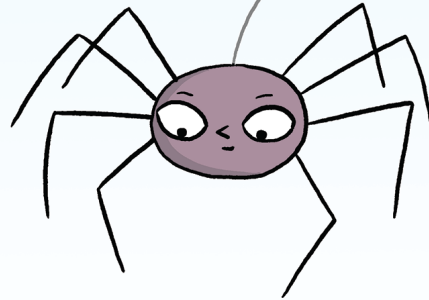
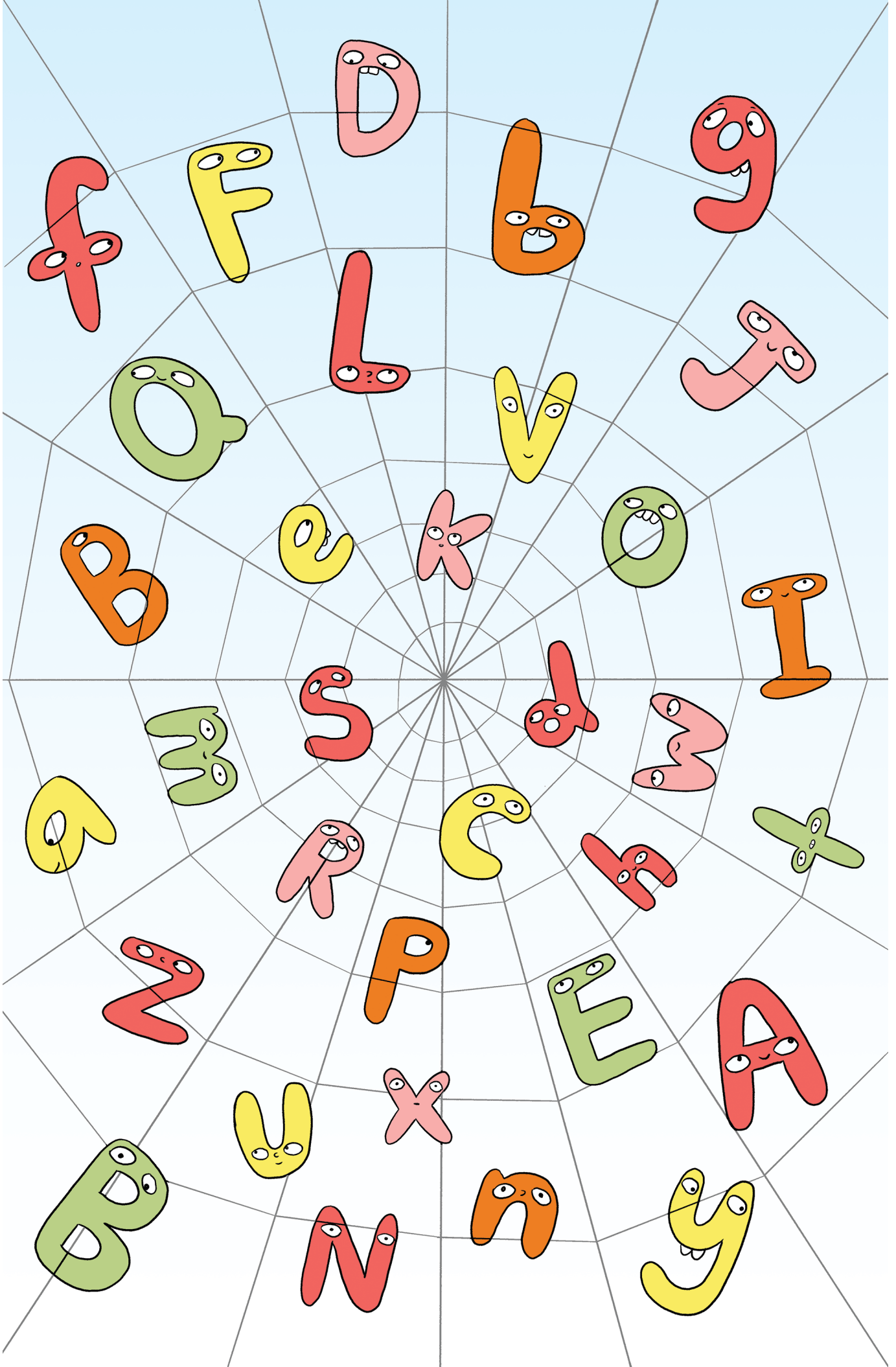


# HOW WE READ



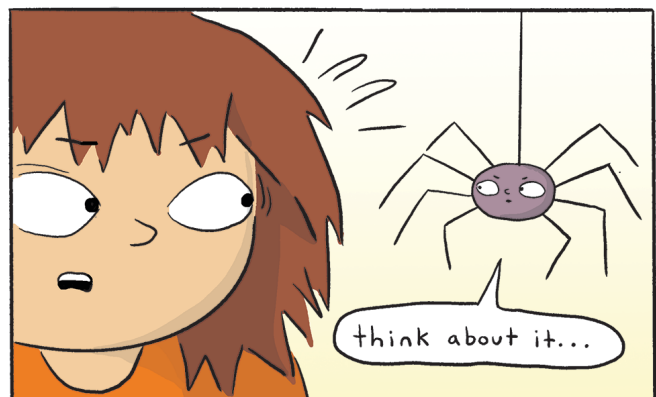
A GRAPHIC GUIDE TO LITERACY

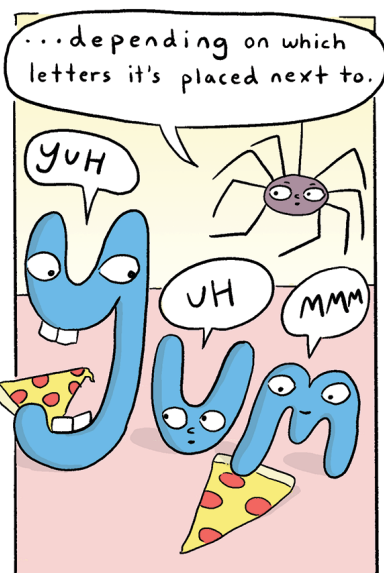
