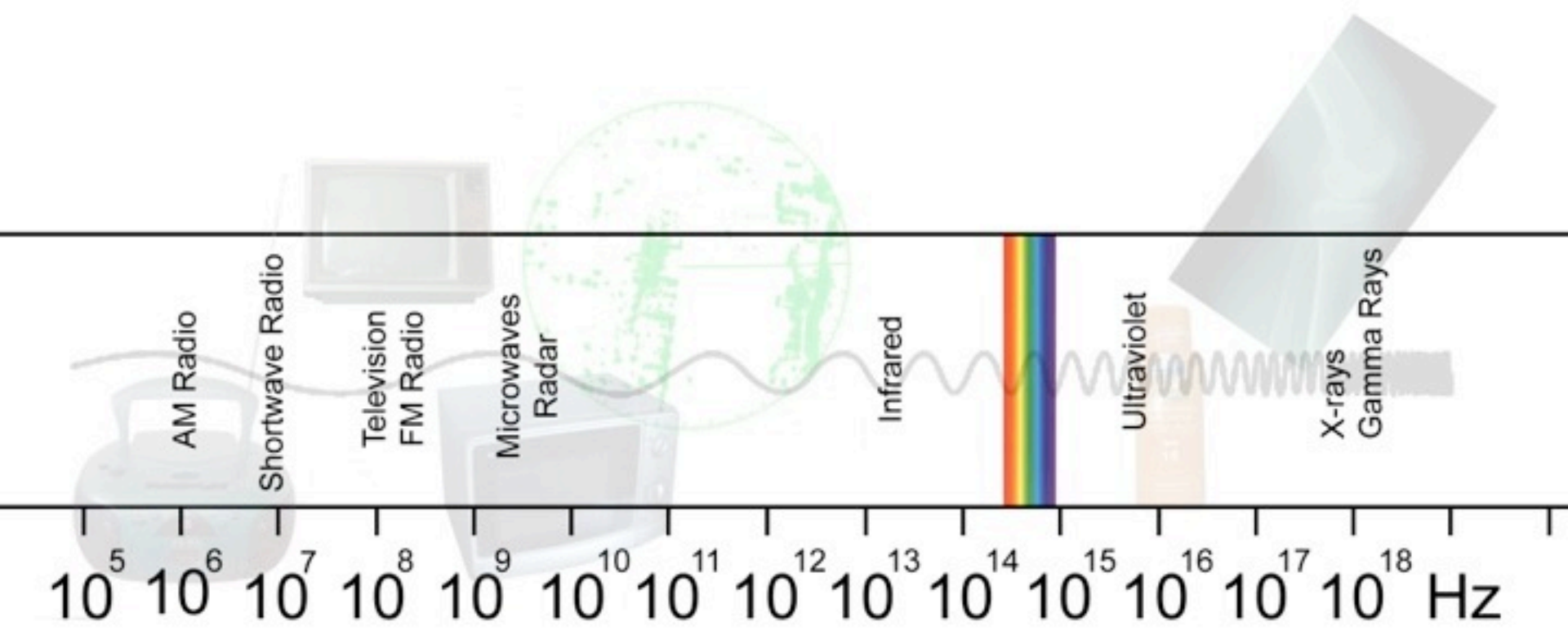
