How do Wifi and Cell Phones Work?

Part 1. Vocabulary
Directions: Match the letter with the correct definitions

a. Electrical impulses
b. Antenna
c. Gravitational waves
d. Electromagnetic waves
e. Radio Wave synthesis

Definitions

1. Fluctuations in electromagnetic fields, propagating as radiant energy.
2. Electrons flowing along potential difference
3. Carefully choreographed, rhythmic dance of electrons
4. Metal - tongued voodoo device that swallow electrical impulses and spits out radio waves
5. Fluctuations in gravitational field, propagating as radiant energy

Part 2. Fill in the blanks
Directions: Match the letter with the correct word to fill in the blanks.

a. communications	b. rhythmic
c. send	d. electron
e. ping	f. Electric impulses
g. encode	h. interference
i. code	j. message
k. outward	l. electromagnetic
m. encrypted	n. device
o. wireless	p. antenna
q. conducting	r. transmitter
s. cables	t. decode

LIVEWORKSHEETS

When you press _____ on your messaging app, your mobile OS sets off a chain of events that ultimately _____the message as a careful choreography of an____dance. This dance results in the _____ebbs and flows in the ___field in the surrounding space, which radiates_____ towards a cell tower. The receiving_____ on the cell tower feels these ebbs and flows on its _____ surface, inducing an electron dance very similar to the one at the ____.

This electron dance is a set of ____ in tiny copper wires, which aren't ____ by the hardware at the cell tower. The decoded information is then carried on high - throughput ____ for thousands of miles across country, continent, and even ocean through Transatlantic ____ cables to a cell tower near your friend across the ocean. Then, from your friend's phone to another ___ jump and finally, your friend hears the familiar_____. Your phone broadcasts your _____ in all directions for anyone to listen to. Your message will be _____ and only the cell tower can decode your message. With every message you transmit, you also include a ____ that uniquely identifies your _____. This is how the cell tower knows it's you. Devices can speak at different times, different frequencies, or different codes, to avoid _____.

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