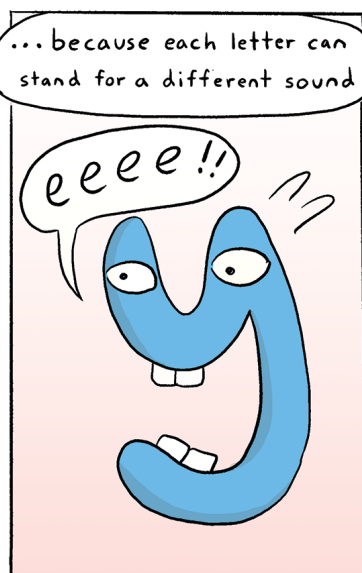
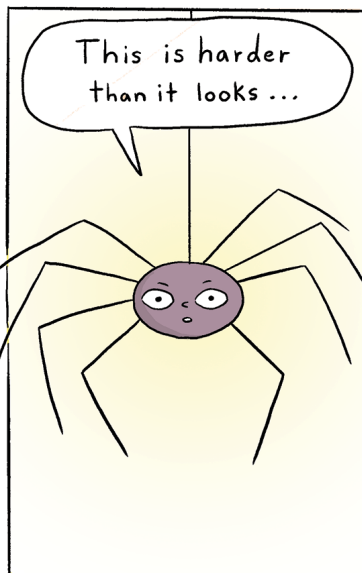
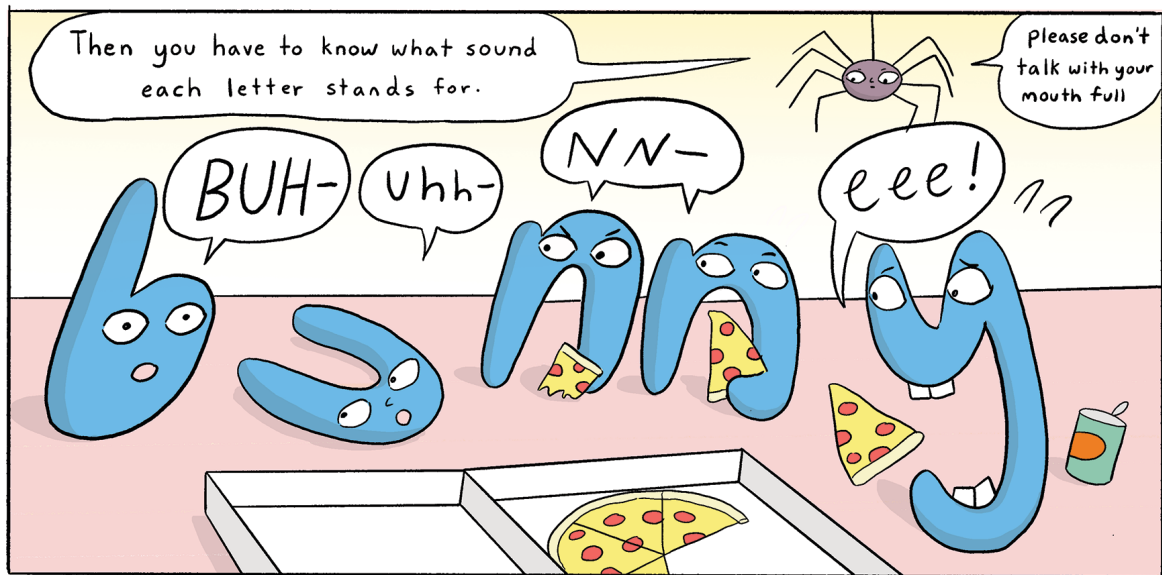
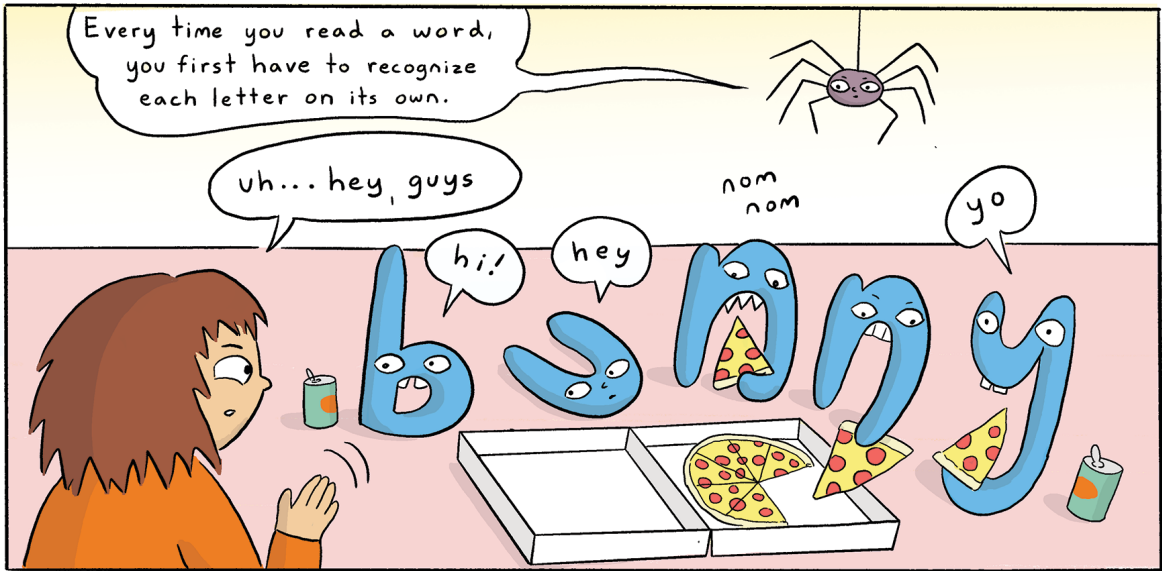




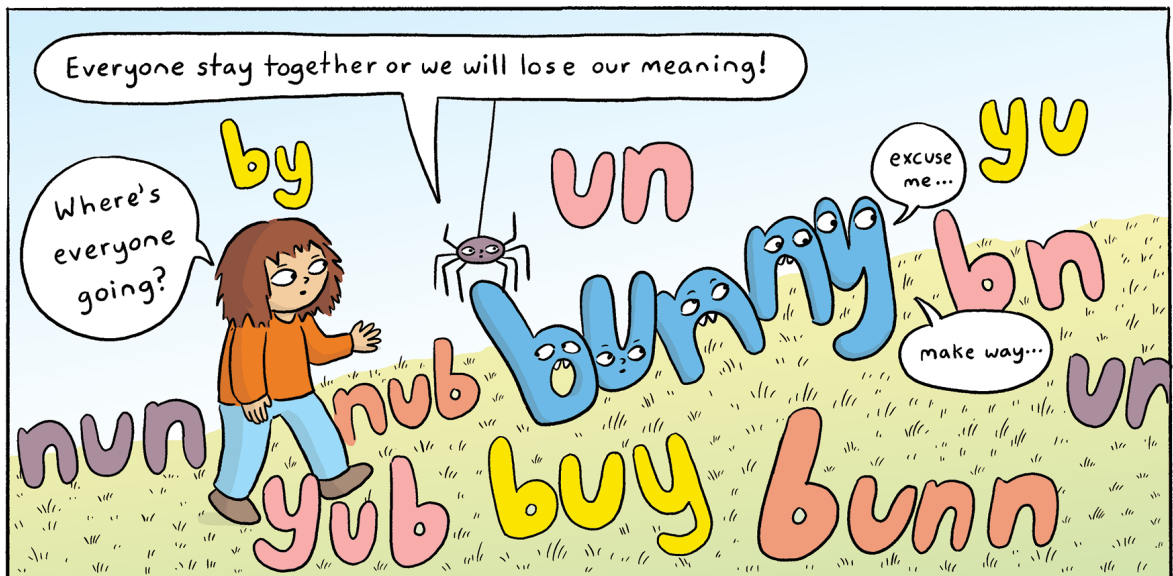