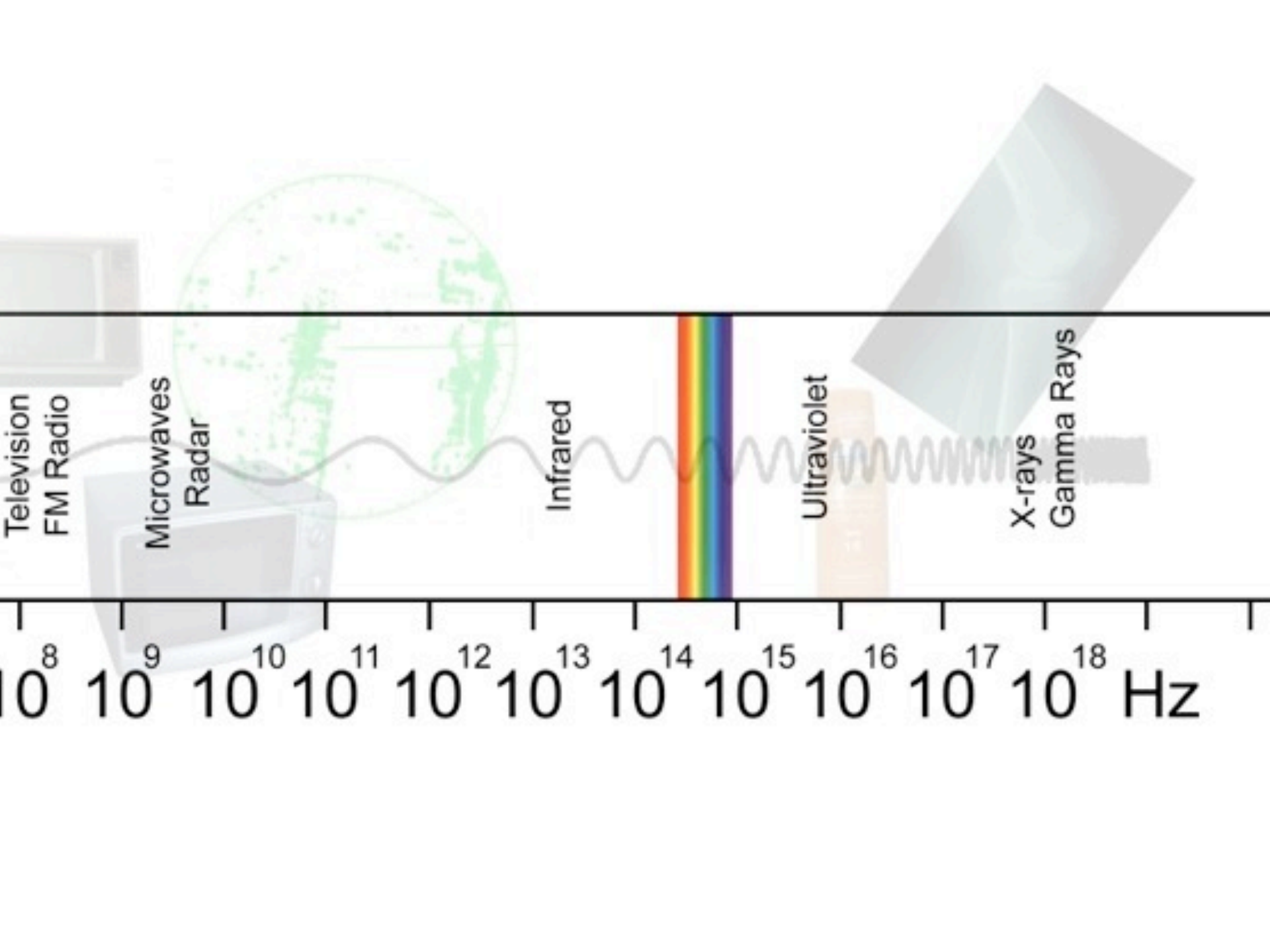
