

# Amelia's LAST FLIGHT

In March 1937, just shy of 40 years old, Amelia Earhart embarked on the most challenging flight of her career: an effort to fly around the world along the equator.



## Theories on her disappearance...

1. The plane ran out of fuel, crashed and sank.
2. Amelia managed to land on an uninhabited island but was not found in the ensuing search.
3. She was actually on a spying mission, was captured by the Japanese and (probably) executed.
4. Amelia survived and returned to live in the USA under an assumed identity.



# Periodic Table of the Elements

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1 IA 1A											18 VIIIA 8A						
1 H Hydrogen 1.008	2 IIA 2A											13 IIIA 3A	14 IVA 4A	15 VA 5A	16 VIA 6A	17 VIIA 7A	2 He Helium 4.003
3 Li Lithium 6.941	4 Be Beryllium 9.012											5 B Boron 10.811	6 C Carbon 12.011	7 N Nitrogen 14.007	8 O Oxygen 15.999	9 F Fluorine 18.998	10 Ne Neon 20.180
11 Na Sodium 22.990	12 Mg Magnesium 24.305	3 IIIB 3B	4 IVB 4B	5 VB 5B	6 VIB 6B	7 VIIB 7B	8 VIII 8	9 VIII 8	10 VIII 8	11 IB 1B	12 IIB 2B	13 Al Aluminum 26.982	14 Si Silicon 28.086	15 P Phosphorus 30.974	16 S Sulfur 32.066	17 Cl Chlorine 35.453	18 Ar Argon 39.948
19 K Potassium 39.098	20 Ca Calcium 40.078	21 Sc Scandium 44.956	22 Ti Titanium 47.88	23 V Vanadium 50.942	24 Cr Chromium 51.996	25 Mn Manganese 54.938	26 Fe Iron 55.933	27 Co Cobalt 58.933	28 Ni Nickel 58.693	29 Cu Copper 63.546	30 Zn Zinc 65.39	31 Ga Gallium 69.732	32 Ge Germanium 72.61	33 As Arsenic 74.922	34 Se Selenium 78.972	35 Br Bromine 79.904	36 Kr Krypton 84.80
37 Rb Rubidium 84.468	38 Sr Strontium 87.62	39 Y Yttrium 88.906	40 Zr Zirconium 91.224	41 Nb Niobium 92.906	42 Mo Molybdenum 95.95	43 Tc Technetium 98.907	44 Ru Ruthenium 101.07	45 Rh Rhodium 102.906	46 Pd Palladium 106.42	47 Ag Silver 107.868	48 Cd Cadmium 112.411	49 In Indium 114.818	50 Sn Tin 118.71	51 Sb Antimony 121.760	52 Te Tellurium 127.6	53 I Iodine 126.904	54 Xe Xenon 131.29
55 Cs Cesium 132.905	56 Ba Barium 137.327	57-71	72 Hf Hafnium 178.49	73 Ta Tantalum 180.948	74 W Tungsten 183.85	75 Re Rhenium 186.207	76 Os Osmium 190.23	77 Ir Iridium 192.22	78 Pt Platinum 195.08	79 Au Gold 196.967	80 Hg Mercury 200.59	81 Tl Thallium 204.383	82 Pb Lead 207.2	83 Bi Bismuth 208.980	84 Po Polonium [208.982]	85 At Astatine 209.987	86 Rn Radon 222.018
87 Fr Francium 223.020	88 Ra Radium 226.025	89-103	104 Rf Rutherfordium [261]	105 Db Dubnium [262]	106 Sg Seaborgium [266]	107 Bh Bohrium [264]	108 Hs Hassium [269]	109 Mt Meitnerium [268]	110 Ds Darmstadtium [269]	111 Rg Roentgenium [272]	112 Cn Copernicium [277]	113 Uut Ununtrium unknown	114 Fl Flerovium [289]	115 Uup Ununpentium unknown	116 Lv Livermorium [298]	117 Uus Ununseptium unknown	118 Uuo Ununoctium unknown

