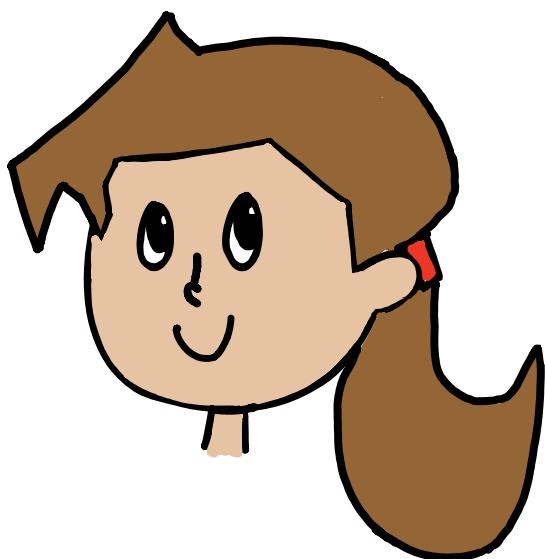
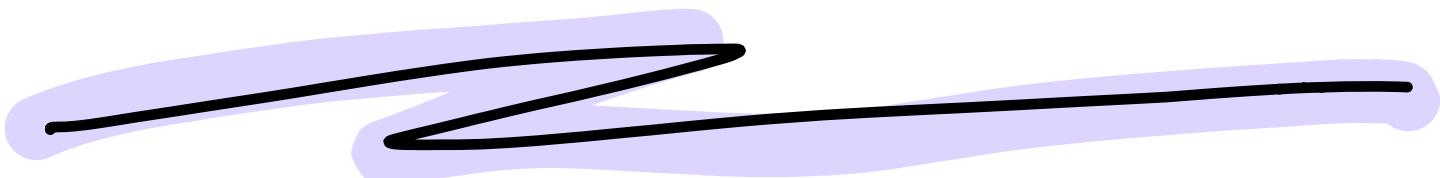


QUANTUM

ACTIVITY PACK



Hey there ! I'm Maddy. I'm a quantum scientist. I live in the U.K., but like a lot of us, I'm currently stuck in my house. I got together with some friends to make a few fun things for you to do if you're at home too. Learn a few things and — who knows?? — maybe one day we'll be working together to build the future.

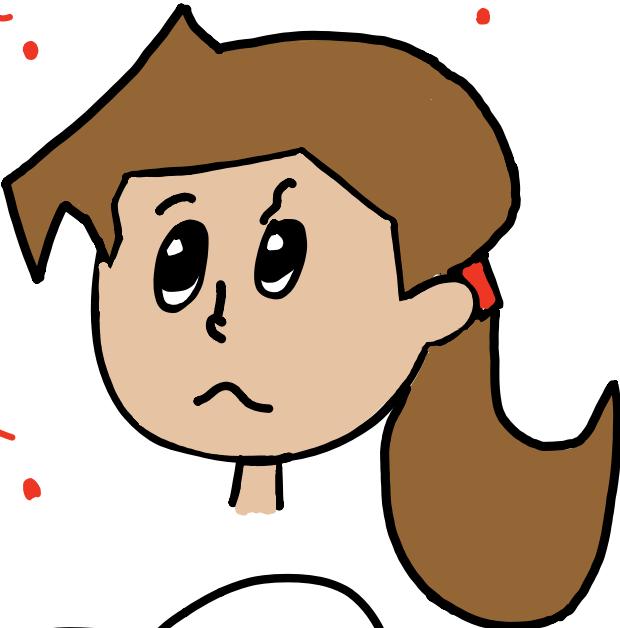
1

See you on the next page !

Here's what Maddy thinks about every day:

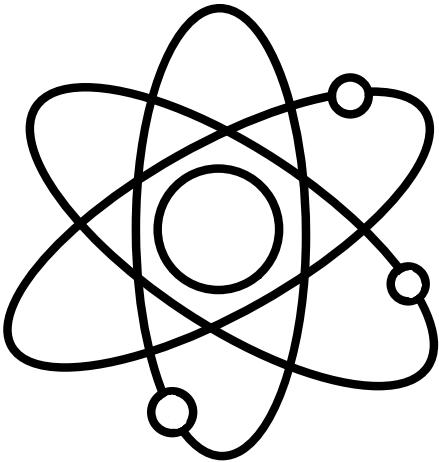
Really small things, smaller than ants, act differently than you think.

The word "Quantum" is used a lot. We say it in science to describe how those tiny things act.



