

# Numeration



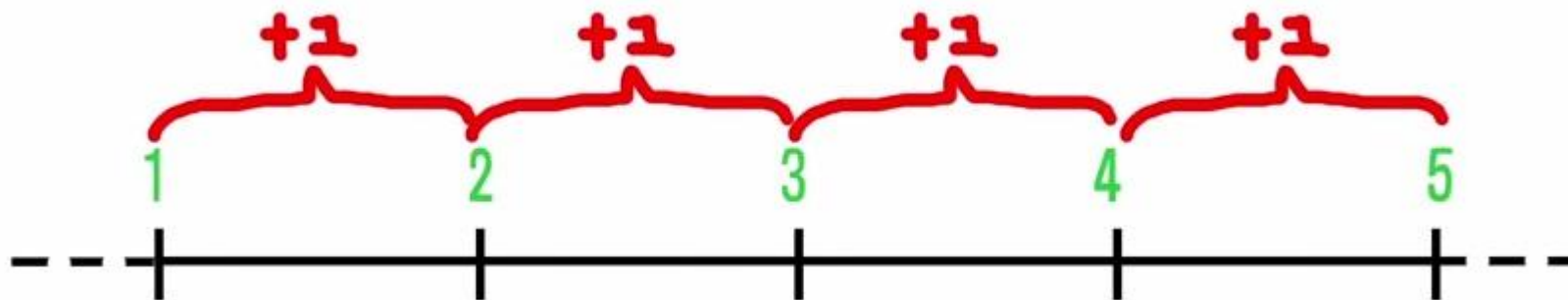
**WHY DO WE COUNT ADDITIVE?**

# The biggest number

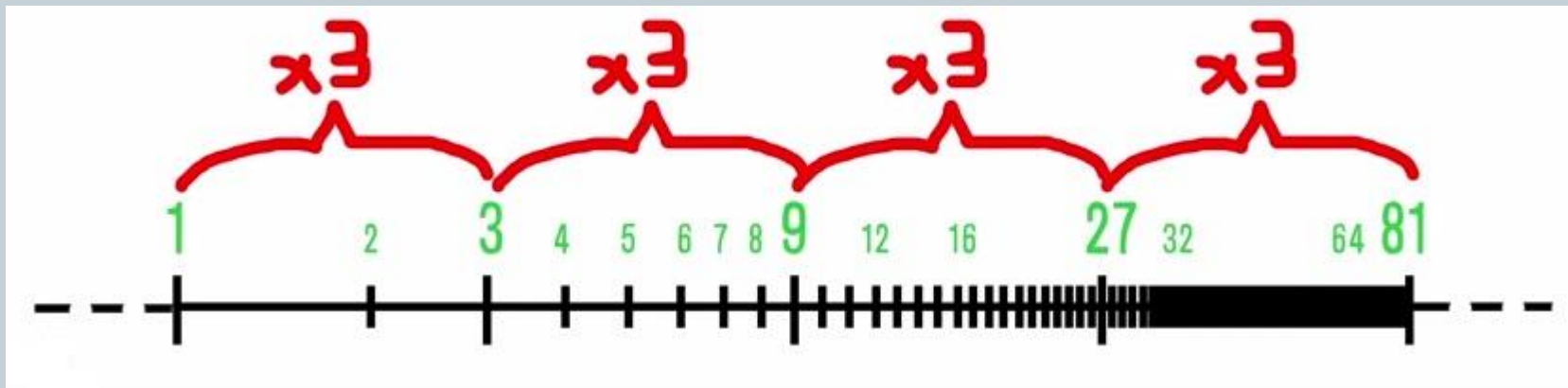


- One breath – Mike Smith, 125
- Jeremy Harper, September 2007, one million
- 1 000 000 seconds ~ 11 days

