

\_\_\_\_\_ 's  
Little Book of Big Dreams



by Jean Fan &  
Curry Chern

pictures by  
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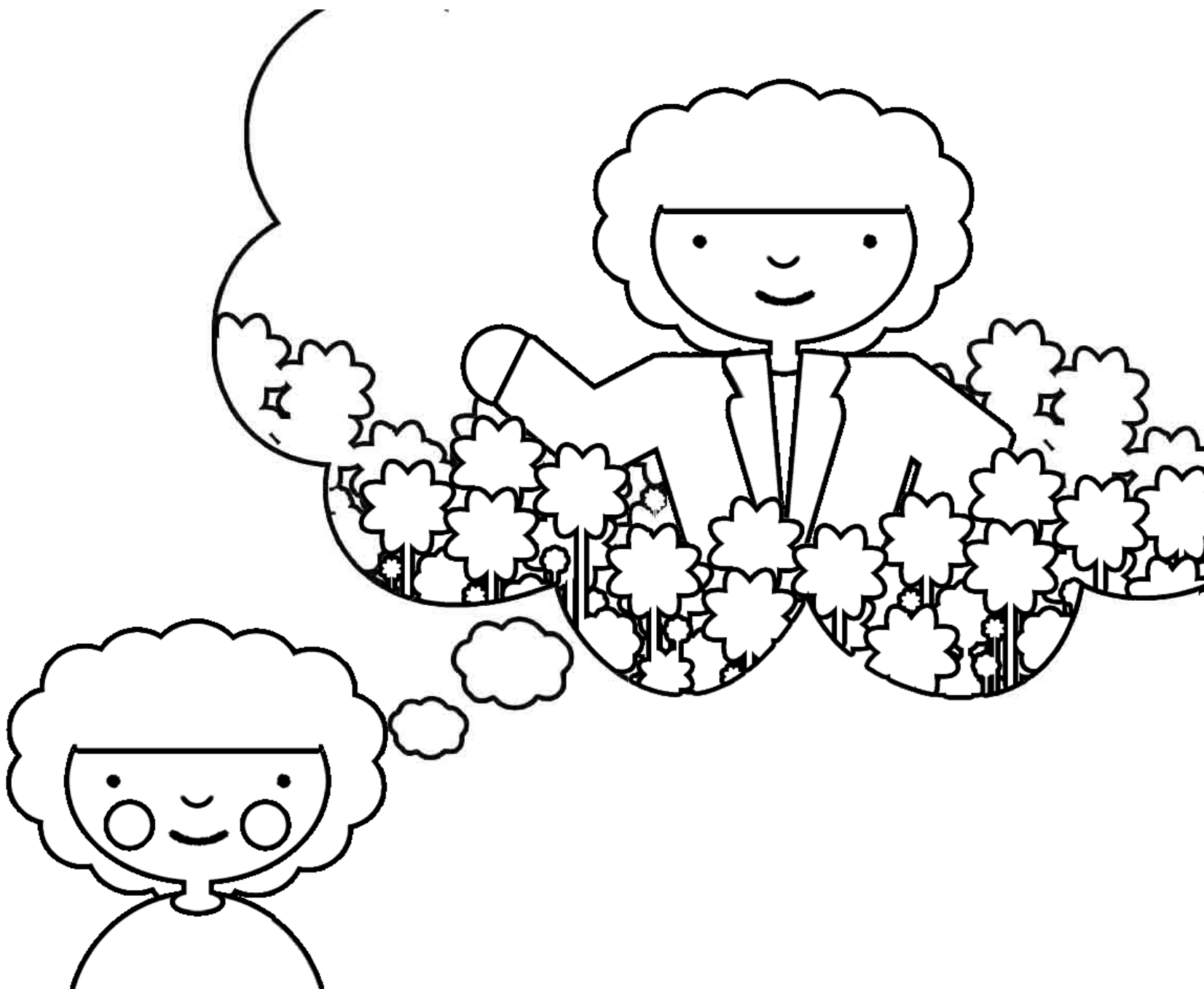
c u S T E M  z e d

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As \_\_\_\_\_ gets ready for bed tonight,  
after winding down and being tucked in tight,  
she dozes off into her nightly snooze,  
and a magical transformation ensues.



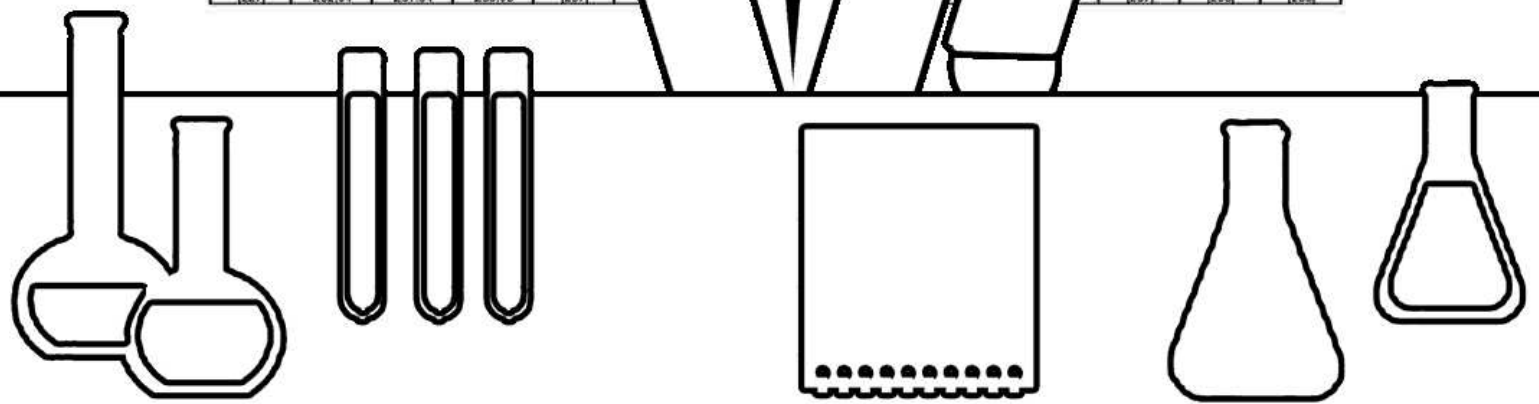
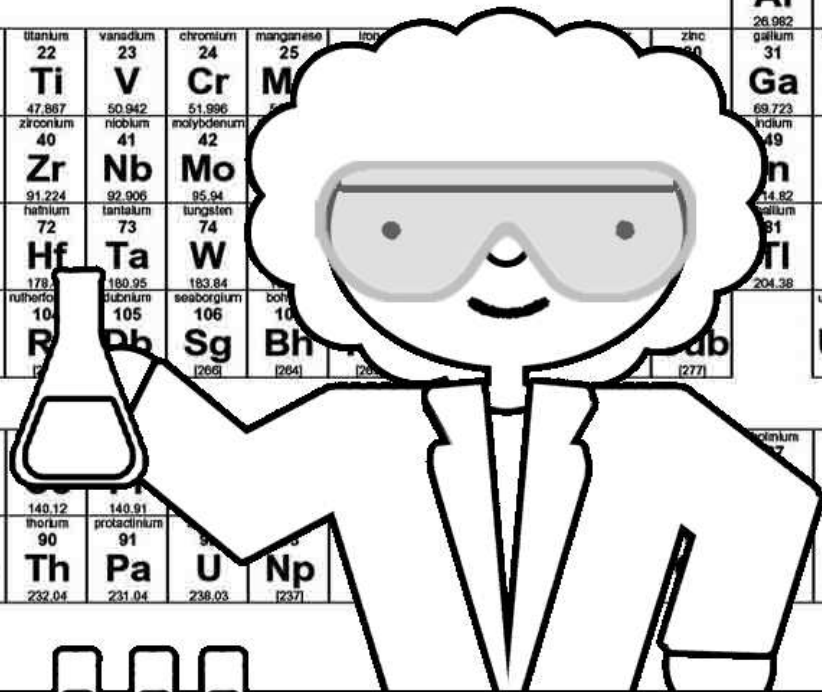
\_\_\_\_\_ is all grown up with much to do,  
with big shoes, big thoughts, and big plans too.  
So as \_\_\_\_\_ sleeps, she begins to see,  
what she can do and what she can be.