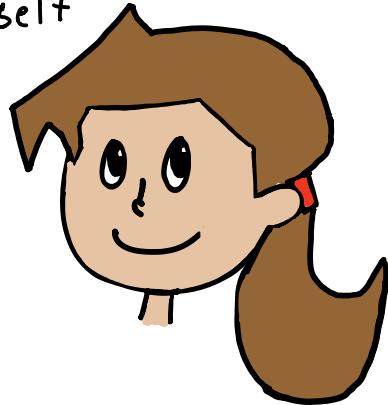
I help to make a new computer that follows those same rules. It's called a quantum computer.

It's really cool !



color the atom in!

Well, you already know some stuff about me. Now I'd like to learn about you! Tell me about yourself here.



Hello, my name is _____ and I am _____ years old. I live in _____ and my favorite class at school is _____. When I grow up, I want to be a _____. For fun, I like to _____. If I could have any super power, it would be _____.

Fun fact, if I could have a superpower, I would choose teleportation — it means you can go anywhere really fast. It's also something you can do with a quantum computer.

Quantum Word Search

T	S	P	J	G	X	A	N	Q	A
E	H	U	C	I	E	O	S	U	B
N	A	H	I	V	N	S	H	O	R
T	P	O	R	H	B	M	K	C	D
A	L	R	C	F	E	Y	Q	R	A
N	S	Q	U	A	N	T	U	M	Z
G	T	C	I	L	S	H	B	O	J
L	E	O	T	W	G	O	I	E	K
E	Q	U	B	L	C	I	T	R	L
C	D	N	F	L	A	B	S	C	A

QUBIT

LAB

ENTANGLE

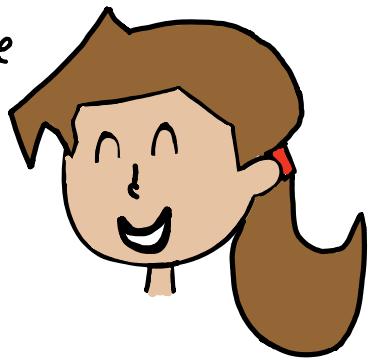
CIRCUIT

SHOR

QUANTUM

4

Here is what some of those words you just found mean. Give these a read and you will be well on your way to becoming a quantum scientist like me.



Quantum Computer - A special kind of computer that can solve some really hard problems.

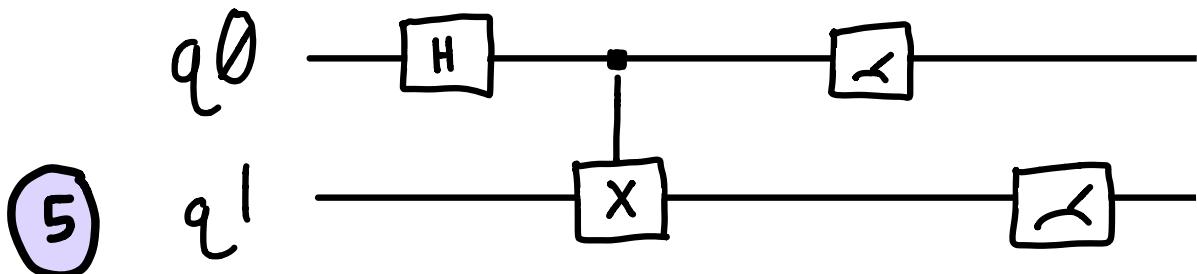
Qubit - What quantum computers use. This is what makes them special.

Lab - Where our scientists do their work. It also is where we put the quantum computer.

Entangle - When two qubits are friends and make the same choices.

Shor - Is a name. Peter Shor! A famous quantum scientist.

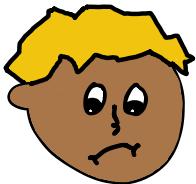
Code - Instructions we give a computer to tell it what to do.