# Additive counting



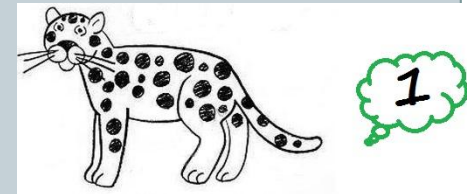
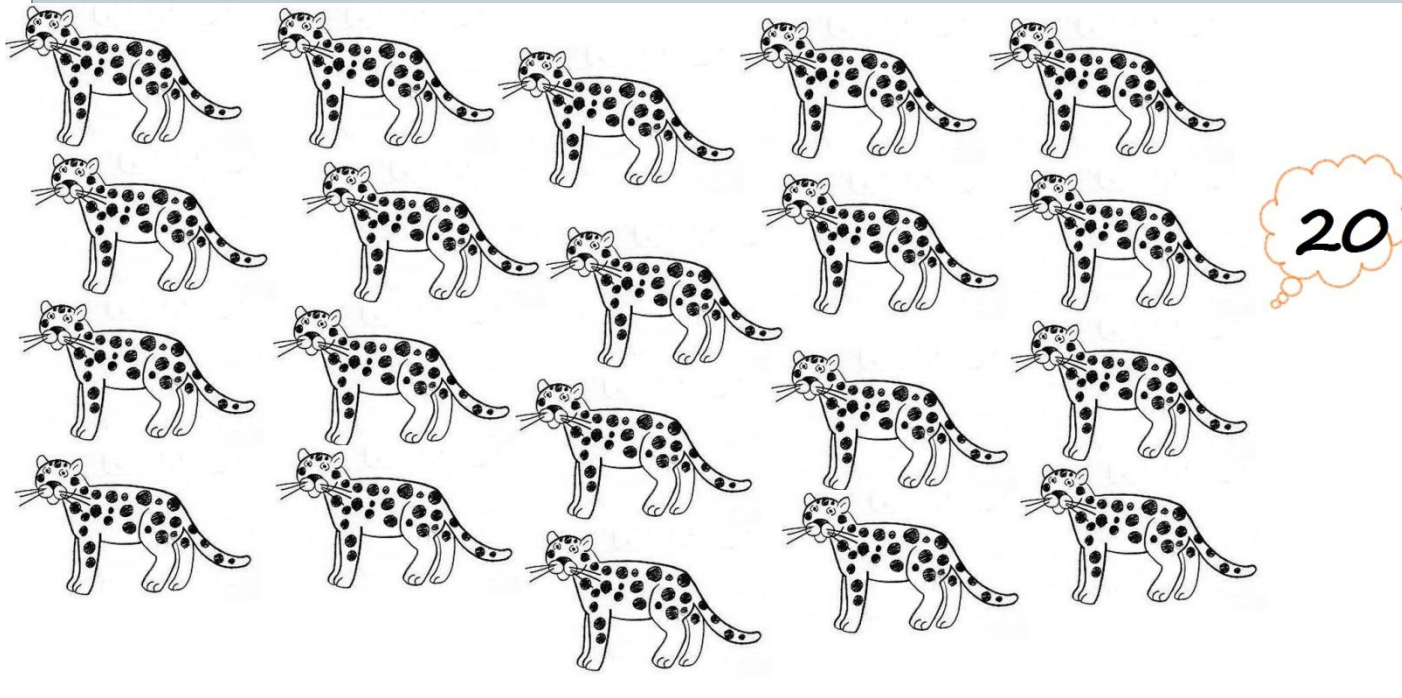
# Logarithmic counting



# Senses



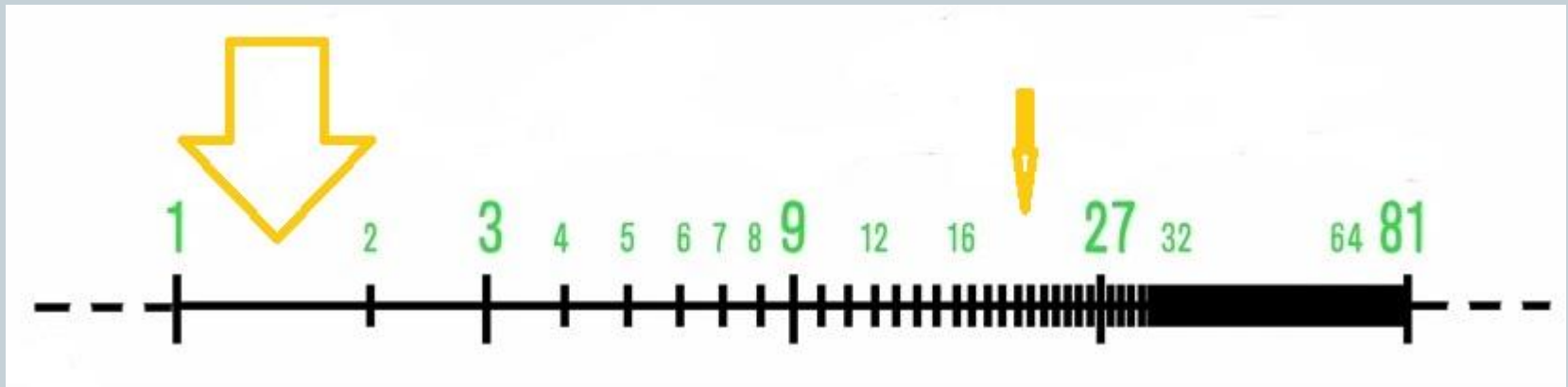
● Our senses are multiplicative



# Acceleration



- Life speed up as we get older



# Additive side



- Psychophysics of price paradox
- Subatizing ( $<5$ )
- Approximate number system ( $\geq 5$ )  $\sim 15\%$  accuracy

# Size

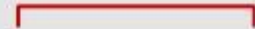


## Planck Length

0.000000000016 yoctometers  
 $1.6 \times 10^{-35}$  meters

The planck length ( $\ell_p$ ) is a unit of length. There is also a planck time, which is the amount of time it takes light to travel one planck length in a vacuum. (Super short!)

