

# Leaky Faucet

# T1

Jan estimates that the faucet in her kitchen drips at a rate of 1 drop every 2 seconds.

1. Estimate how many times the faucet drips in a week.  
Show your calculations.

$$60 \text{ sec.} = 1 \text{ min.}$$

$$60 \text{ min} = 1 \text{ hr.}$$

$$24 \text{ hrs.} = 1 \text{ day}$$

$$7 \text{ days} = 1 \text{ week}$$

$$60 \times 60 \times 24 \times 7 = 604800$$

$$604800 \div 2 = 302,400 \text{ drops}$$

↑  
because  
of rate

302,400 times



2  
3

Jan estimates that approximately 575 drops fill a 100 milliliter bottle.

2. Estimate how much water her leaky faucet wastes in a year.  $\sim 2742300$  milliliters  
Show how you figured it out.

$$365 \text{ days} = 1 \text{ year}$$

$$\frac{60 \times 60 \times 24 \times 365}{2} = 15768000 \text{ drops per year}$$

$$15768000 \div 575 = 27422.608...$$

About 27423 of 100 millimeter bottles would be filled.

$$27423 \times 100 = 2742300 \text{ milliliters}$$

# Leaky Faucet

# T2

Jan estimates that the faucet in her kitchen drips at a rate of 1 drop every 2 seconds.

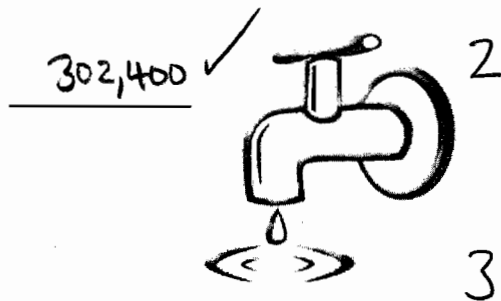
1. Estimate how many times the faucet drips in a week.  
Show your calculations.

$$h = 3600s$$

$$d = 86400s$$

$$w = 604800$$

$$\# \text{ drops} = \frac{604800}{2} = 302400$$



Jan estimates that approximately 575 drops fill a 100 milliliter bottle.

2. Estimate how much water her leaky faucet wastes in a year.  
Show how you figured it out.

$$365d = 3536000s$$

$$= 15768000 \text{ drops}$$

$$= 27422.6 \text{ bottles } 100 \text{ mL}$$

$$= 27.4 \text{ L } \times$$

$$\underline{27.4 \text{ liters}} \times 0$$

1

1

0

Jan estimates that the faucet in her kitchen drips at a rate of 1 drop every 2 seconds.

1. Estimate how many times the faucet drips in a week.  
Show your calculations.

~~302~~ 400 drops 2



1 minute 30 drops  
60

60 minutes 1800 drops ✓  
24

24 hours 43200  
7

Jan estimates that approximately 575 drops fill a 100 milliliter bottle.

2. Estimate how much water her leaky faucet wastes in a year.  
Show how you figured it out.

2742 liters ✓

24 hrs 43200

365 days

43200  
365

$\frac{15768000}{575} = 27423$  ✓  
x 100 bottles  
100 mills ✓  
/ 1000 liters


## Leaky Faucet

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1. Estimate how many times the faucet drips in a week.  
Show your calculations.

$$\frac{1 \text{ drop}}{2 \text{ sec}} \times \frac{60 \text{ sec}}{1 \text{ min}} \times \frac{60 \text{ min}}{1 \text{ hr}} \times \frac{24 \text{ hr}}{1 \text{ day}} \times \frac{7 \text{ days}}{1 \text{ week}} = \frac{604800 \text{ drops}}{2 \text{ weeks}} = \frac{302400 \text{ drops}}{1 \text{ week}}$$

302,400 drops ✓



2

3

$$\begin{array}{r} \times 60 \\ 3600 \\ \hline \times 24 \\ 14400 \\ \hline + 7200 \\ \hline 486400 \\ \hline \times 7 \\ 604800 \end{array}$$

$$\begin{array}{r} 302400 \\ 2 \overline{)604800} \end{array}$$

Jan estimates that approximately 575 drops fill a 100 milliliter bottle.

2. Estimate how much water her leaky faucet wastes in a year.  
Show how you figured it out.

$$\frac{302400 \text{ drops}}{1 \text{ week}} \times \frac{52 \text{ weeks}}{1 \text{ year}} = \frac{2224800 \text{ drops}}{1 \text{ year}}$$

$$\begin{array}{r} \times 52 \\ 604800 \\ \hline + 162000 \\ \hline 2224800 \end{array}$$

$$\frac{2224800 \text{ drops}}{4 \text{ mL}} = \frac{575 \text{ drops}}{100 \text{ mL}} = \frac{23 \text{ drops}}{4 \text{ mL}}$$

$$\begin{array}{r} 115 \\ 5 \overline{)575} \\ \underline{54} \\ 07 \\ \underline{05} \\ 25 \end{array}$$

$$\begin{array}{r} 13 \\ (2224800)(4) = 23 \times \\ \times 4 \\ \hline 8899200 = 23 \times \end{array}$$

$$\begin{array}{r} 386921.7391 \\ 23 \overline{)8899200} \\ \underline{-698} \\ 199 \end{array}$$

$$x = 386921.739 \text{ mL} \approx 386922 \text{ mL}$$

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1. Estimate how many times the faucet drips in a week.  
Show your calculations.

$$60 \text{ sec} = 1 \text{ min}$$

$$60 \text{ min} = 1 \text{ h}$$

$$3,600 \text{ sec} = 1 \text{ h}$$

$$24 \text{ h} = 1 \text{ d}$$

$$7 \text{ d} = 1 \text{ w}$$

$$1 \text{ w} = 604800 \text{ sec}$$

302400  
times.



1 dro pevery  
2 sec

$$\frac{604800}{2} = 302400$$

Jan estimates that approximately 575 drops fill a 100 milliliter bottle.

2. Estimate how much water her leaky faucet wastes in a year.  
Show how you figured it out.

2734747.83 milliliters

302400 drops a week

52w - 1 year

1 year - 15724800 drops

575 drops = 100 milliliters

$$\frac{15724800}{575} = 27347.47 (100) \text{ milliliters}$$

$$= 2734747.82$$

CCR 8