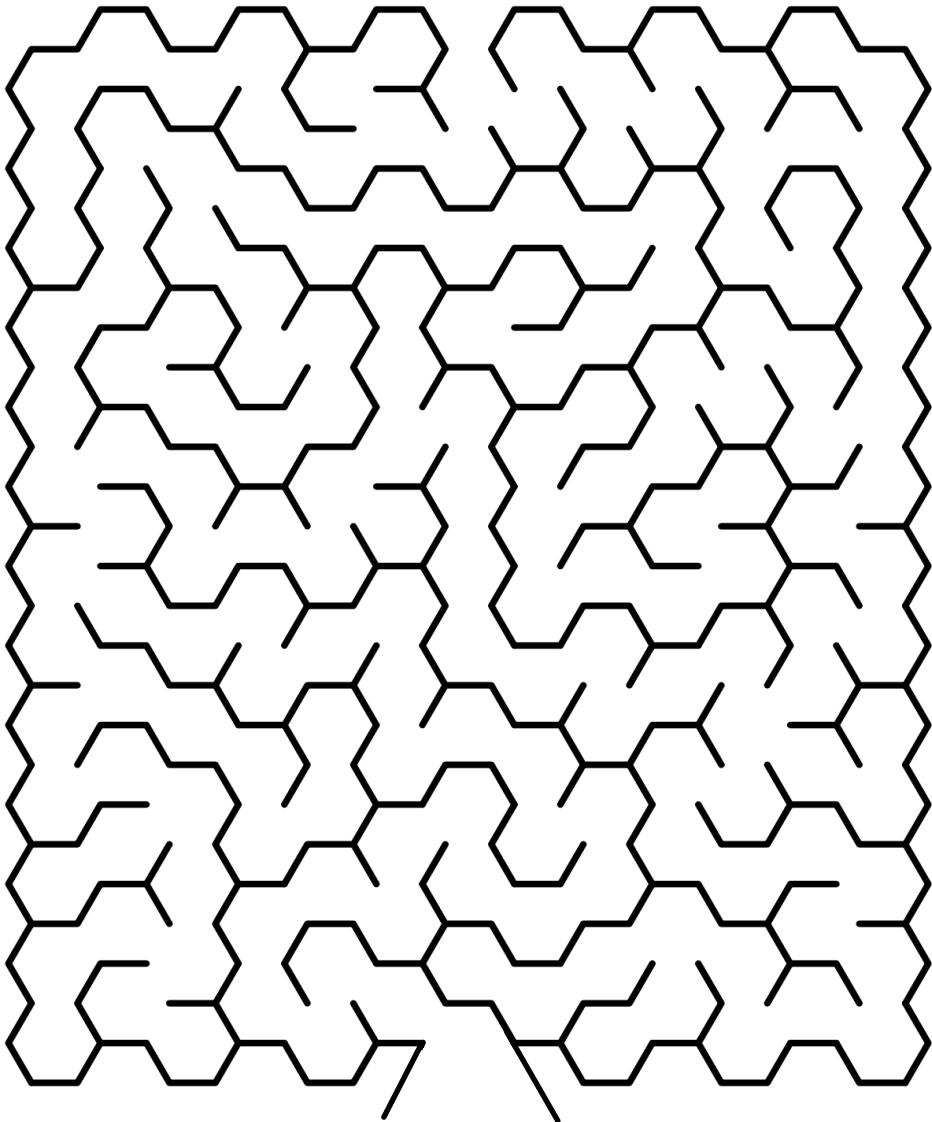
Can you please

help my friend
get to the

lab so he
can see the
quantum
computer?