## Planck Length



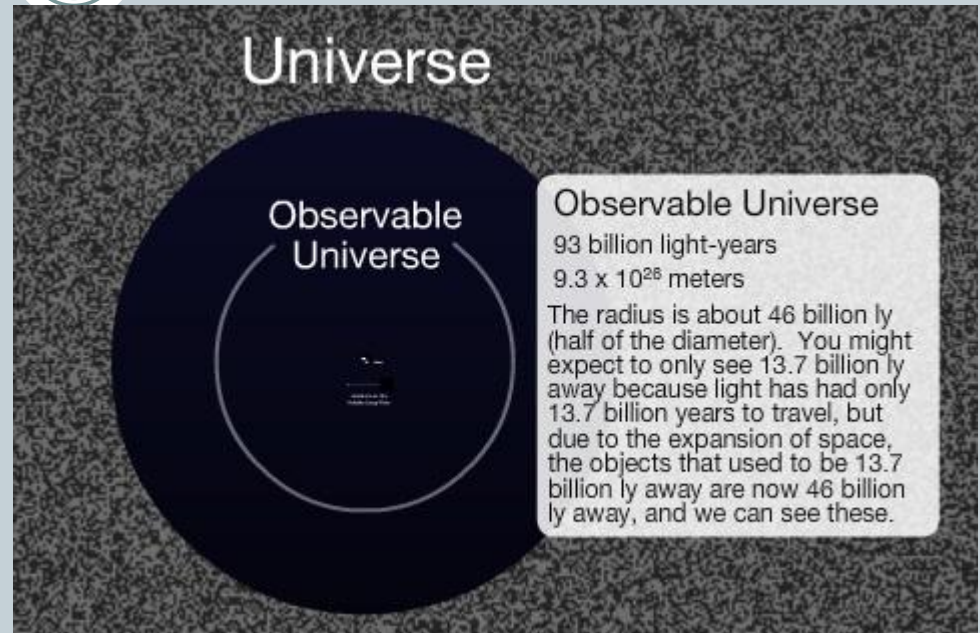
## Human

1.7 meters  
 $1.7 \times 10^0$  meters

I'm going to assume you are a human. I am a human too! Did you know that there are over 7 billion of us? That's a lot. In fact, if you met each person for one second, it would take you about 200 years to meet all of them! Better get started now!



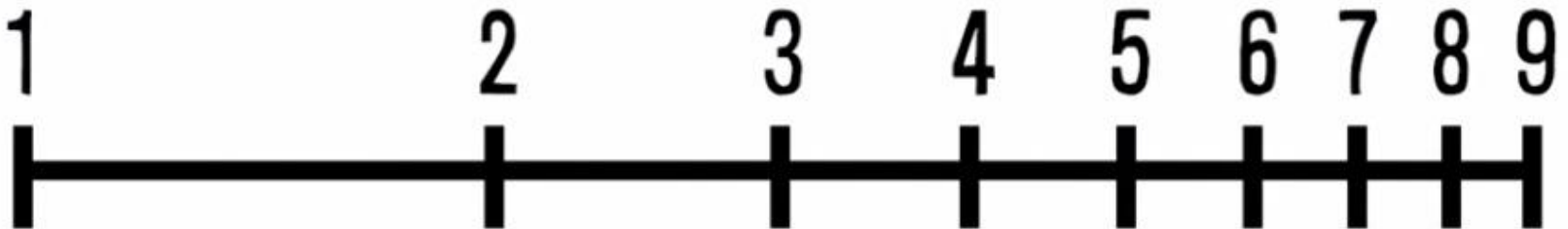
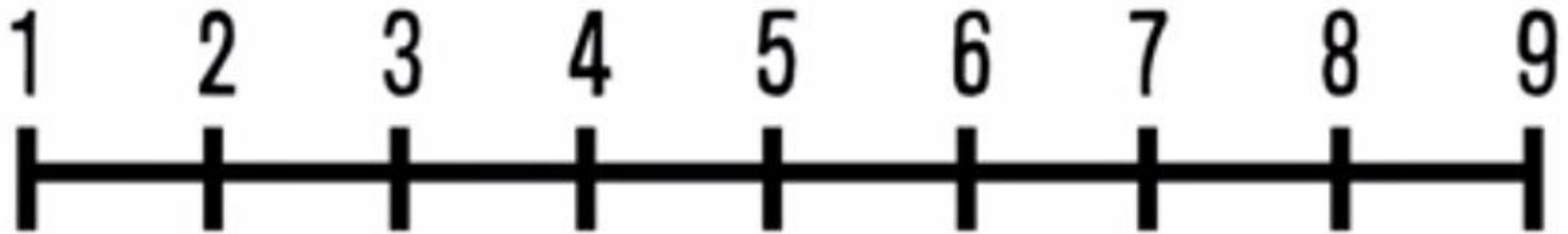
Human



From [htwins.net/scale2/](http://htwins.net/scale2/)



# What is in the middle?



# Thank you for attention!



- Do not hesitate to ask your questions.