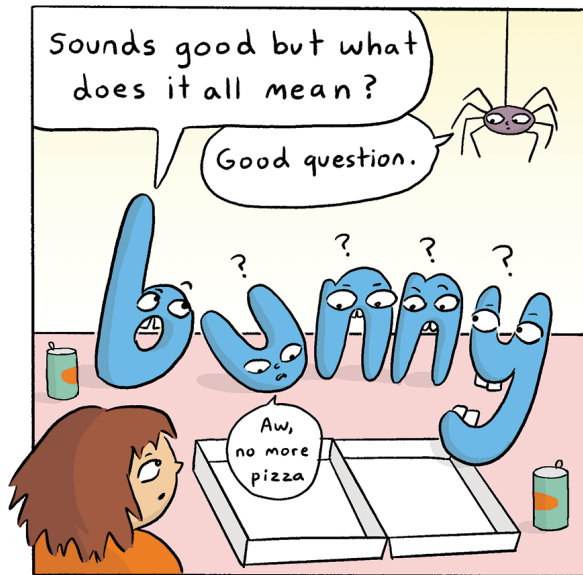
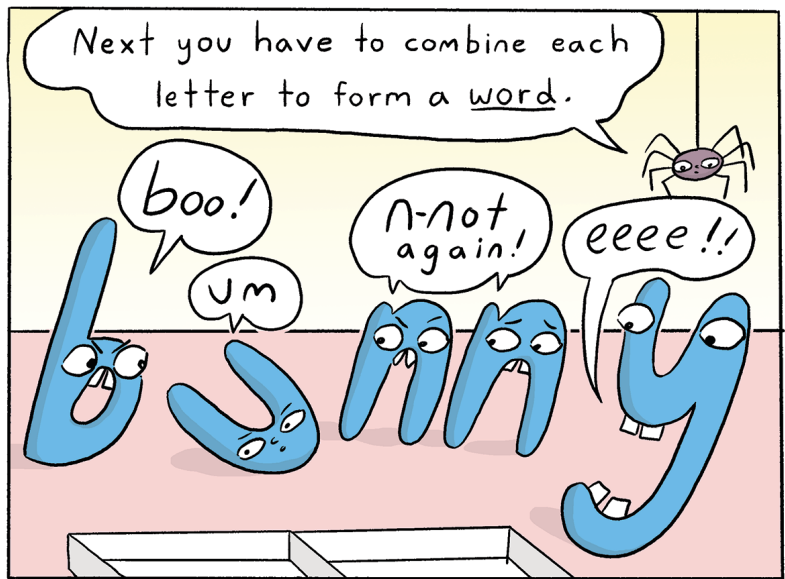
# READING

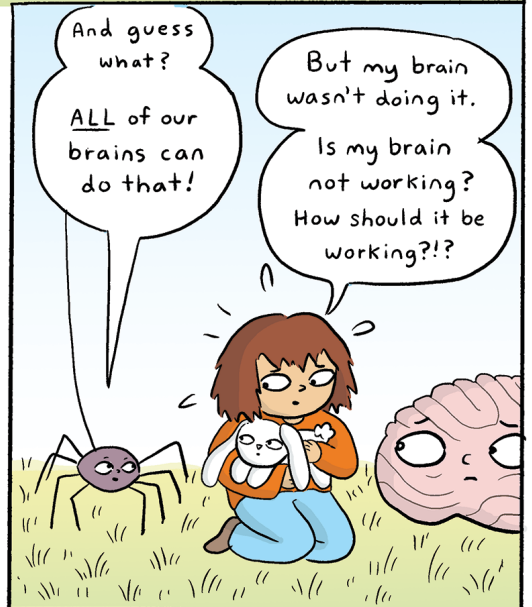
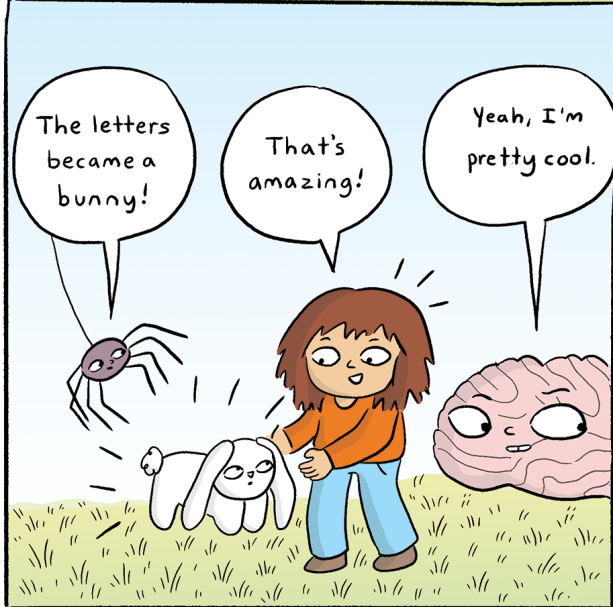
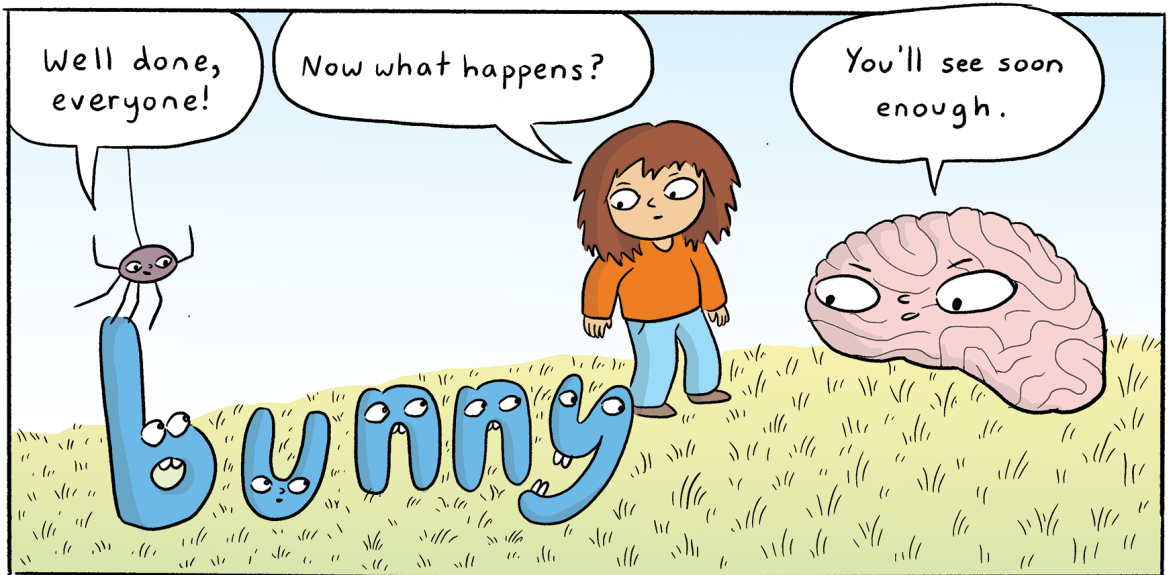
