

Q20 and Q21 Later, O dispatches a second projectile in the direction of O' at a velocity of $0.6c$ relative to his frame. This projectile emits microwaves at a frequency of 10^{12} Hz, which are received by both observers.

KEY for Q20 and Q21

- | | |
|------------------------|------------------------|
| A 2×10^{12} | D 6.7×10^{11} |
| B 1.5×10^{12} | E 5.0×10^{11} |
| C 1.0×10^{12} | F 3.3×10^{11} |

Q20 Select from the key the item representing the frequency, in Hz, of the microwaves as measured by O. Pencil across *one* cell in row 20.

Q21 Select from the key the item representing the frequency, in Hz, of the microwaves as measured by O'. Pencil across *one* cell in row 21.