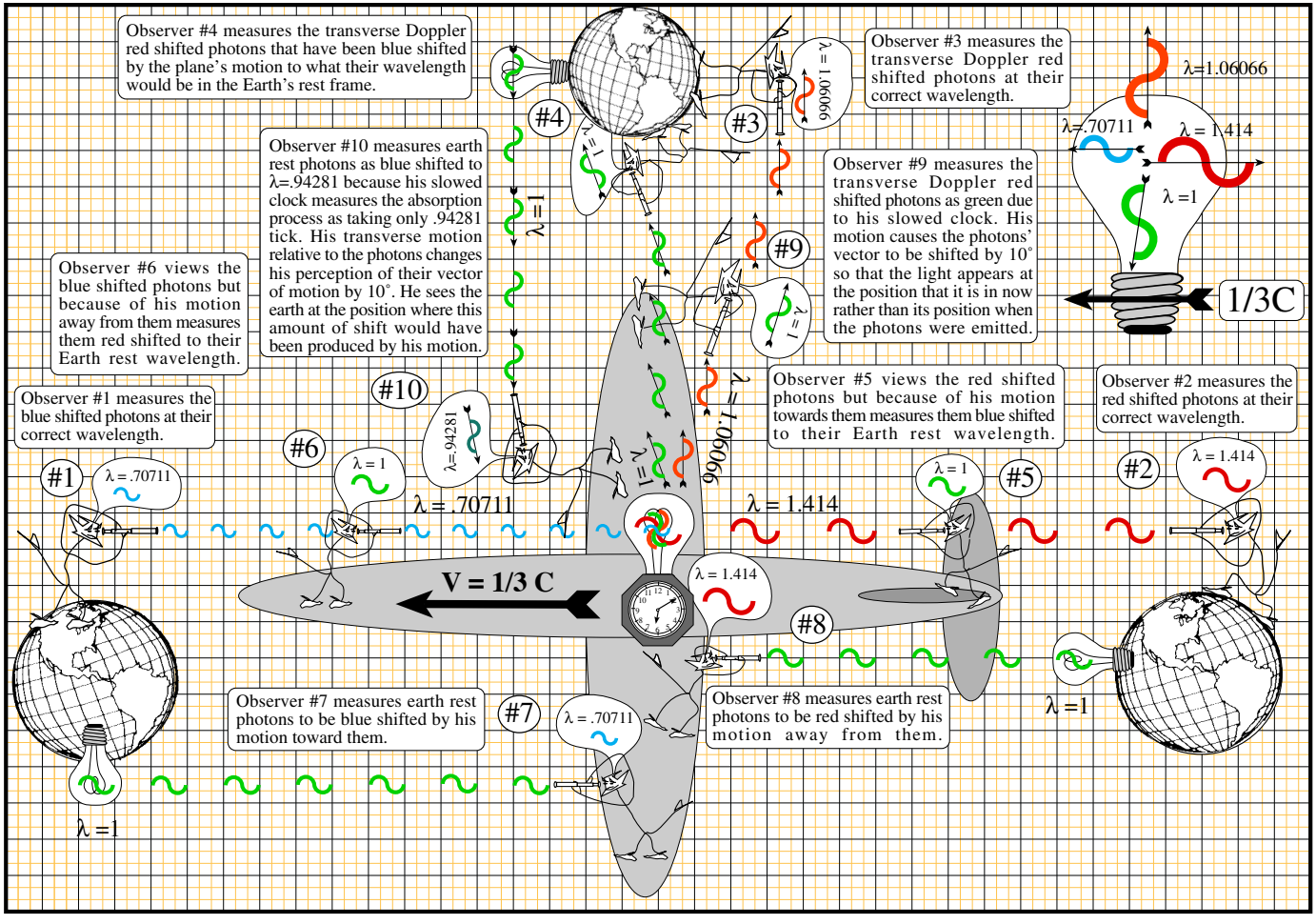
Observer #4 measures the transverse Doppler red shifted photons that have been blue shifted by the plane's motion to what their wavelength would be in the Earth's rest frame.
Observer #3 measures the transverse Doppler red shifted photons at their correct wavelength.
λ=1.06066
λ=.70711
λ = 1.414
λ =1
1/3C
Observer #10 measures earth rest photons as blue shifted to λ=.94281 because his slowed clock measures the absorption process as taking only .94281 tick. His transverse motion relative to the photons changes his perception of their vector of motion by 10°. He sees the earth at the position where this amount of shift would have been produced by his motion.
Observer #9 measures the transverse Doppler red shifted photons as green due to his slowed clock. His motion causes the photons' vector to be shifted by 10° so that the light appears at the position that it is in now rather than its position when the photons were emitted.
Observer #6 views the blue shifted photons but because of his motion away from them measures them red shifted to their Earth rest wavelength.
Observer #5 views the red shifted photons but because of his motion towards them measures them blue shifted to their Earth rest wavelength.
Observer #2 measures the red shifted photons at their correct wavelength.
Observer #1 measures the blue shifted photons at their correct wavelength.
#1
#2
#3
#4
#5
#6
#7
#8
#9
#10
λ = .70711
λ = 1
λ = 1.414
λ = 1.06066
λ=.94281
V = 1/3 C
Observer #7 measures earth rest photons to be blue shifted by his motion toward them.
Observer #8 measures earth rest photons to be red shifted by his motion away from them.
λ =1