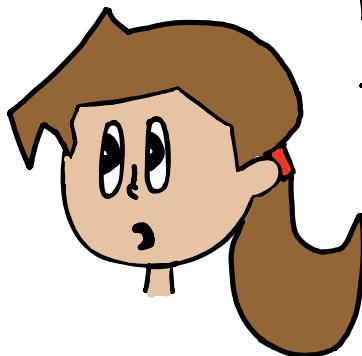


START

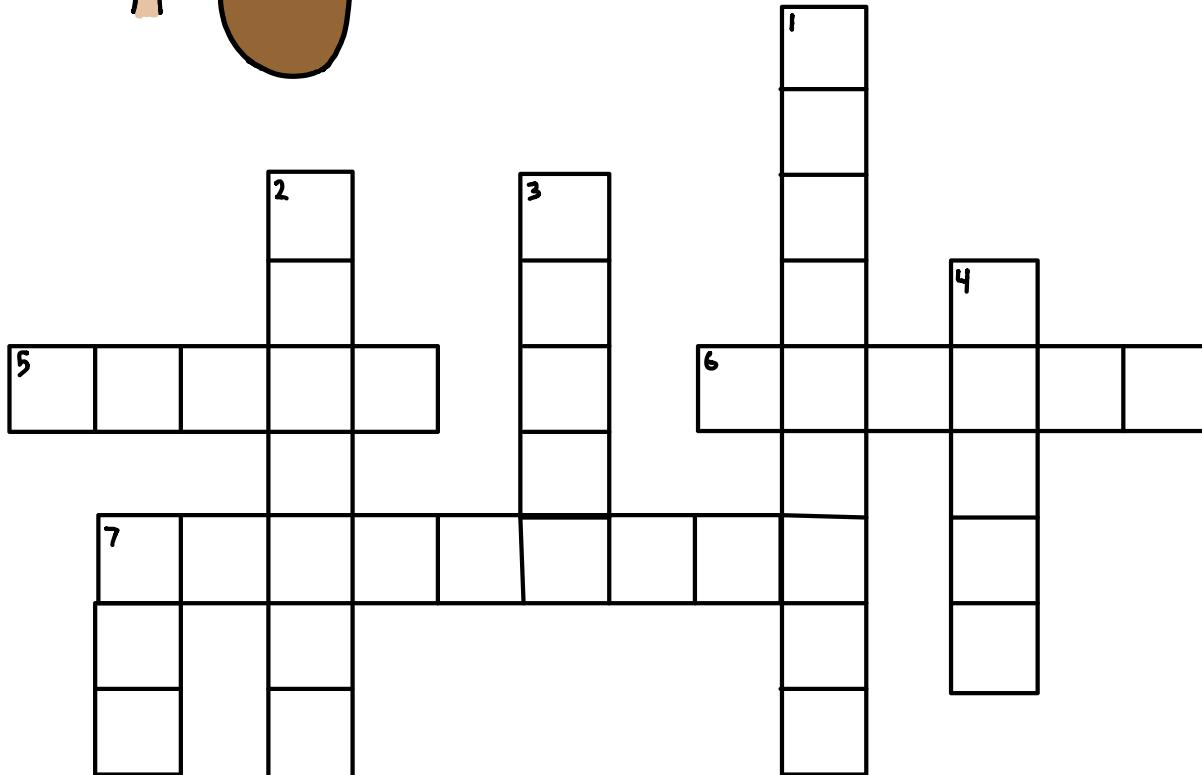


This is what
a quantum
computer
actually looks
like! They can
be more than 5
feet tall.





My lab mate sent me a lot of tough questions! Can you help me answer them?



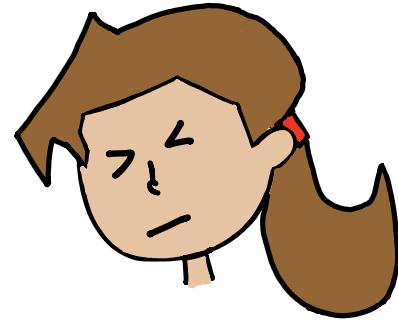
ACROSS

- 5 - this strong material is sometimes magnetic
- 6 - the three states of matter are solid, _____, gas
- 7 - someone who works in the lab running experiments

DOWN

- 1 - the science that involves mixing chemicals
- 2 - the force that pulls things down to earth
- 3 - what pumps your blood through your body
- 4 - what quantum computers use that makes them special
- 7 - the nearest star to Earth

UGH! I dropped these letters by accident. Can you unscramble them please?



ITQUB

CDOE

LEEAATGNN

AMTQNUU

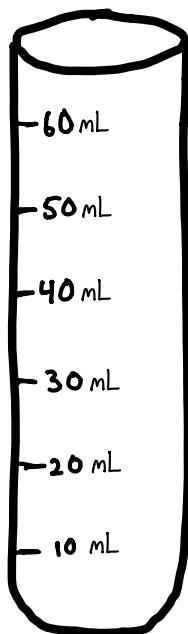
Hint: They're all words from page five!