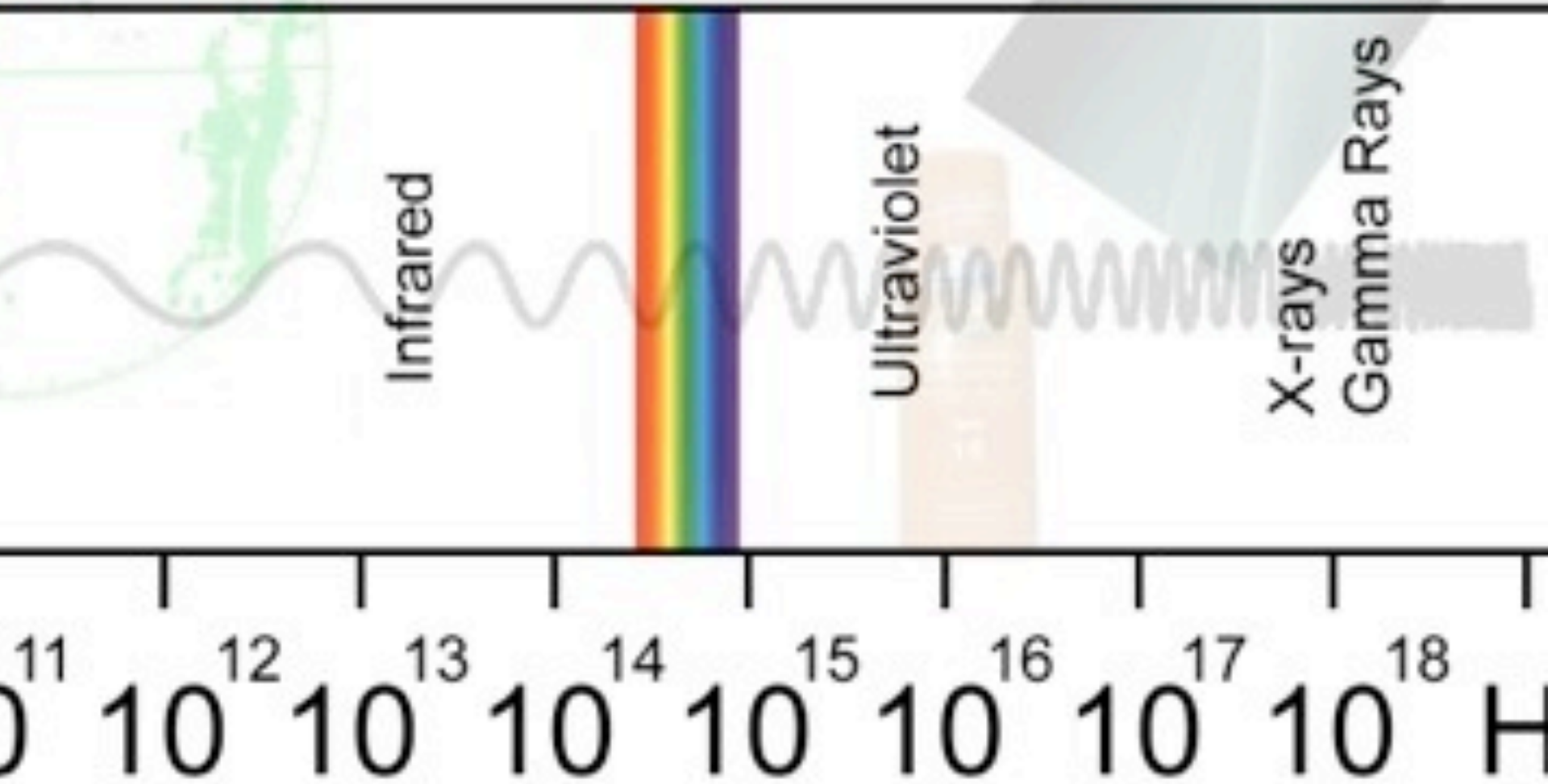


