

5G VS LTE + AIRPLANE INTERFERENCE | A REAL SC CHALLENGE QUESTION

Big Idea

A REAL Science Challenge Question is a quick and fun way to have students practice problem solving and apply science and engineering practices (SEPs) and Crosscutting Concepts (CCCs). I like REAL Science Challenge Questions because they...

1. are not based on any discrete knowledge,
2. force students to think like a scientist and develop their own experiment
3. do not have googleable answers
4. are relevant, and
5. are open ended - thus, there isn't just one answer out there

This activity is centered 5G and LTE signals and airplane interference. Specifically, if 5G signals are able to interfere with airplane equipment, would LTE or 4G signals do the same? Use the CER format to write a response.

Instructions

1. Post the REAL Sc Challenge Question prompt up for students (refer to next 2 handouts)
2. Give students 5-10 minutes to discuss in pairs and write a response using the CER format.
3. Have students share their responses.

NOTE: Stress the need for students to provide evidence and an explanation. Evidence is any data or observable trends. An explanation serves to explain the evidence and claim. I usually say that an explanation is the part of the response that has "because" in it.

Major wireless networks partially agree to delay 5G around airports

DTW is one of 50 airports that will have buffer zones

The New York Times

How 5G Clashed With an Aviation Device Invented in the 1920s

The potential for interference between 5G signals and the radio altimeters long used by pilots has divided the telecom and aviation industries.



***"What about LTE or 4G signals?
Can they disrupt an airplane's
altimeter as well?"***

*Take a few minutes and write a
scientific argument for or against the
question using the CER format.*