

Best Practices for Using Wireless Technology in Schools

All wireless devices emit microwave or radio-frequency radiation (RFR). Scientific studies have shown that this type of radiation, previously thought to be relatively safe, has measurable and harmful biological effects on humans. Developing fetuses and young children are among the most vulnerable to this type of radiation.

The safest solution is to provide wired connections. Wired connections are faster, more secure, more economical and safer than wireless networks. Most wireless routers have Ethernet connections, and allow the wireless function to be disabled. Your IT department can install wired Ethernet connections in classrooms. Computers and tablets can be hardwired to the Internet using adapters.

For situations where hard-wired installations are not yet possible, we recommend the following no-cost guidelines below.

1. Distance is critical. Proximity to wireless devices is the most important factor in determining the amount of radiation exposure. The exposure decreases significantly as you move away from the source.

2. Avoid prolonged contact by keeping wireless devices away from the body. Always place devices on a solid surface. Do not permit students to use devices in their laps. Viewing distance should be a minimum of 12 inches from the screen.

3. Turn off antennas when not in use. On all devices for learning, the default settings should be set to OFF for cellular, Bluetooth, Siri, location services, Wi-Fi and mobile hotspot. Turn specific antennas on for the device only when needed. Typically, students only use Wi-Fi in class.

4. Stream only when necessary. Download necessary apps beforehand and then work offline (in airplane mode) as much as possible. If students are not using the internet, make sure they put their device in airplane mode AND disable Wifi and Bluetooth antennas. These antennas must be disabled, even in airplane mode, in order to eliminate radiation emissions.

5. Turn off wireless devices when not in use.

6. Power down routers when possible. The router is usually the most significant source of radiation in a classroom. The strongest radiation from a router typically extends out from the router 5 to 10 feet in every direction. Find out if the router has an easily accessible power switch that can be turned off when not in use. A router can be moved near the classroom door rather than placed in the middle of the room above student tables or desks.

7. Reduce transmit power of routers and access points. Commercial routers are more powerful than those for home use and are often overpowered for classroom needs. Ask your staff IT person to reduce radiation emissions w/o affecting connectivity to devices by:

- Reducing the transmit power to 25% or less on wireless access points
- Disabling either the 2.4GHz or 5GHz radio on the wireless access point.
- Changing beacon signal interval time from 100 ms to 1000 ms.

8. Require cell phones be turned OFF in classrooms.

For links to scientific studies, as well as legal and technical information regarding the use of wireless technology in schools, please visit www.TechSafeSchools.org

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