\_\_\_\_\_ is a chemist. She is a master of potions.  
 She makes crayons, insulin, and nice smelling lotions.  
 She mixes chemicals so that they bond or collapse,  
 to study their reactions and make explosions perhaps.

\_\_\_\_\_ 's  
 Chemistry Lab

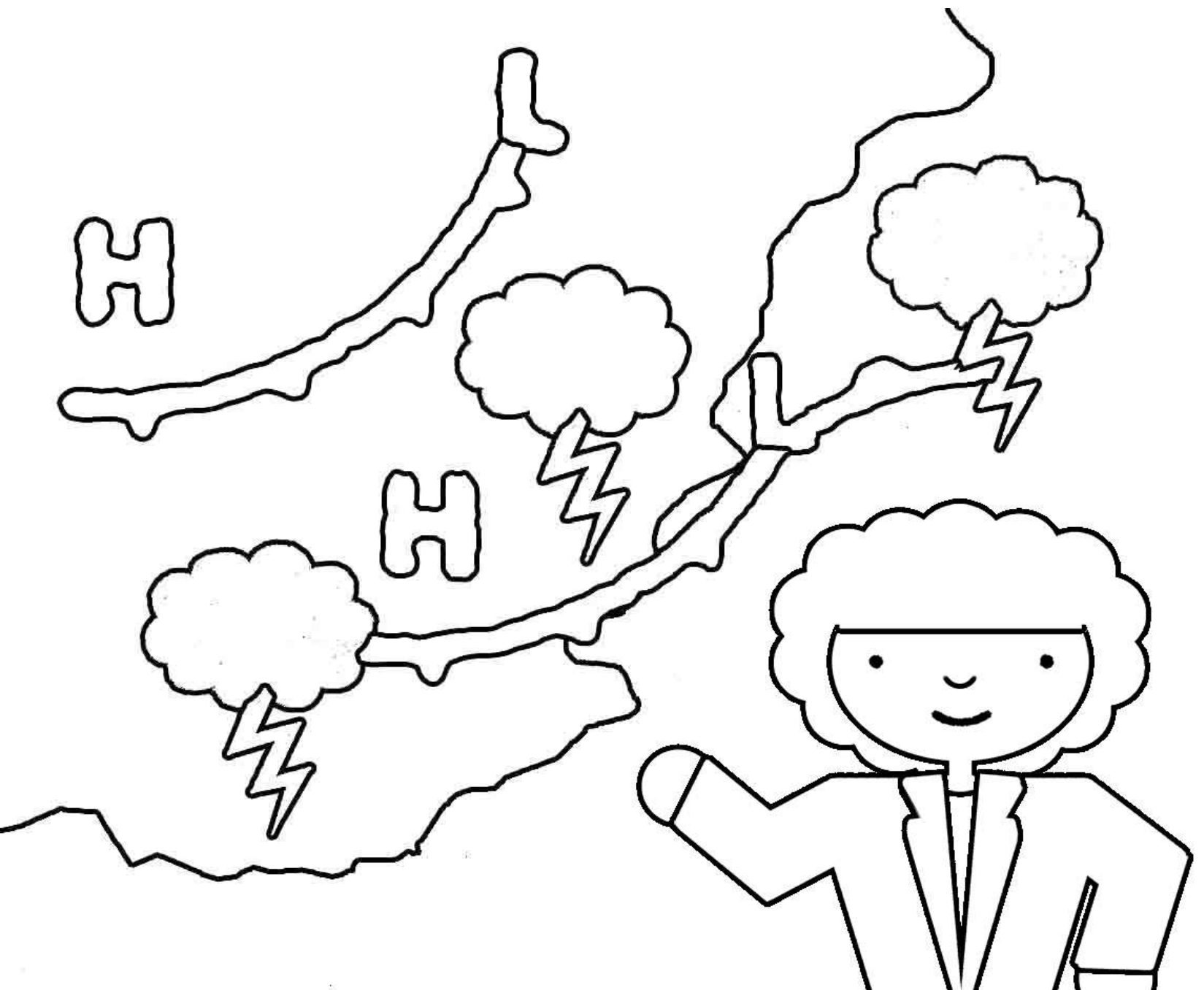
hydrogen 1 <b>H</b> 1.0079																			helium 2 <b>He</b> 4.0026															
lithium 3 <b>Li</b> 6.941	beryllium 4 <b>Be</b> 9.0122																		neon 10 <b>Ne</b> 20.180															
sodium 11 <b>Na</b> 22.990	magnesium 12 <b>Mg</b> 24.305																		argon 18 <b>Ar</b> 39.948															
potassium 19 <b>K</b> 39.098	calcium 20 <b>Ca</b> 40.078	scandium 21 <b>Sc</b> 44.956	titanium 22 <b>Ti</b> 47.887	vanadium 23 <b>V</b> 50.942	chromium 24 <b>Cr</b> 51.996	manganese 25 <b>Mn</b> 54.938	iron 26 <b>Fe</b> 55.845	cobalt 27 <b>Co</b> 58.933	nickel 28 <b>Ni</b> 58.693	copper 29 <b>Cu</b> 63.546	zinc 30 <b>Zn</b> 65.38	gallium 31 <b>Ga</b> 69.723	germanium 32 <b>Ge</b> 72.61	arsenic 33 <b>As</b> 74.922	selenium 34 <b>Se</b> 78.96	bromine 35 <b>Br</b> 79.904	krypton 36 <b>Kr</b> 83.80																	
rubidium 37 <b>Rb</b> 85.468	strontium 38 <b>Sr</b> 87.62	yttrium 39 <b>Y</b> 88.906	zirconium 40 <b>Zr</b> 91.224	niobium 41 <b>Nb</b> 92.906	molybdenum 42 <b>Mo</b> 95.94	technetium 43 <b>Tc</b> [98]	ruthenium 44 <b>Ru</b> 101.07	rhodium 45 <b>Rh</b> 102.905	cadmium 46 <b>Cd</b> 112.411	indium 49 <b>In</b> 114.82	tin 50 <b>Sn</b> 118.71	antimony 51 <b>Sb</b> 121.76	tellurium 52 <b>Te</b> 127.60	iodine 53 <b>I</b> 126.90	xenon 54 <b>Xe</b> 131.29																			
caesium 55 <b>Cs</b> 132.91	barium 56 <b>Ba</b> 137.33	* 57-70	lutetium 71 <b>Lu</b> 174.97	hafnium 72 <b>Hf</b> 178.49	tantalum 73 <b>Ta</b> 180.95	tungsten 74 <b>W</b> 183.84	thallium 81 <b>Tl</b> 204.38	lead 82 <b>Pb</b> 207.2	bismuth 83 <b>Bi</b> 208.98	polonium 84 <b>Po</b> [209]	astatine 85 <b>At</b> [210]	radon 86 <b>Rn</b> [222]																						
francium 87 <b>Fr</b> [223]	radium 88 <b>Ra</b> [226]	** 89-102	lawrencium 103 <b>Lr</b> [262]	rutherfordium 104 <b>Rf</b> [261]	dubnium 105 <b>Dub</b> [269]	seaborgium 106 <b>Sg</b> [269]	bohrium 107 <b>Bh</b> [264]	hassium 108 <b>Hs</b> [265]	meitnerium 109 <b>Mt</b> [268]	ununoctium 118 <b>Uuo</b> [289]	ununquadium 114 <b>Uuq</b> [289]																							
			lanthanum 57 <b>La</b> 138.91	cerium 58 <b>Ce</b> 140.12	praseodymium 59 <b>Pr</b> 140.91	neodymium 60 <b>Nd</b> 144.24	promethium 61 <b>Pm</b> [145]	europium 62 <b>Eu</b> 151.964	gadolinium 63 <b>Gd</b> 157.25	terbium 64 <b>Tb</b> 158.925	erbium 68 <b>Er</b> 167.26	thulium 69 <b>Tm</b> 168.93	ytterbium 70 <b>Yb</b> 173.04	lutetium 71 <b>Lu</b> 174.967	actinium 89 <b>Ac</b> [227]	thorium 90 <b>Th</b> 232.04	protactinium 91 <b>Pa</b> 231.04	uranium 92 <b>U</b> 238.03	neptunium 93 <b>Np</b> [237]	plutonium 94 <b>Pu</b> [244]	americium 95 <b>Am</b> [243]	curium 96 <b>Cm</b> [247]	berkelium 97 <b>Bk</b> [247]	californium 98 <b>Cf</b> [251]	einsteinium 99 <b>Ei</b> [252]	fermium 100 <b>Fm</b> [257]	mendelevium 101 <b>Md</b> [258]	nobelium 102 <b>No</b> [259]						



