



Time



1. How many seconds are in a day?

Given:

- 24 hr / 1 day
- 60 min / 1 hr
- 60 sec / 1 min

Estimate: # sec / day

2. How many minutes are in a year?

Given:

- 365 days / 1 yr
- 24 hr / 1 day
- 60 min / 1 hr

Estimate: # min / yr



Distance/Time



3. How many minutes does it take sunlight to make a trip from the Sun to the Earth?

Given:

Estimate: # min / trip

- 93,000,000 miles / trip from Sun to Earth
- Light travels at 186,000 miles / 1 sec
- 60 sec / 1 min

4. How many seconds does it take moonlight to make a trip from the Moon to the Earth?

Given:


Estimate: # sec / trip from Moon


- 240,000 miles / trip from Moon to Earth
- Light travels at 186,000 miles / 1 sec

5. How many seconds would it take light to make a trip around the Earth?

Given:

Estimate: # sec / trip around Earth


 25,000 miles / trip around Earth

 Light travels at 186,000 miles / 1 sec

6. How many feet can a cheetah get in 1 minute?

Given:


Estimate: # ft / 1 min

 Cheetahs run 70 miles / hour for brief periods of time.

7. How many feet can a snail get in 1 minute?

Given:

Estimate: # ft / 1 min

 Snails 'run' 3 miles / 100 hours.

What is a Nanometer?

8. How many nanometers are in a meter?

GIVEN:

$$\bullet 1 \text{ MILLION nm} = 1 \text{ mm} \quad \bullet 10 \text{ mm} = 1 \text{ cm}$$

$$\bullet 100 \text{ cm} = 1 \text{ m}$$

9. How many nm are in a km?

$$\text{GIVEN: } \bullet 1 \text{ km} = 1,000 \text{ m}$$

10. How many nm thick is a piece of paper?

GIVEN:

- 10 PAPERS = 1 mm

11. How many nm wide is the universe?

GIVEN:

- 1 UNIVERSE = 30 BILLION LIGHT YEARS
- 1 LIGHT YEAR = 10^{13} km