I need to fill this test tube with

45 mL

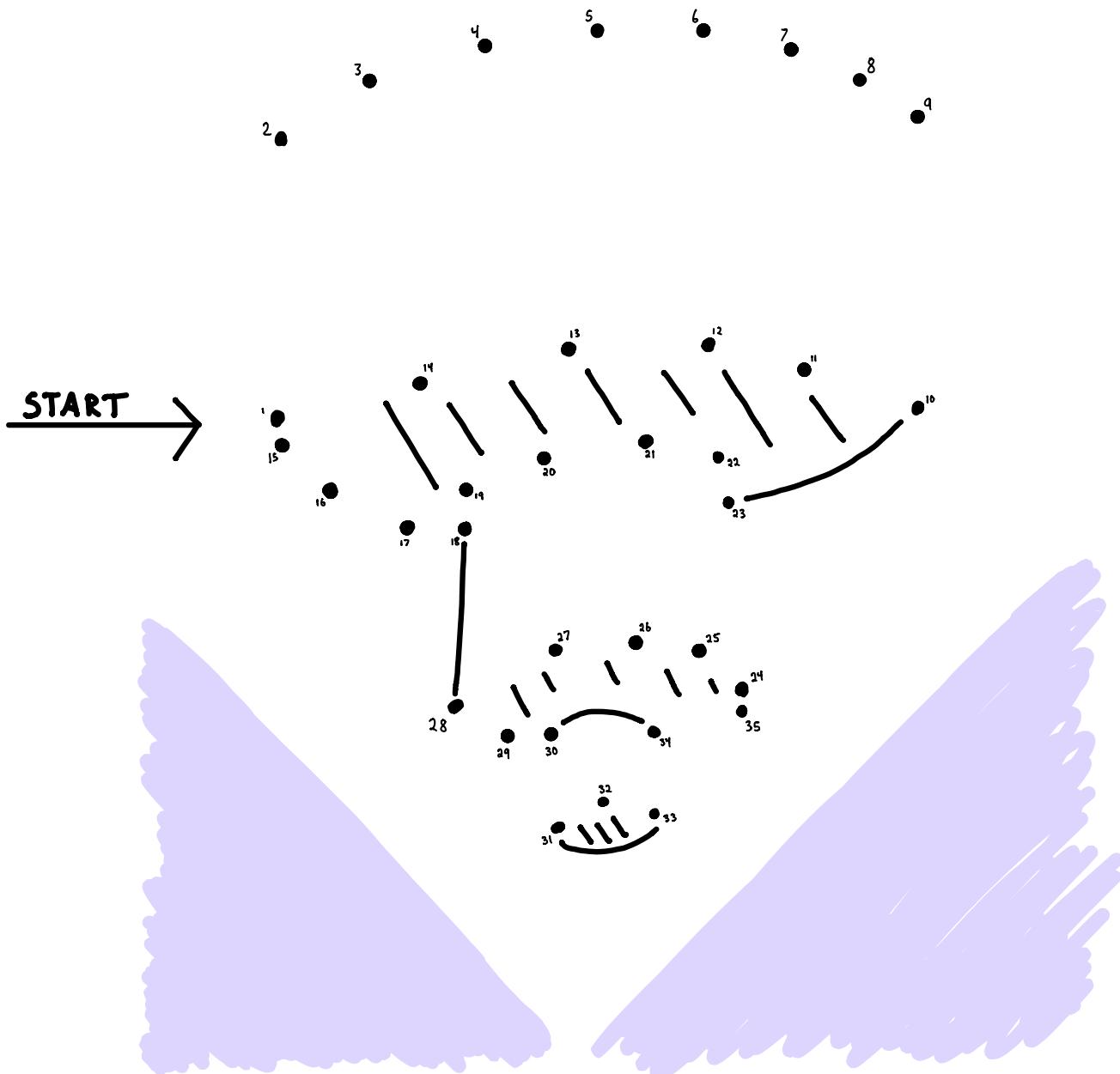


of liquid. Can you help?



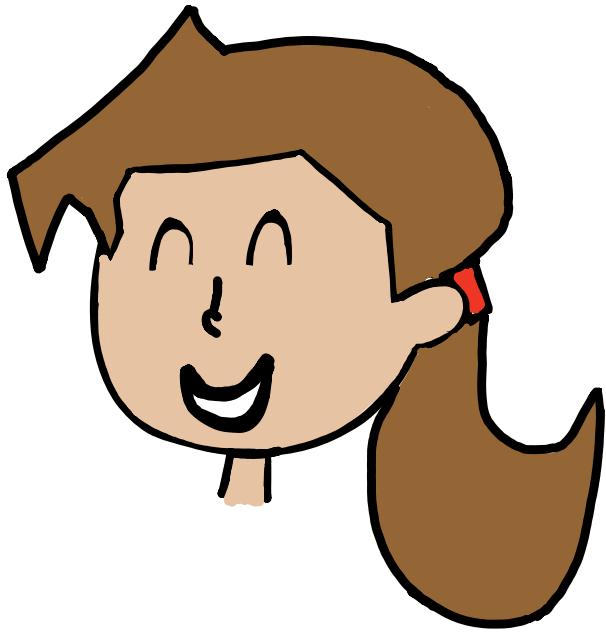
You are doing GREAT!

Let's connect the dots on everything
that you've learned.



9

You
Did It!
W



Thanks for joining me on this quantum adventure. I sure had a lot of fun, and I hope you did too!

Waiting for you on the next page is your official certificate of achievement, and some information for your parents.

See you again soon!



FUTURE QUANTUM SCIENTIST

This is awarded to

*For excellent achievement in completion
of the Quantum Activity Book*

Take a picture with your certificate, you've earned it!
Parents, if you want to share it online, we'd love to
see! Tag it with @qiskit so we can find you.

Made with <3 by Brian Ingmanson, Maddy Tod,
Anamita Guha, and the Qiskit Community Team.



You can learn more by visiting qiskit.org