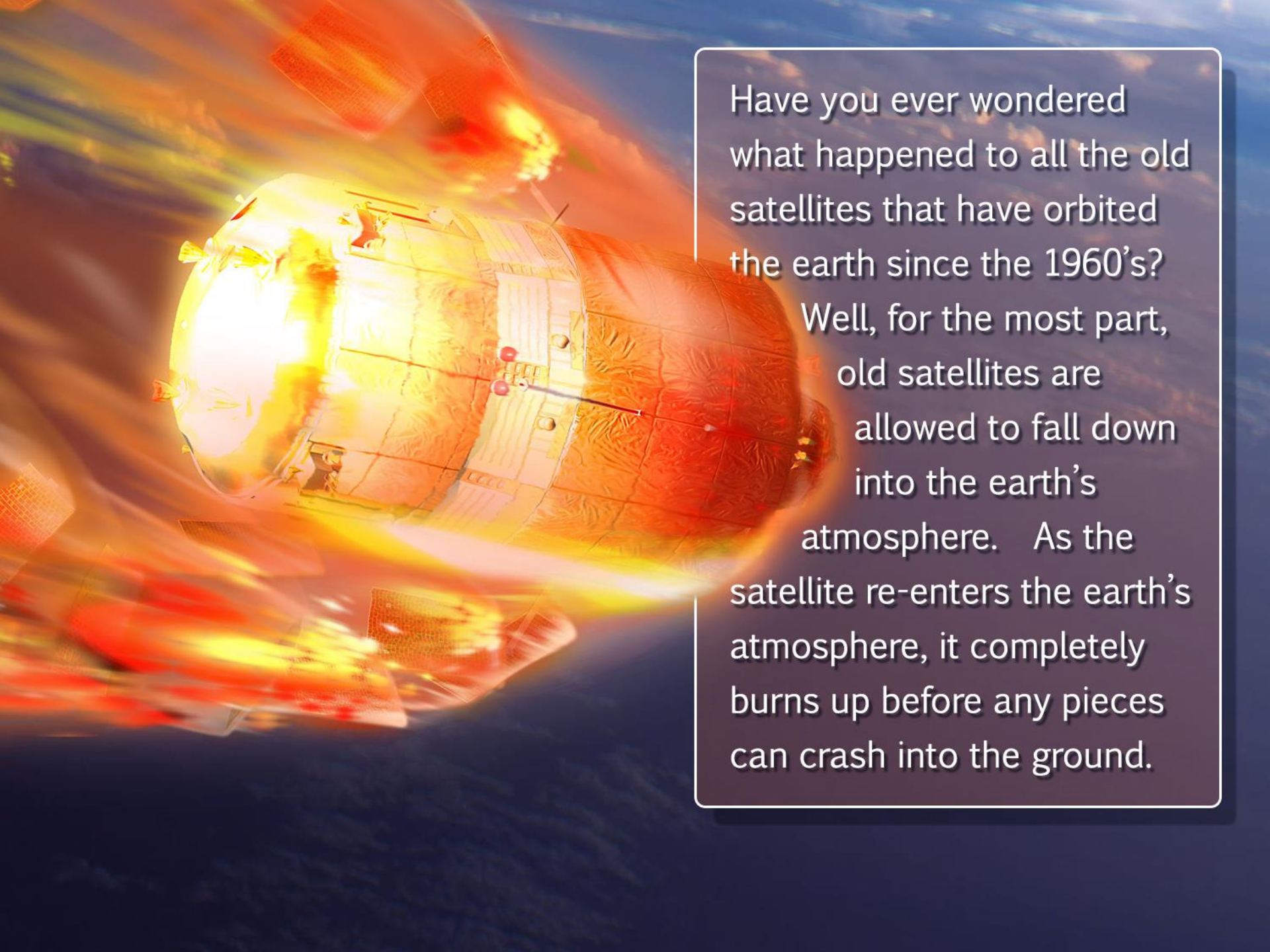
Before satellites, TV signals didn't go very far. TV signals only travel in straight lines. So they would quickly trail off into space instead of following Earth's curve. Sometimes mountains or tall buildings would block them. Phone calls to faraway places were also a problem. Setting up telephone wires over long distances or underwater is difficult and costs a lot.