How many colours in
the rainbow?

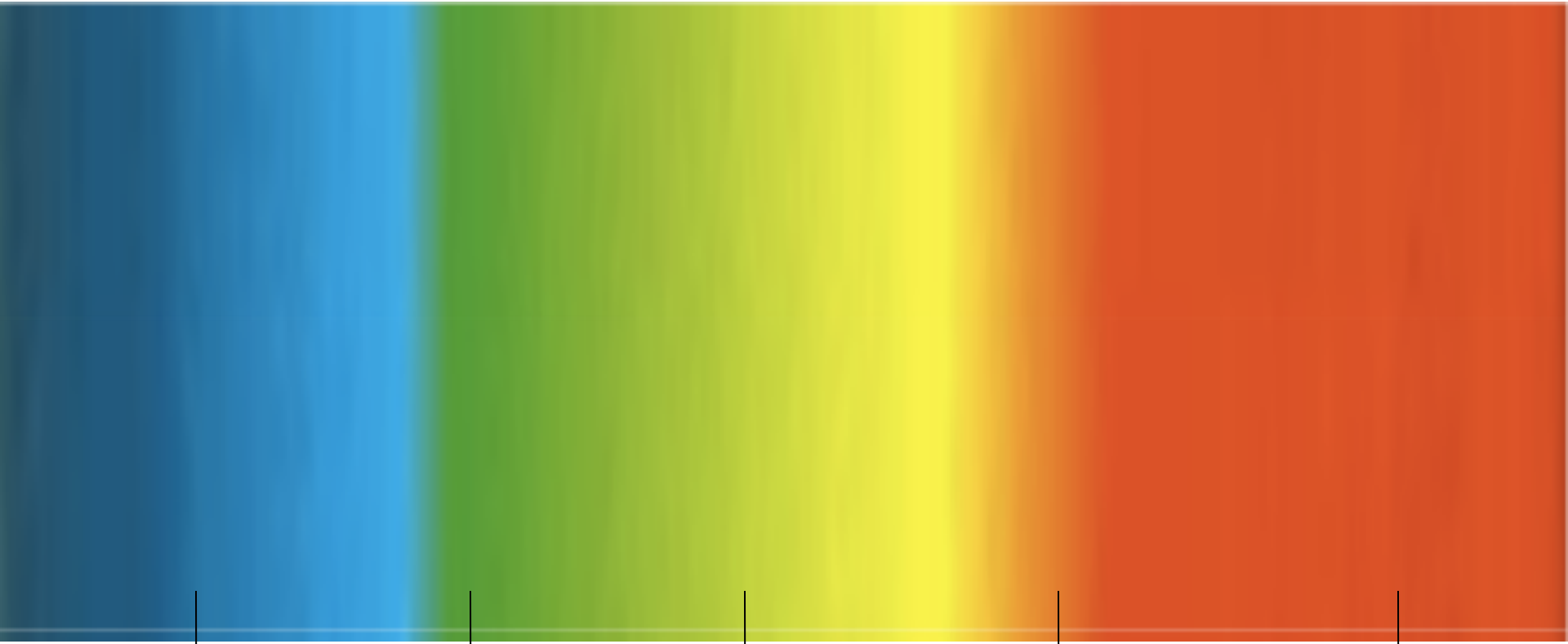




Visible light is a small part of the electromagnetic spectrum



Visible spectrum 425-675 nm



450

500

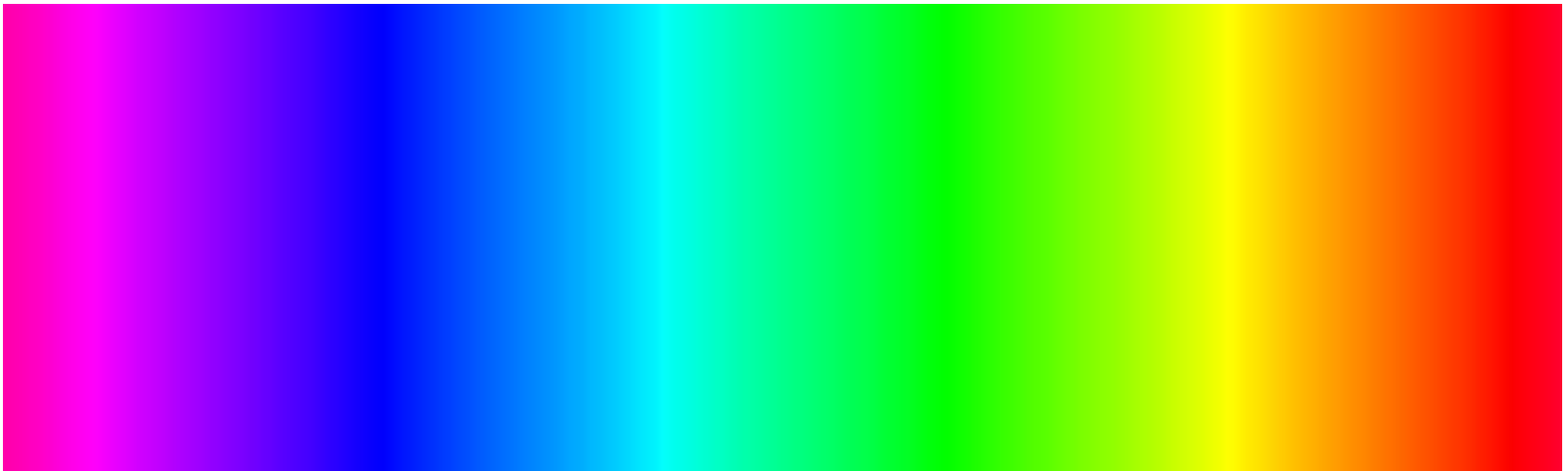
550

600

650

nm