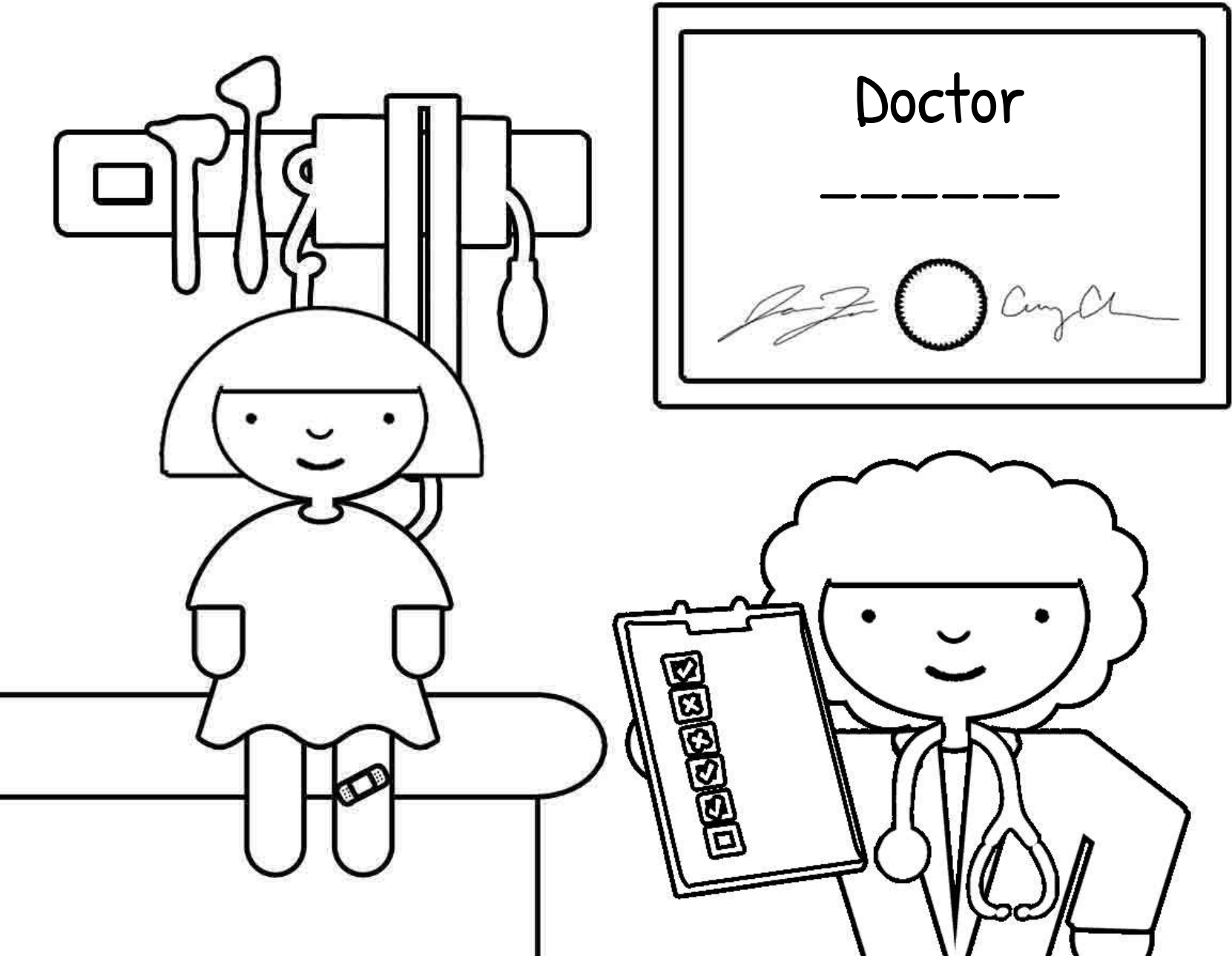
\_\_\_\_\_ is a programmer. She writes in code,  
to create awesome games for us to download.  
She makes browsing and searching online a breeze,  
and even designs apps for phones and TVs.