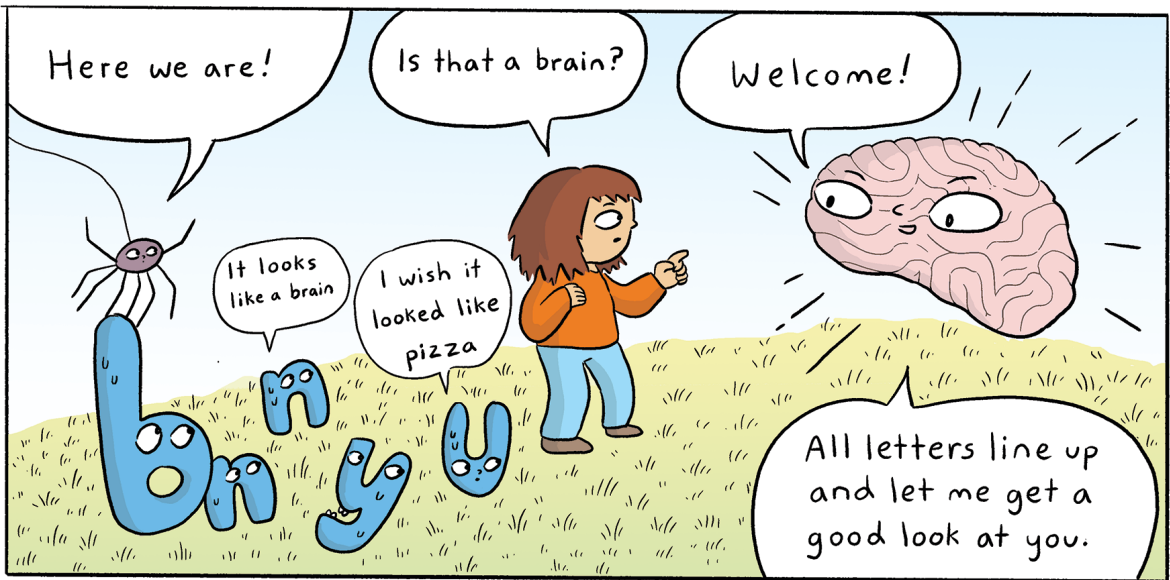
Every week, on the day between Sunday and Monday, bunnies celebrate Bunday. It is the eighth day in the bunny week, and for many, the most popular. On