Sputnik 1 was the first artificial Earth satellite. The Soviet Union launched it into Earth's orbit on 4 October 1957, orbiting for three weeks before its batteries died, then silently fell back into the earth's atmosphere. Can you guess what happened to it as it re-entered the earth's atmosphere?







Have you ever wondered what happened to all the old satellites that have orbited the earth since the 1960's?

Well, for the most part, old satellites are allowed to fall down into the earth's atmosphere. As the satellite re-enters the earth's atmosphere, it completely burns up before any pieces can crash into the ground.



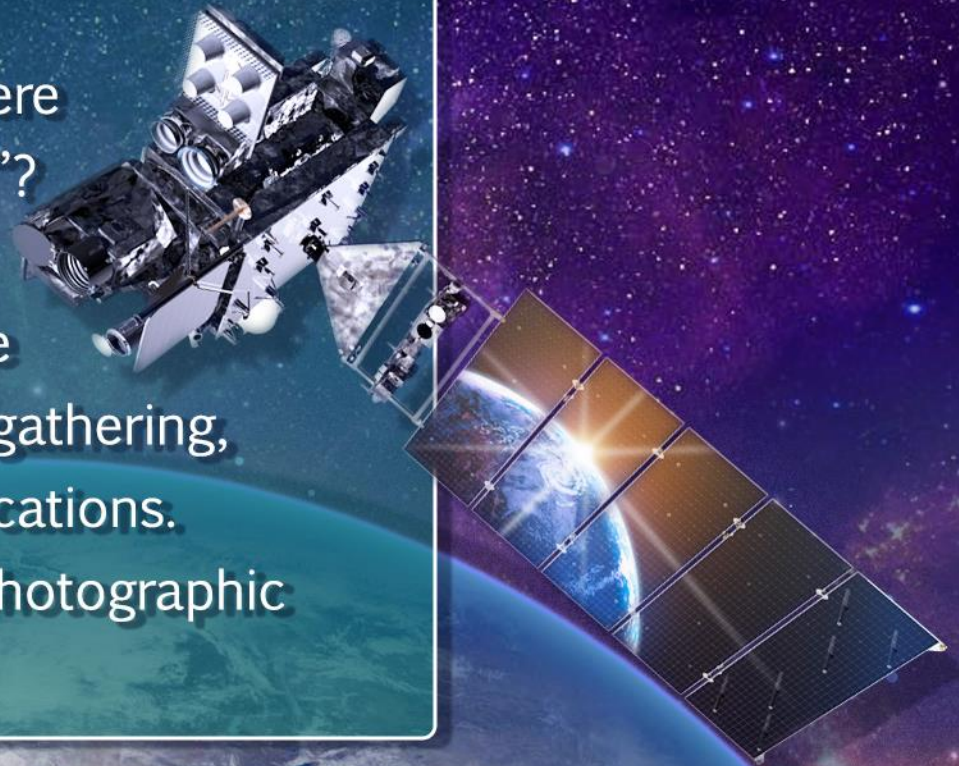
The Goddard Space Flight Center's lists 2,271 satellites currently in orbit. Russia has the most satellites currently in orbit, with 1,324 satellites, followed by the U.S. with 658.

By the way, did you know that there is such a thing as a “spy satellite”?

Yes... it is as cool as it sounds!

Basically this is a military satellite used for missions in intelligence gathering, navigation and military communications.

The first military satellites were photographic reconnaissance missions.