How many colours?



Violet

Indigo

Blue

Green

Yellow

Orange

Red

Red Orange Yellow



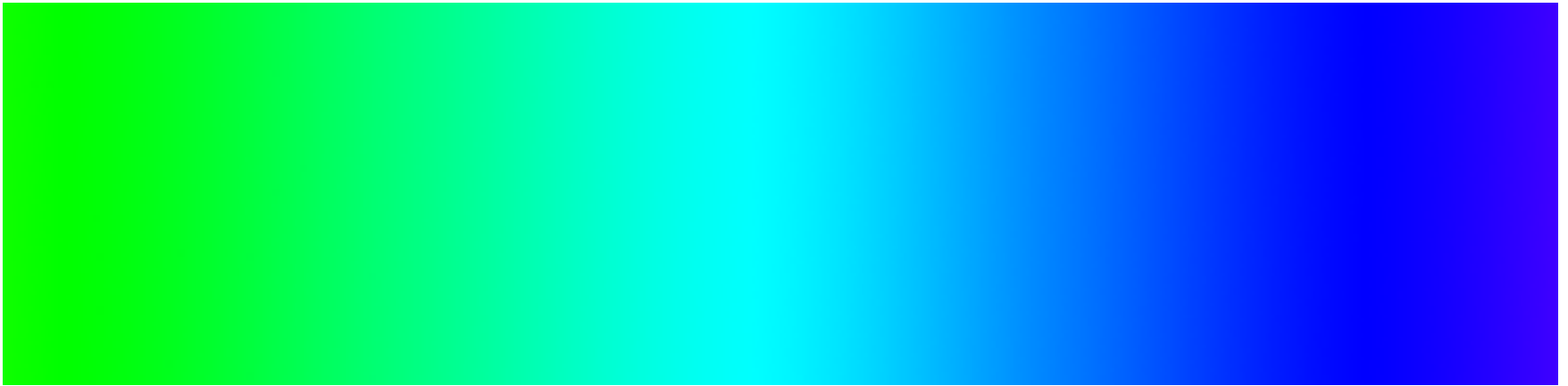
- Where does “Red” end and “Orange” begin?
- Where does “Orange” end and “Yellow” begin?
- What if there was no “Orange”?