Bunday, bunnies play their favorite games in the meadow, read their favorite bunny books, and eat their favorite bunny snacks. They are the only known creatures on earth to have an eight day week, and take great pride in it. However,



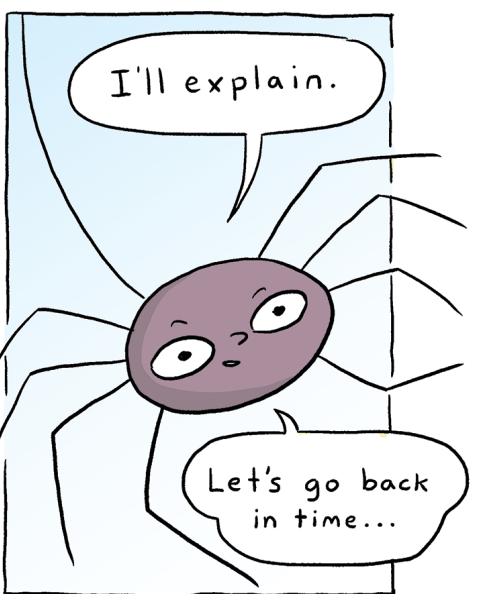
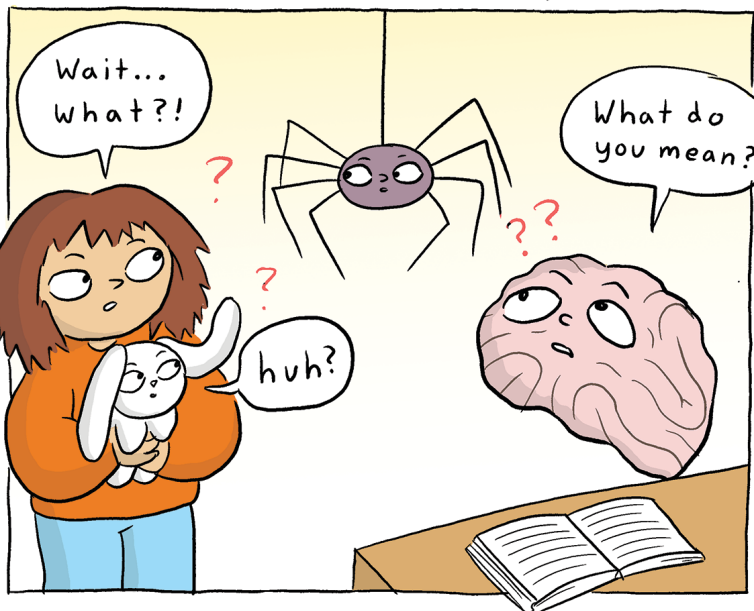
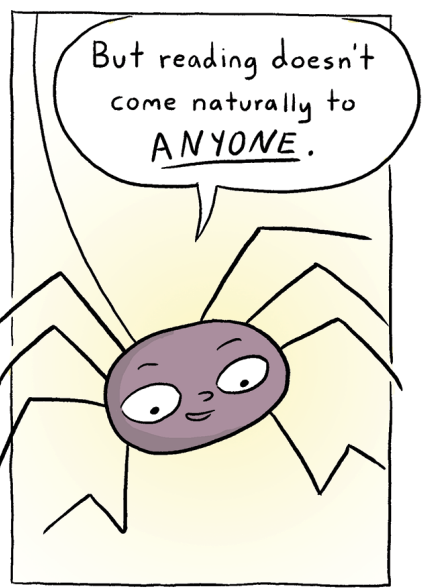
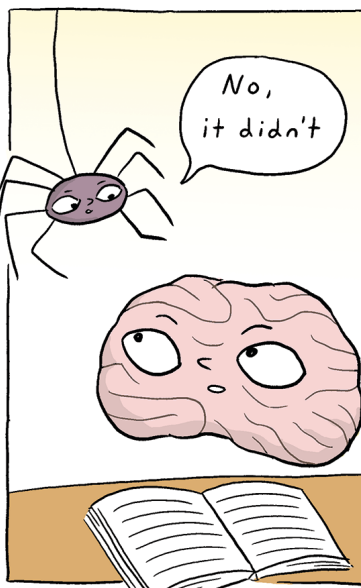