Lanthanide Series

57 La Lanthanum 138.906	58 Ce Cerium 140.115	59 Pr Praseodymium 140.908	60 Nd Neodymium 144.24	61 Pm Promethium 144.913	62 Sm Samarium 150.36	63 Eu Europium 151.966	64 Gd Gadolinium 157.25	65 Tb Terbium 158.925	66 Dy Dysprosium 162.50	67 Ho Holmium 164.930	68 Er Erbium 167.26	69 Tm Thulium 168.934	70 Yb Ytterbium 173.04	71 Lu Lutetium 174.967
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Actinide Series

89 Ac Actinium 227.028	90 Th Thorium 232.038	91 Pa Protactinium 231.036	92 U Uranium 238.029	93 Np Neptunium 237.048	94 Pu Plutonium 244.064	95 Am Americium 243.061	96 Cm Curium 247.070	97 Bk Berkelium 247.070	98 Cf Californium 251.080	99 Es Einsteinium [254]	100 Fm Fermium 257.095	101 Md Mendelevium 258.1	102 No Nobelium 259.101	103 Lr Lawrencium [262]
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- Alkali Metal
- Alkaline Earth
- Transition Metal
- Basic Metal
- Semimetal
- Nonmetal
- Halogen
- Noble Gas
- Lanthanide
- Actinide



# Bed in Summer

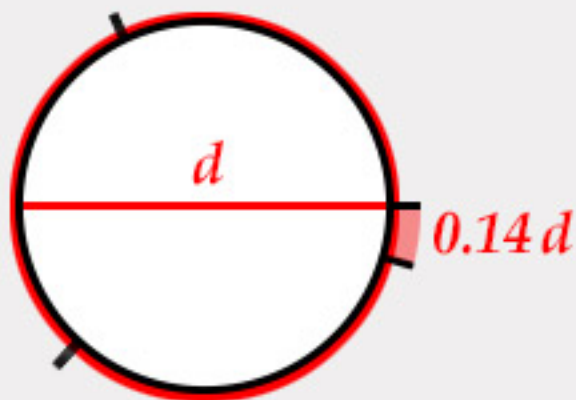
by Robert Louis Stevenson

In winter I get up at night  
And dress by yellow candle-light.  
In summer, quite the other way,  
I have to go to bed by day.  
I have to go to bed and see  
The birds still hopping on the tree,  
Or hear the grown-up people's feet  
Still going past me in the street.  
And does it not seem hard to you,  
When all the sky is clear and blue,  
And I should like so much to play,  
To have to go to bed by day?

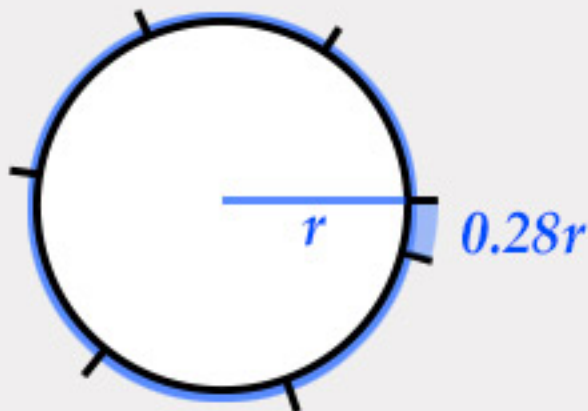
Source: A Child's Garden of Verses (1999)



Circumference = 3-and-a-bit x diameter



$$\begin{aligned}\text{Circumference} &= 3.14 \, d \\ &= \pi \, d\end{aligned}$$



$$\begin{aligned}\text{Circumference} &= 6.28 \, r \\ &= 2\pi \, r\end{aligned}$$

No matter what size a circle is, the distance around it (circumference) is always 3.14 ( $\pi$ ) times longer than the diameter, or 6.28 ( $2\pi$ ) times longer than the radius.





