



Digital vs. Analog Signals Activity for Kids

Radio Waves DIY

 Duration: **5-10 min**

 Difficulty: **Easy**

 Cost: **\$0 - \$5**

Learn that cell phones send and receive wireless signals through radio waves!

Material List

- 1** Cell phone
- 1** Piece of paper
- 1** Piece of aluminum foil
- 1** Friend to call your phone or a second phone

Instructions

- 1** Wrap your phone in the piece of paper.
- 2** Have your friend (or yourself) call your phone (make sure it's not on silent). Observe.
- 3** Then, wrap your paper-wrapped phone in the aluminum foil.
- 4** Have your friend (or yourself) call your phone. Observe.

How It Works

Our electronic devices send and receive information through pulses of radio waves. Radio waves can go through most things, even walls, but there are some things they can't go through. Since you can hear your phone ring when it is wrapped in the piece of paper, that means that radio waves went through the piece of paper and reached your phone. You'll notice that when your phone is wrapped in the aluminum foil, it's not ringing when called. This is because the radio waves cannot get through the metal cage made by the aluminum foil, it reflects and absorbs the waves. This is also why people sometimes lose reception in a metal elevator.