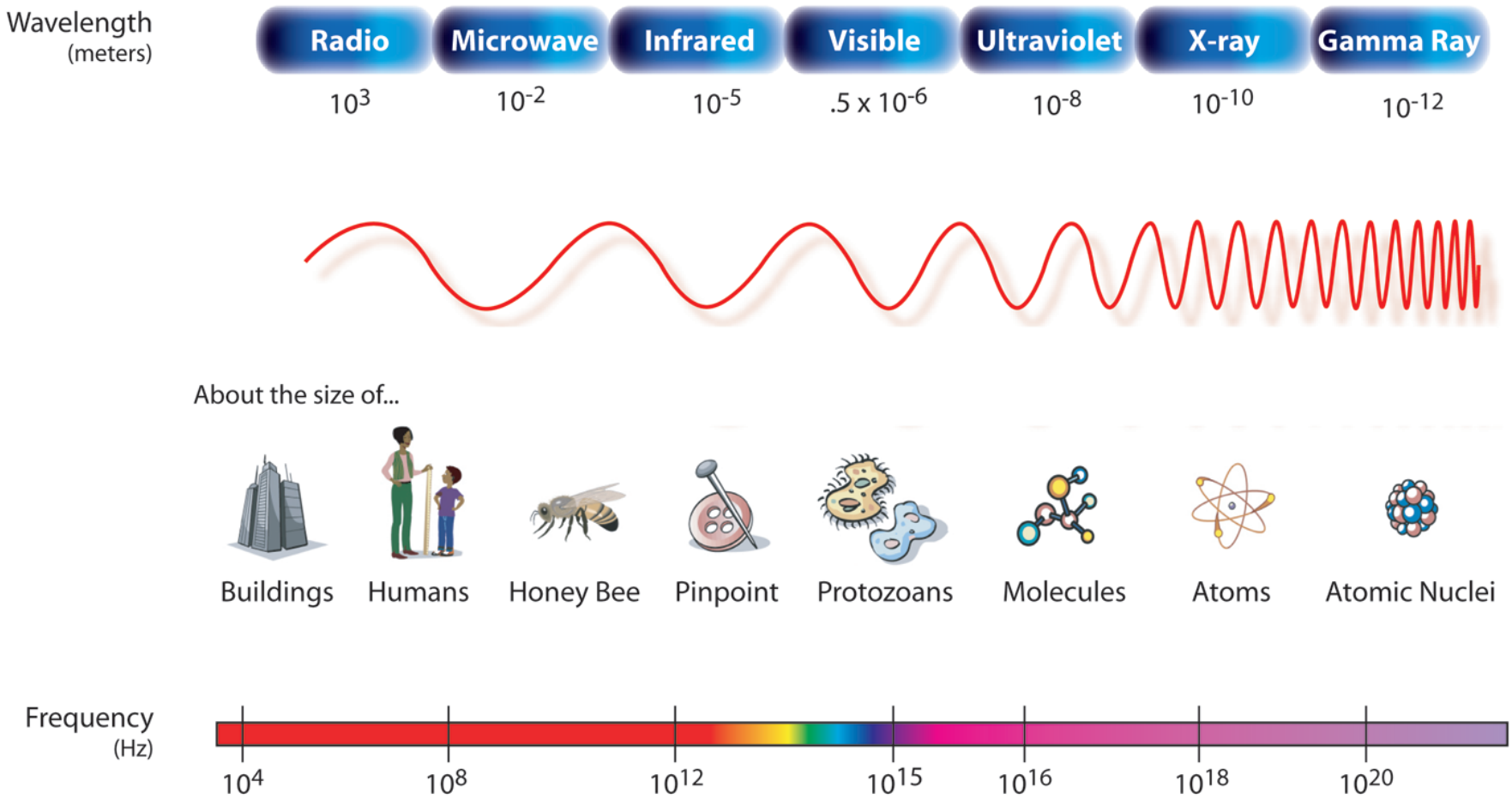THE ELECTROMAGNETIC SPECTRUM