Red Yellow



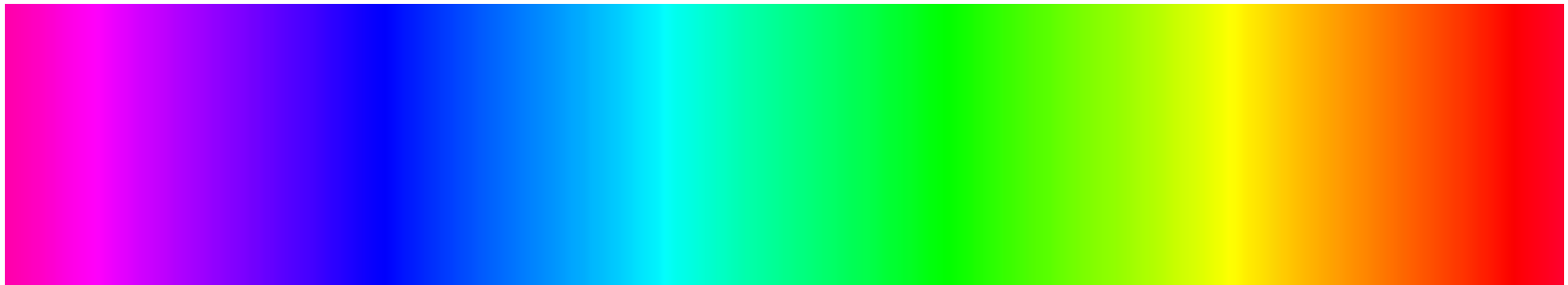
- Could we get along with just “Red” and “Yellow” ?
- Red-ish Yellow or Yellowy-Red

Green Blue



- Where does “Green” end and “Blue” begin?

How many colours?



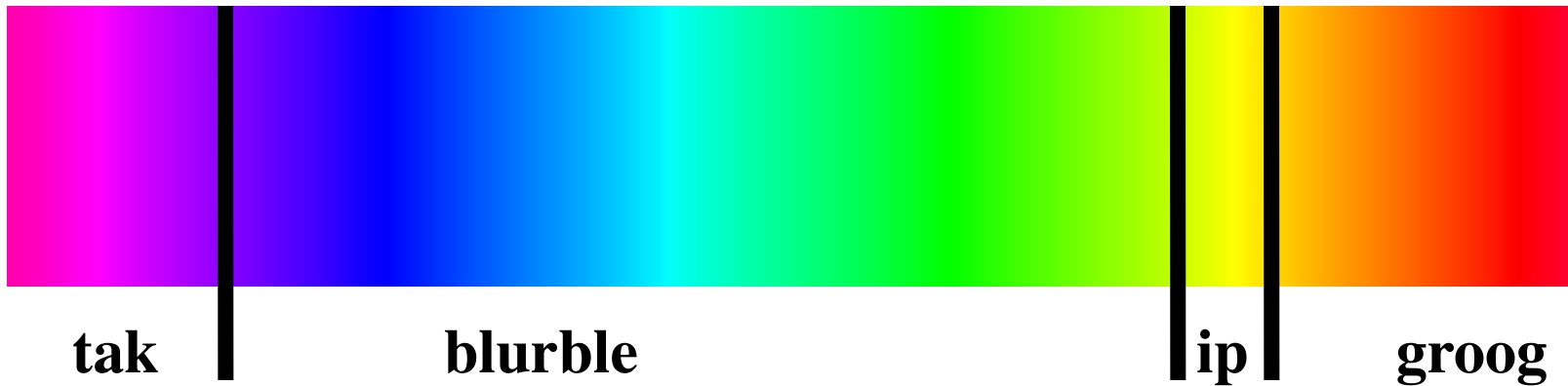
Violet Indigo Blue

Green

Yellow Orange Red

- English Speakers (and most Europeans) divide the spectrum into 7 colors
- The boundaries of the colors are a bit unclear

The ranges of frequencies assigned to colors is arbitrary



- English Speakers (and most Europeans) divide the spectrum into 7 colors
- The boundaries of the colors are a bit unclear
- Japanese has a single word covering Blue & Green

Color & Culture

- In the middle ages the rainbow was considered to have 4 colors
- Colors believed to be the result of interaction between black & white
- 1669 Newton explained color using prism
- Originally had 11 regions: scarlet, lemon-yellow, golden-yellow, dark yellow, green, grass-green, sea-green, blue, indigo, violet

Color & Culture

- Newton finally settled on seven colors
- Red, orange, yellow, green, blue, indigo, violet
- This number preserved the relation between the musical scale and the colors of the rainbow

aoi

青い

blue; pale; green; unripe