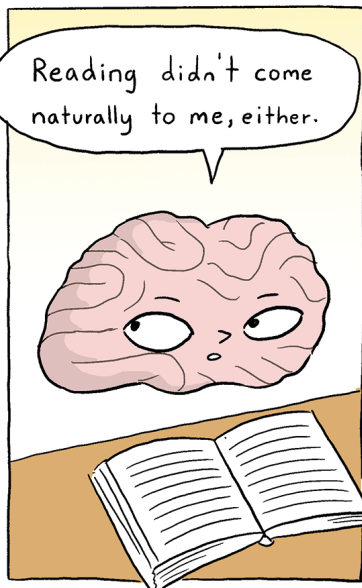
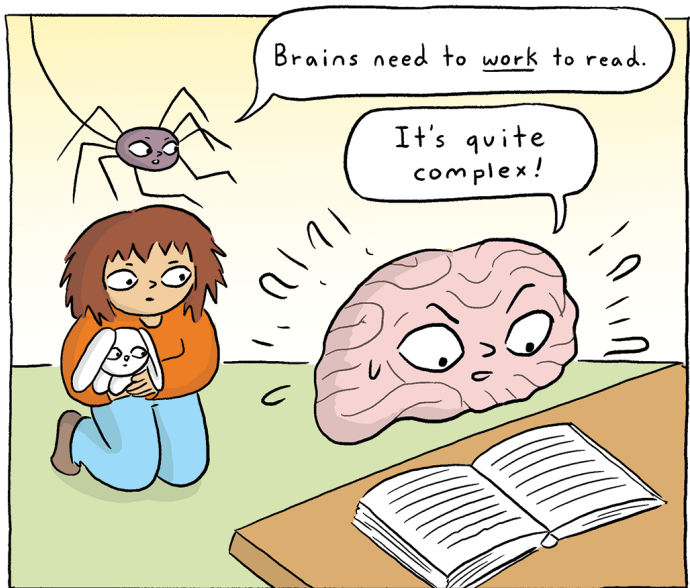


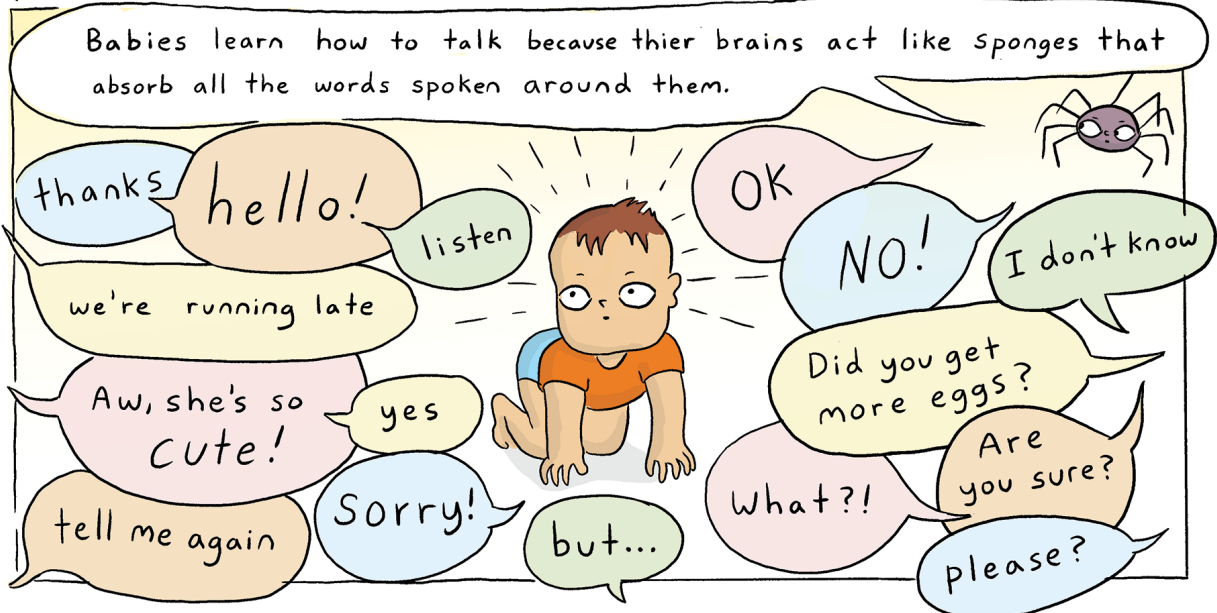
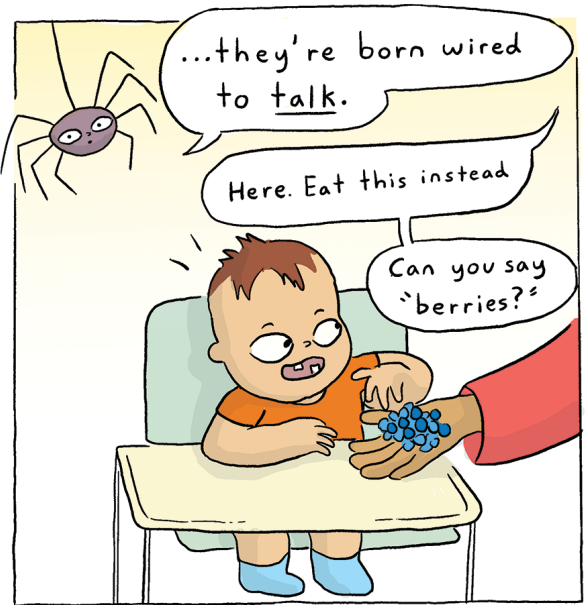
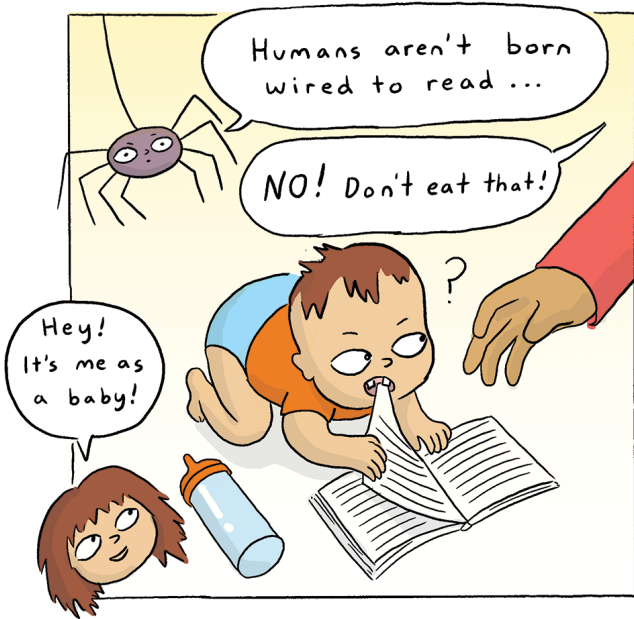