"Statistics are like a Bikini bathing suit. What they reveal is suggestive, but what they conceal is vital"

*Aaron Levenstein, printed in Leonard Lyons' syndicated newspaper column in November 1951.*





# STEM CAREERS:

## DEMAND IS UP FOR TODAY'S INNOVATORS

STEM (SCIENCE TECHNOLOGY ENGINEERING MATHEMATICS)

Faster aircraft, bolder video games, better medicines—technology moves forward every day. And STEM-savvy workers make those advances happen. Without the work of scientists, technicians, engineers, mathematicians, and other skilled workers, most new products and discoveries would never be developed. The growing demand across all industries for new products and innovations is fueling the demand for STEM talent in the U.S. and abroad. There are many reasons to consider a STEM career. Beyond the premium wages and increasing opportunities, STEM workers are today's innovators and inventors. They often work for the most progressive companies generating new ideas, inventing new products and solving complex business and societal problems. Their contributions are great and their impact vast – creating downstream jobs and fueling economic growth.

### TOP 11 STEM OPPORTUNITY MARKETS

The top 11 metropolitan areas have a strong concentration and a sizeable volume of STEM jobs (compared to total employment) and are predicted to grow their STEM employment by more than 6% in the next five years.



### ANNUAL INCOME



### THE HIGHEST PAYING STEM OCCUPATIONS (\$100K+) ARE:

- Natural Science Managers
- Engineering Managers
- Computer/Info Systems Managers
- Petroleum Engineers

### HIGHEST SHARE OF SCIENCE AND TECHNOLOGY PROFESSIONALS (AS A % OF EMPLOYMENT)

1. Luxembourg
2. Sweden
3. Denmark
4. Switzerland
5. Norway
- ...
12. The U.S.

### STEM WORKERS ARE TURNING TO FREE AGENCY



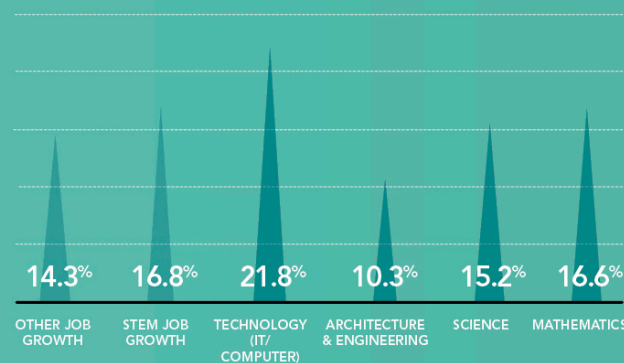
Between 2009 – 2011, the growth of self-employed STEM workers in the U.S. was nearly twice the rate of growth for all self-employed workers

### STEM PROFESSIONALS WITH A BACHELOR DEGREE OR HIGHER

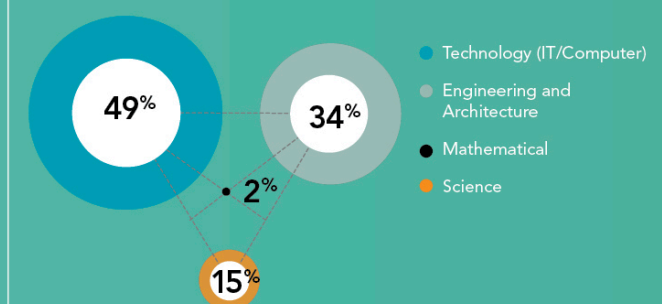
**68%**

While there are some STEM opportunities for those with a high school diploma, the majority of new and replacement jobs in STEM will require at least some postsecondary education.

### DEMAND FOR STEM PROFESSIONALS 2010-2020



### THE STEM OCCUPATIONAL BREAKDOWN



### THE TOP 8 STEM JOBS (% GROWTH THROUGH 2020)