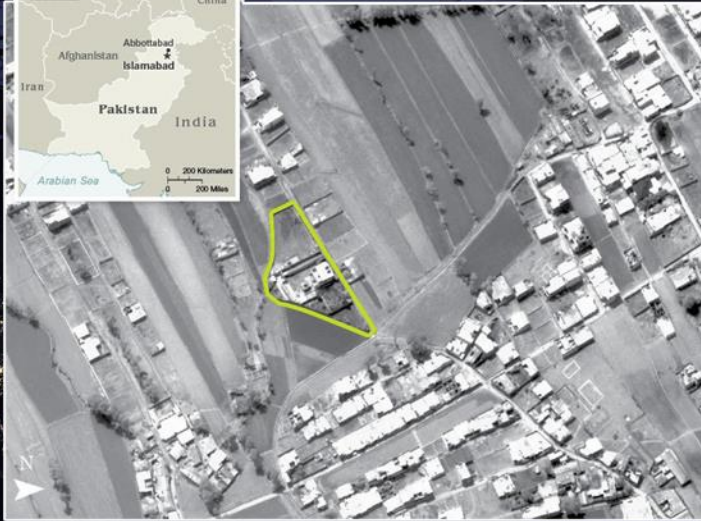






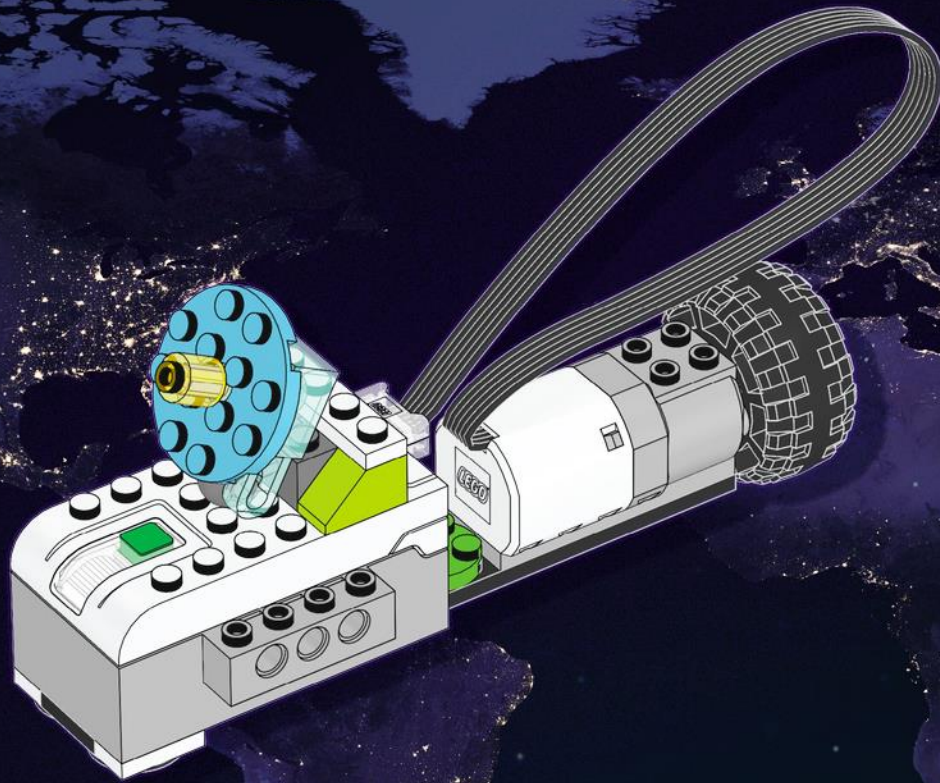
Unfortunately the countries of U.S.A, Russia and China have been continuously developing what are called satellite weapons. Satellite weapons are currently being designed to destroy other satellites or to send down lazer beams that destroy objects and buildings.





Here are real world pictures that satellites have taken! The background map of the world taken during the night is also a satellite photograph!





There you have it kids! We learned so much about satellites and how important this technology is to everyone in the world! Now let's build our own satellite! Let's do this!