\_\_\_\_\_ is a meteorologist. She studies the sky,  
to see if the weather will be wet or dry.  
She tracks the paths of storms and hurricanes,  
and reminds us to bring umbrellas when it rains.



\_\_\_\_\_ is a doctor. She cures what is feeling wrong,  
using science to make sure we are healthy and strong.  
She checks our eyes, nose, mouth, and ears,  
and tracks our height for years and years.





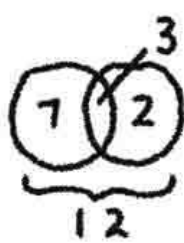
\_\_\_\_\_ is a mathematician. She loves to count.  
 She helps shops decide how much money to discount.  
 She studies numbers and patterns and their properties,  
 to better understand the world and its commodities.

## Derivation of \_\_\_\_\_'s Formula

$$1 + 1 = 2$$

$$1 + 1 + 1 = 3$$

$$2 + 1 = 3$$



$$a^2 + b^2 = c^2$$

$$1$$

$$1 \quad 1$$

$$1 \quad 2 \quad 1$$

$$1 \quad 3 \quad 3 \quad 1$$

$$2x + y = 3$$

$$x + y = 2$$

$$x = 1$$

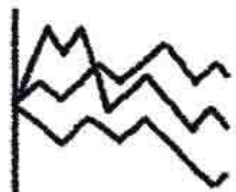
$$y = 1$$

$$\left. \begin{matrix} \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \end{matrix} \right\} 3$$

$$4$$

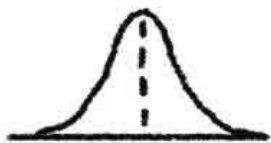
$$\frac{3}{x4}$$

$$\frac{3}{12}$$



$$S_n = \sum_{i=1}^n z_i$$

if  $(x+y)^n = \sum_{k=0}^n \binom{n}{k} x^{n-k} y^k$   
 then  $\binom{n}{k} = \binom{n-1}{k-1} + \binom{n-1}{k}$



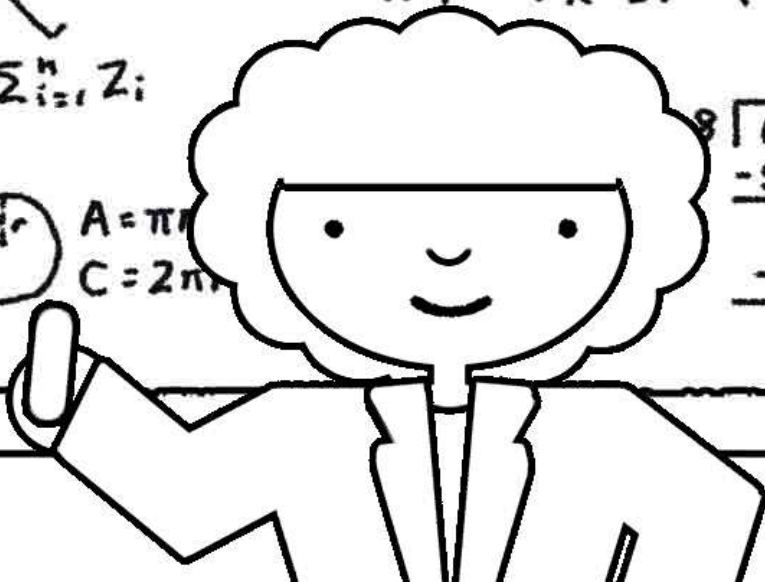
$$f(x) = \frac{1}{\sigma\sqrt{2\pi}} e^{-\frac{(x-\mu)^2}{2\sigma^2}}$$



