



**LEGEND**

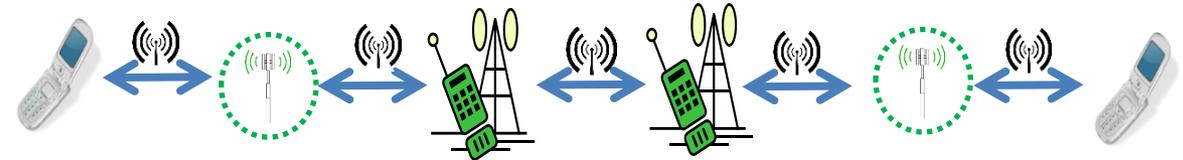
-  Mobile Telephone
-  Switching Office
-  Local Switching Center
-  Cell Tower + Coverage Area
-  Home Phone (Landline)
-  Cell Phone
-  Satellite Phone
-  Communication Satellite
-  Telephone Wires
-  Radio Waves

**TELECOMMUNICATION NETWORKS**

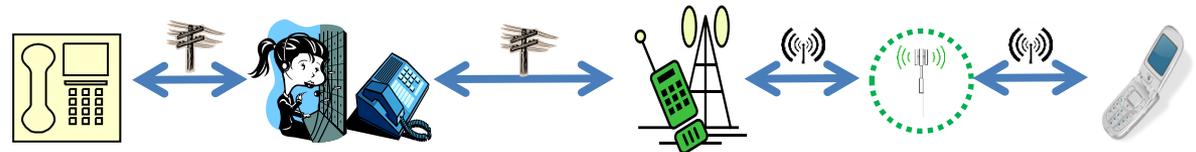
**1) Home to a Home using landline phones:**



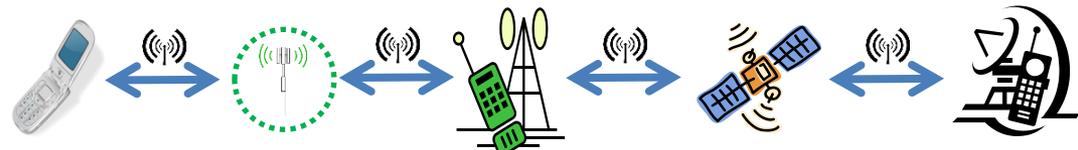
**2) Cell Phone to a Cell Phone:**



**3) Home to a Cell Phone:**



**4) Cell Phone to Satellite Phone:**

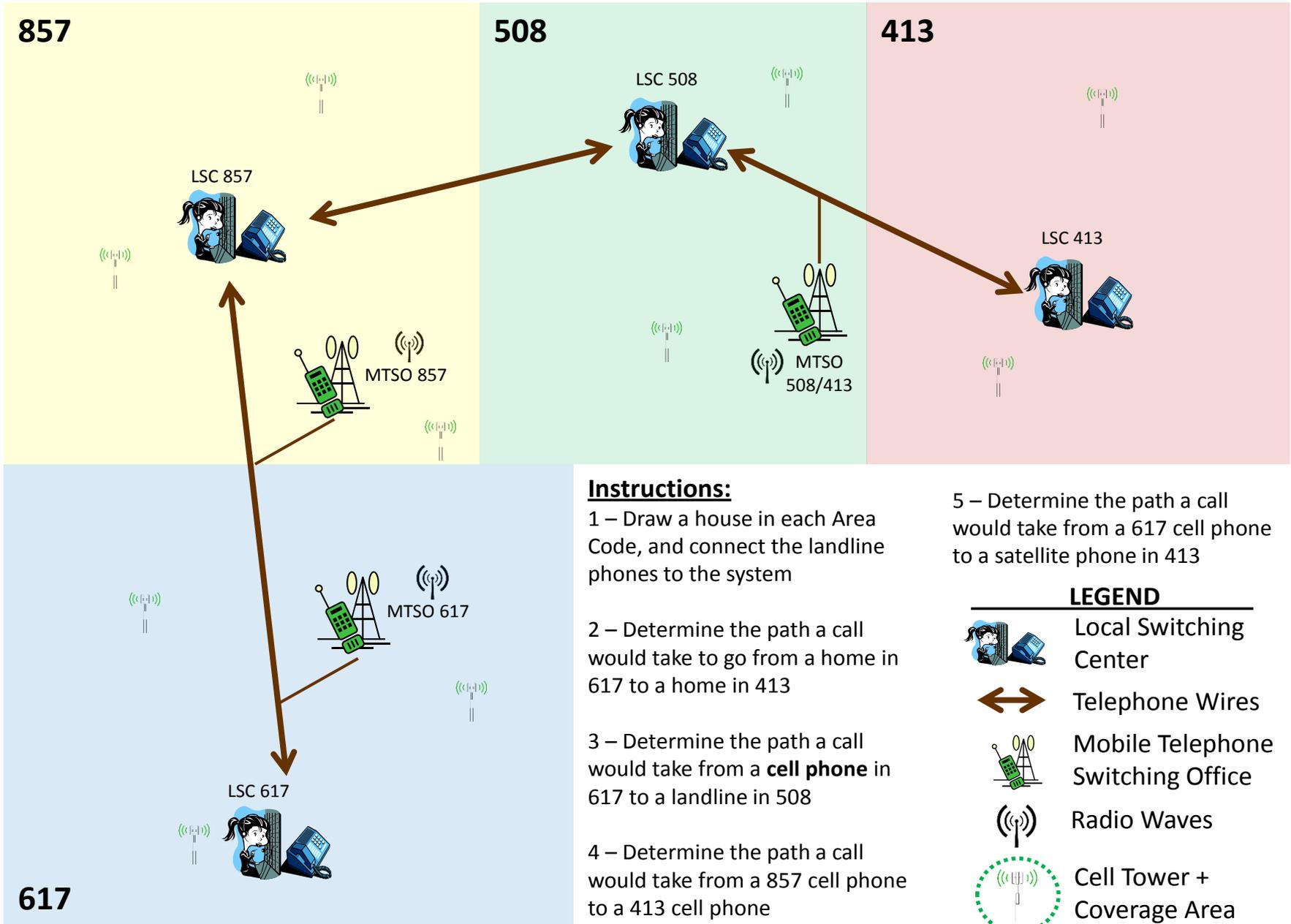


# Telecommunications



Northeastern University  
*Center for STEM Education*

- What is Telecommunications? Give some examples for both pre and post electricity:
- How do landline phones work?
- How do cell phones work? What type of waves do they use?
- What are the different components of the cell phone system?
- How does a satellite phone work?
- How do you think features like text messages, GPS, and internet work on cell phones?



**Instructions:**

- 1 – Draw a house in each Area Code, and connect the landline phones to the system
- 2 – Determine the path a call would take to go from a home in 617 to a home in 413
- 3 – Determine the path a call would take from a **cell phone** in 617 to a landline in 508
- 4 – Determine the path a call would take from a 857 cell phone to a 413 cell phone

5 – Determine the path a call would take from a 617 cell phone to a satellite phone in 413

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-  Local Switching Center
-  Telephone Wires
-  Mobile Telephone Switching Office
-  Radio Waves
-  Cell Tower + Coverage Area