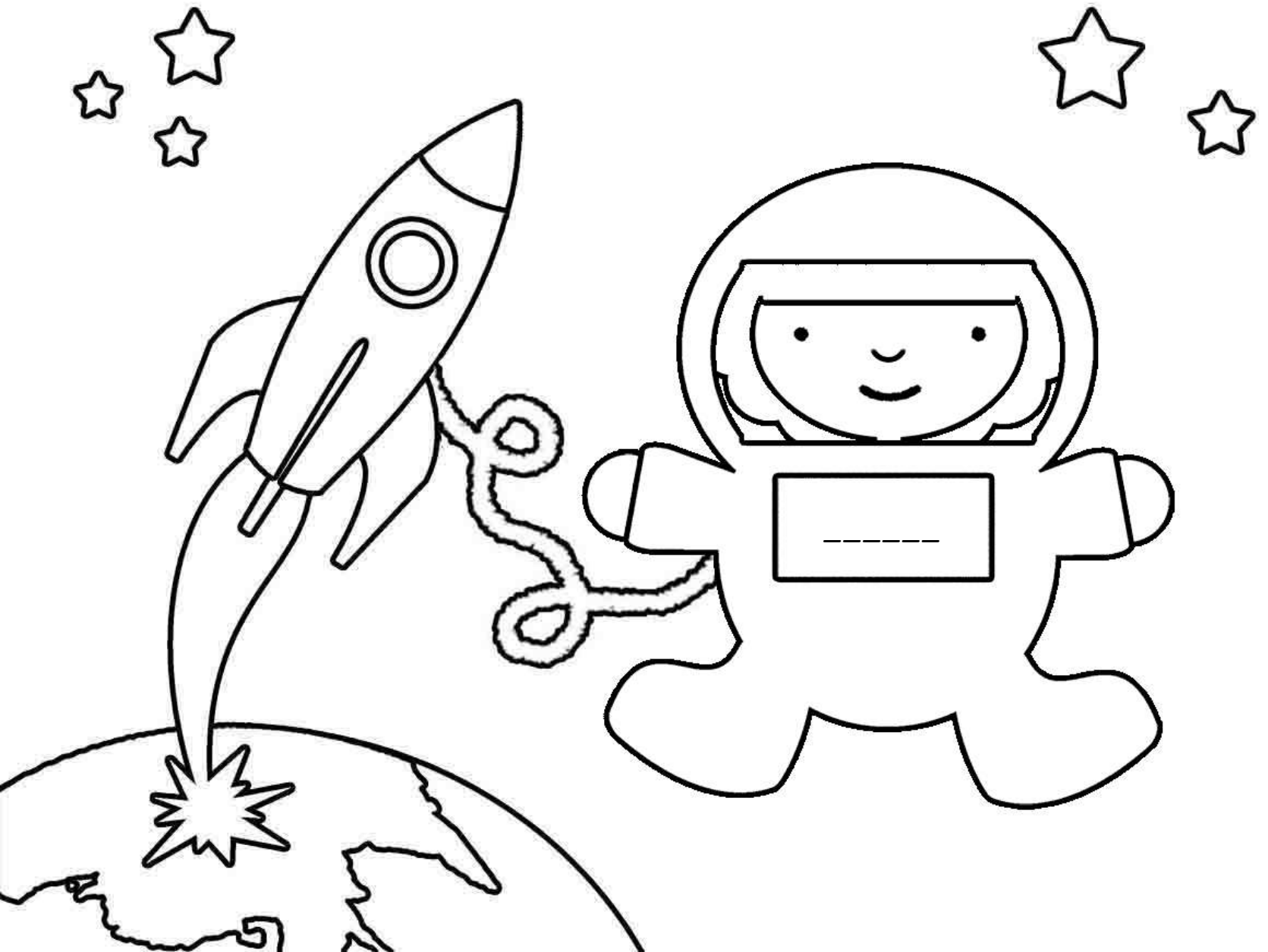
$$A = \pi r^2$$

$$C = 2\pi r$$

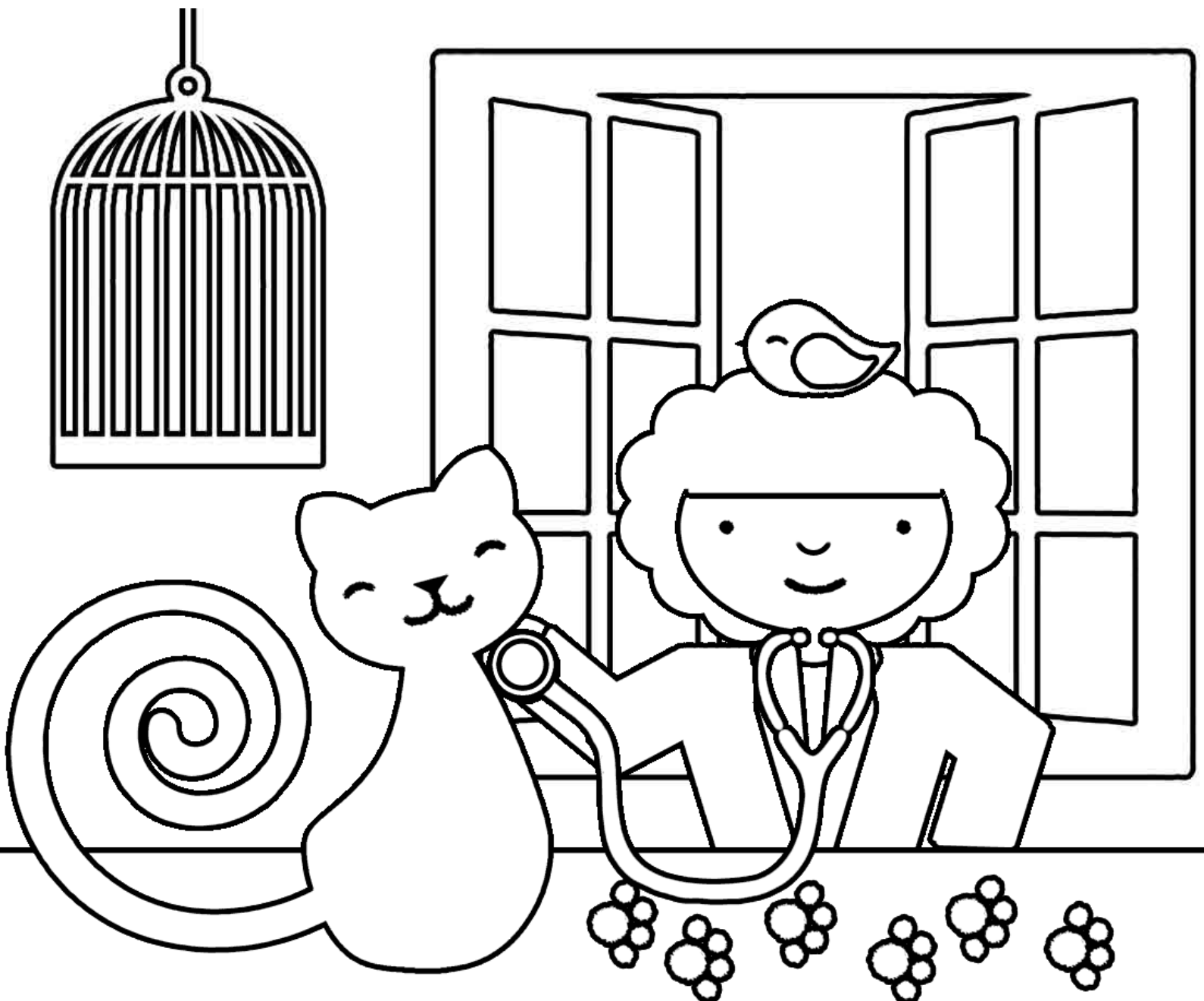
$$\begin{array}{r} 76r4 \\ 8 \overline{) 612} \\ \underline{-56} \phantom{0} \\ 52 \\ \underline{-48} \\ 4 \end{array}$$



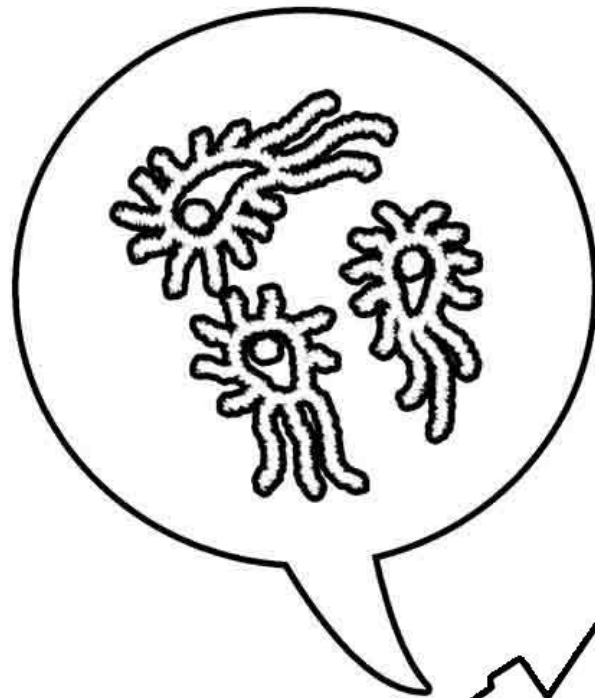
\_\_\_\_\_ is an astronaut. She flies into space,  
searching for the presence of an alien race.  
She floats among the planets, moons, and stars,  
to become the first person to land on Mars.



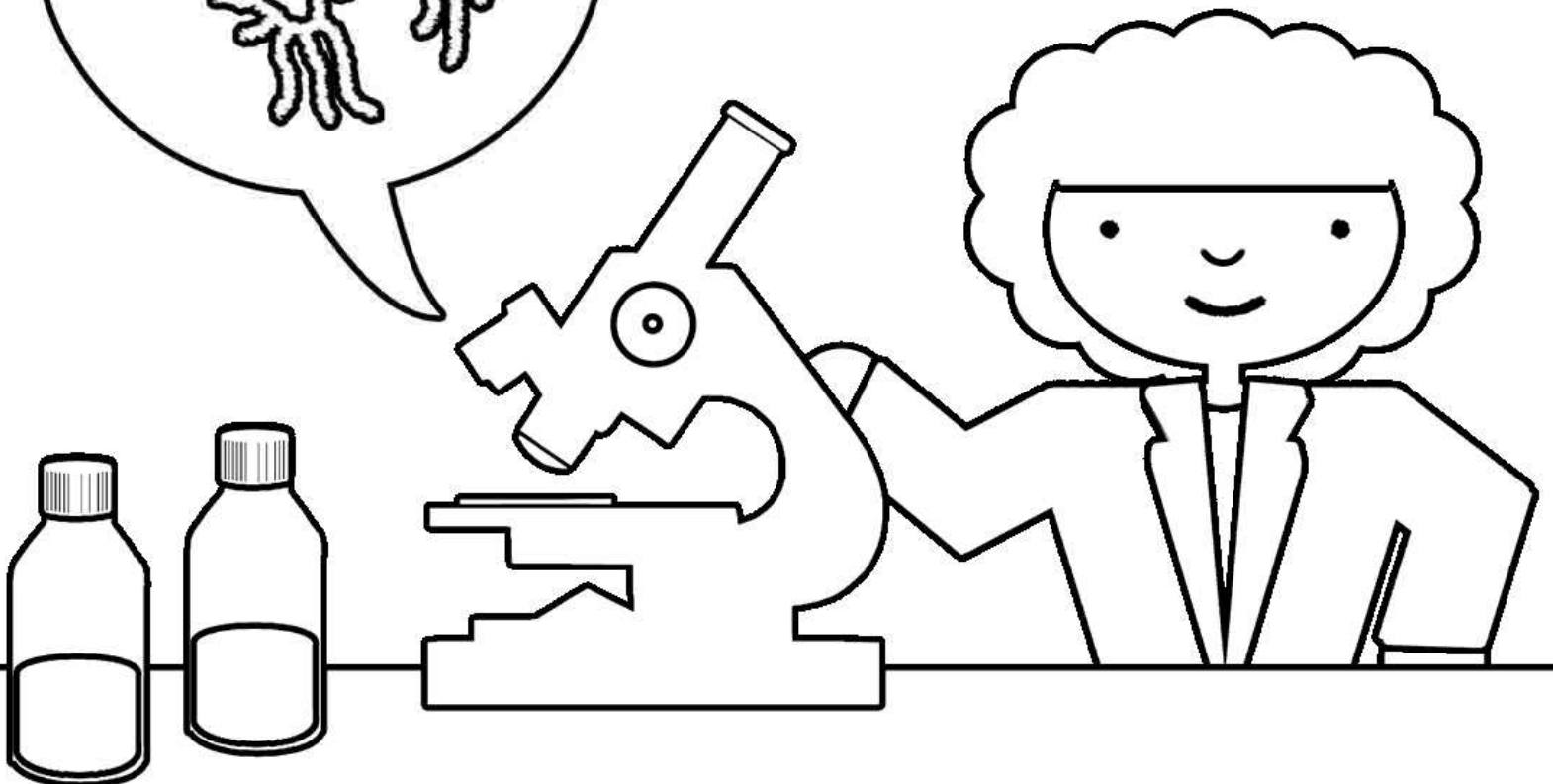
\_\_\_\_\_ is a veterinarian. She cares for cats and dogs,  
and birds, lizards, rabbits, and even hedgehogs.  
She rids our fuzzy friends of pesky ticks and fleas,  
making all pets healthy by curing disease.



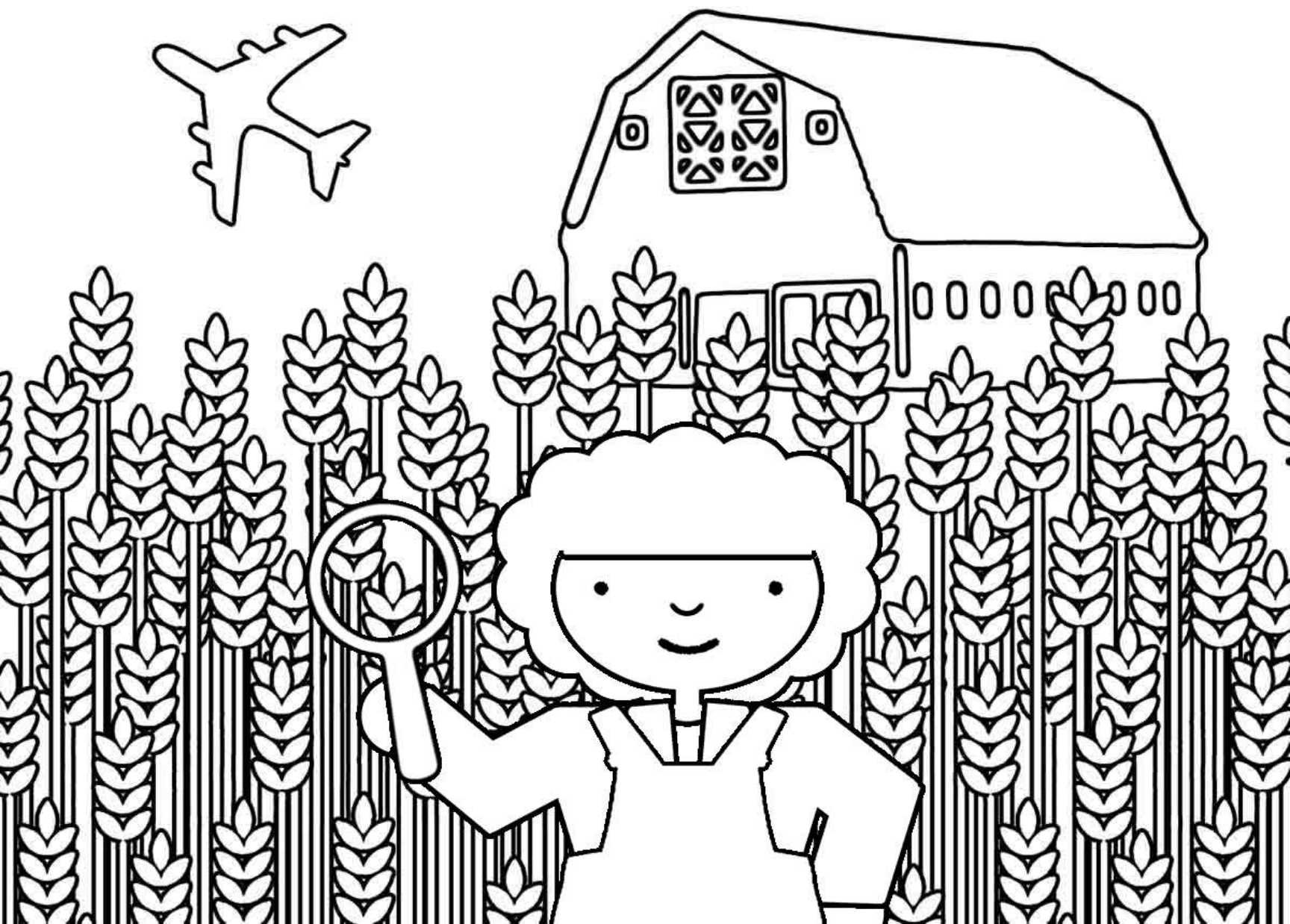
\_\_\_\_\_ is a biologist. She studies living things,  
asking why fish have gills and why birds have wings.  
She looks at the blueprint of life called DNA,  
to understand why mother nature made us this way.



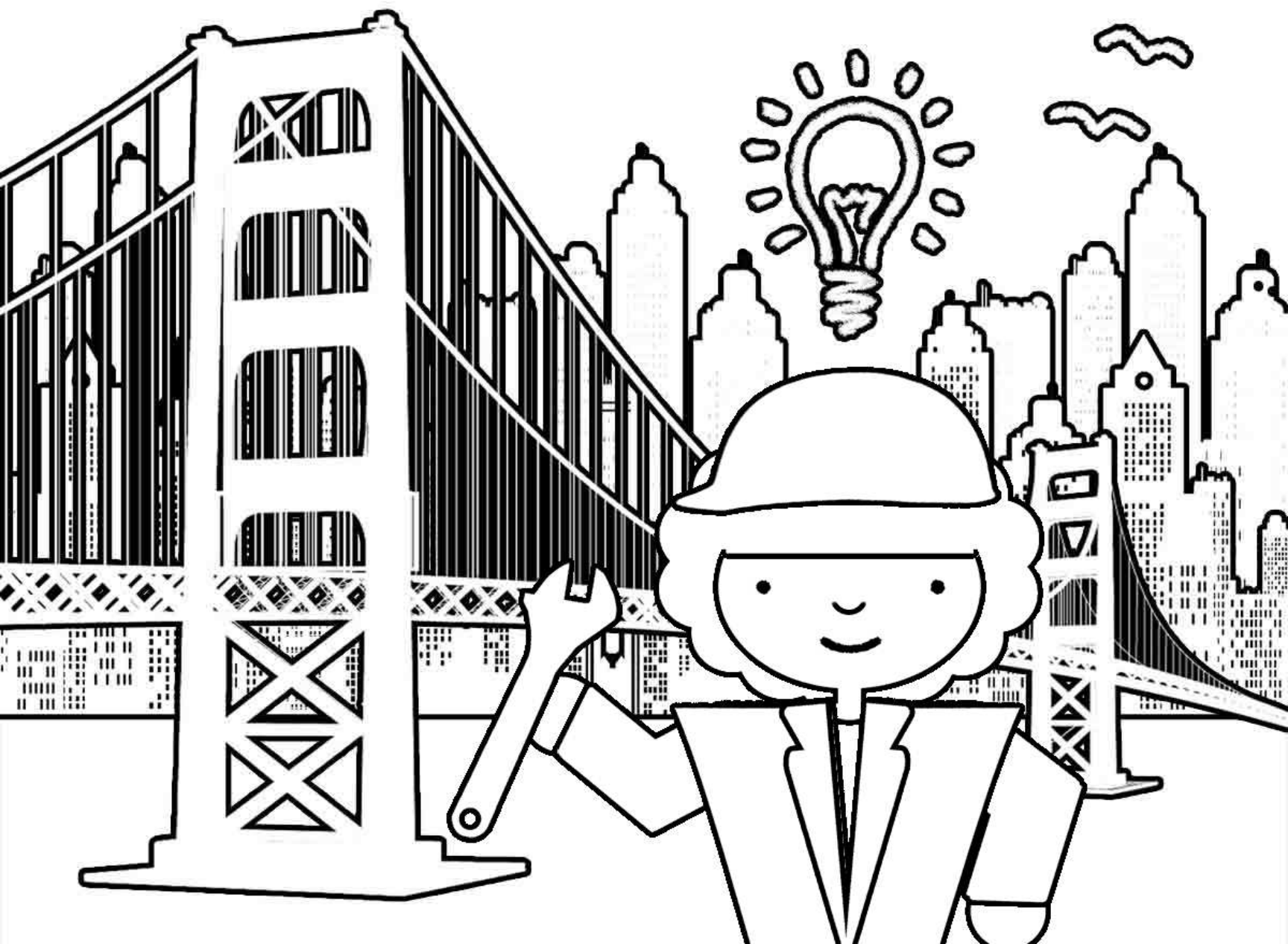
Discovery of  
\_\_\_\_\_020a



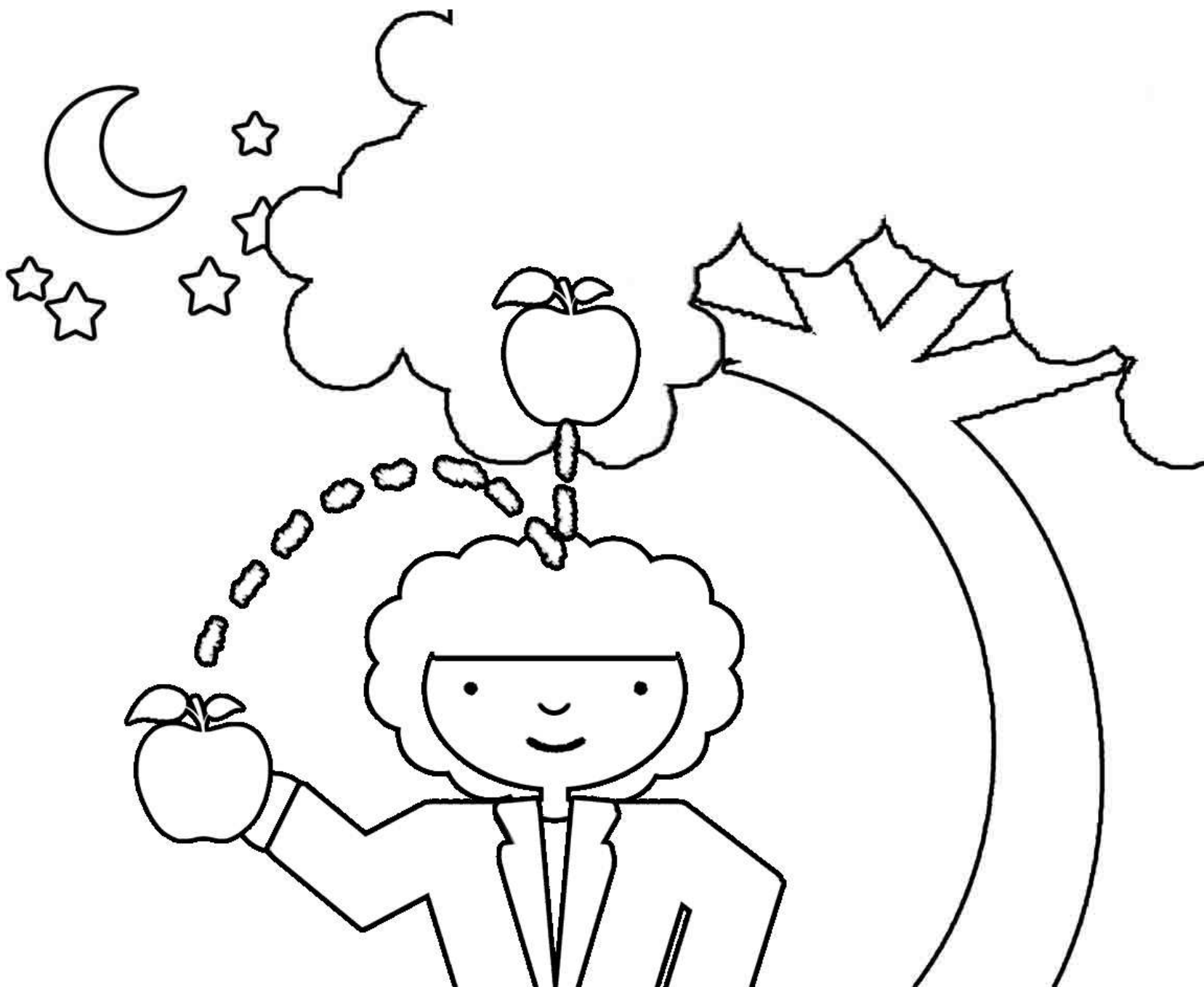
\_\_\_\_\_ is an agronomist. She is interested in crops,  
to grow the sweetest corn to sell to all the shops.  
She carefully chooses the seeds, lands, and soils,  
to produce healthier foods and sustainable oils.



\_\_\_\_\_ is an engineer. She aims to find a solution,  
to everyday problems like smog and pollution.  
She designs buildings, bridges, cars and planes.  
Whatever the challenge, she uses her brains.



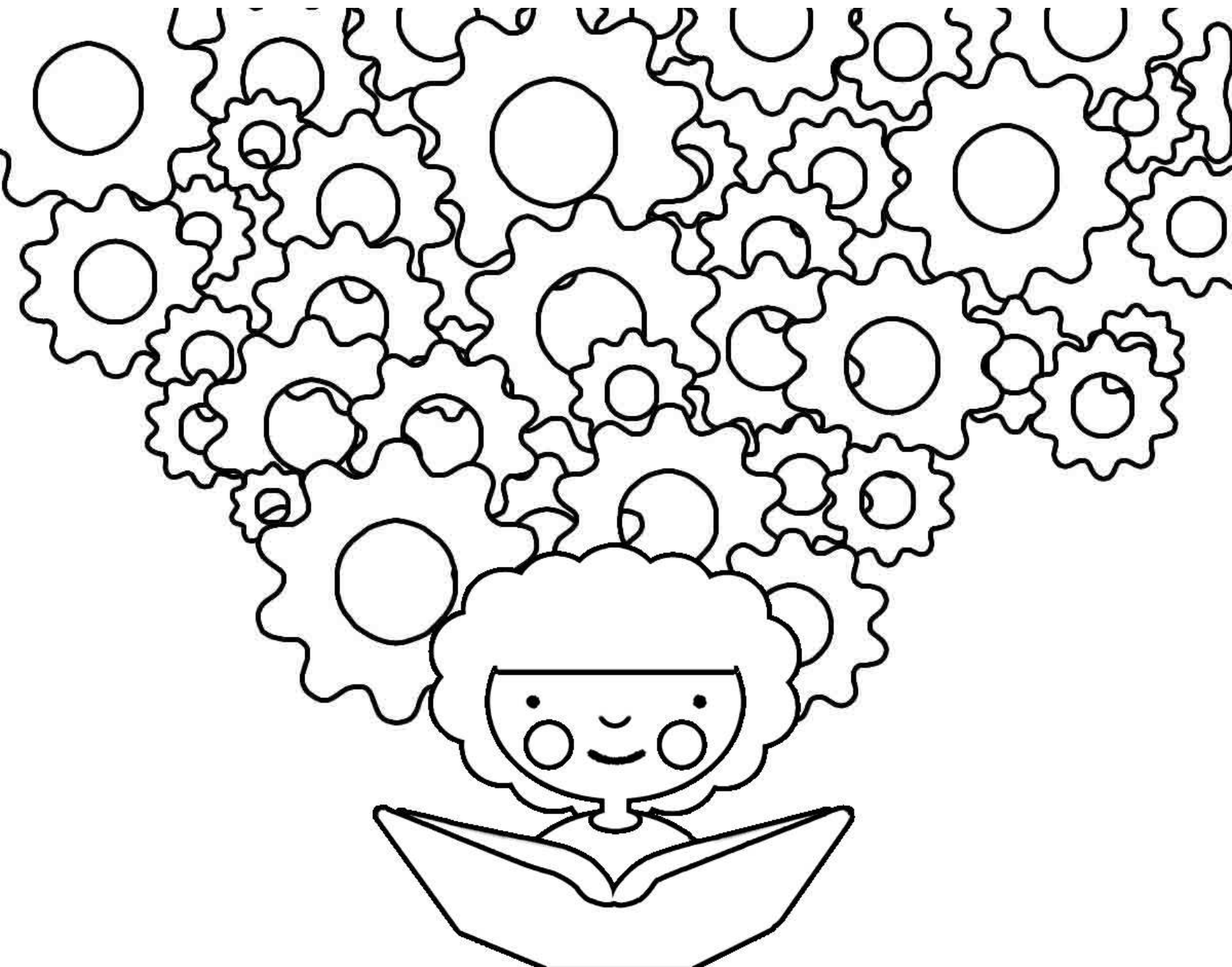
\_\_\_\_\_ is a physicist. She studies it all,  
from galaxies to atoms, from humongous to small.  
She wants to discover how the world came to be,  
and just why an apple falls from a tree.



All of these choices, what will \_\_\_\_\_ explore?

What will she learn? What is waiting in store?

Tomorrow, when \_\_\_\_\_ wakes to a brand new day,  
she will tackle the world in a brand new way.





Sometimes it is tough, sometimes it is rough,  
sometimes it may feel like enough is enough,  
though she may first fail, though she may stumble,  
though she may doubt, though she may fumble,



\_\_\_\_\_ will try again! And she will make it through!  
These big dreams she will chase! These big dreams she will pursue!  
With hard work \_\_\_\_\_ big dreams will someday,  
Surely change the world in a really big way!



Dream big, \_\_\_\_\_!



cuSTEMized is a not-for-profit initiative  
that encourages kids to envision themselves  
in Science, Technology, Engineering, and Math (STEM).

This book was made for

\_\_\_\_\_

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