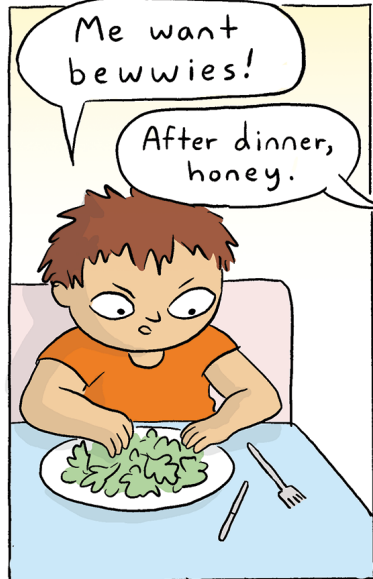




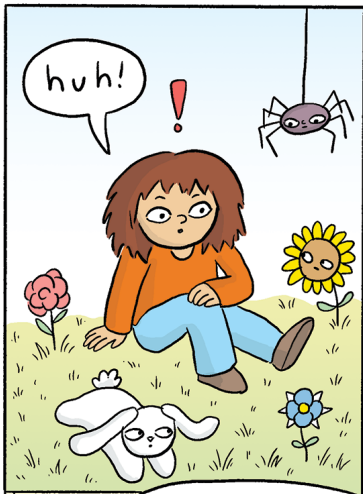




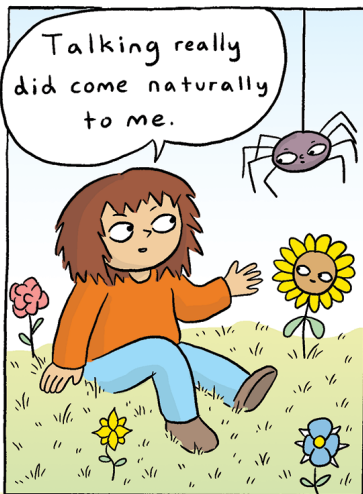
And after some time... and practice... ...they can speak flently.







huh!



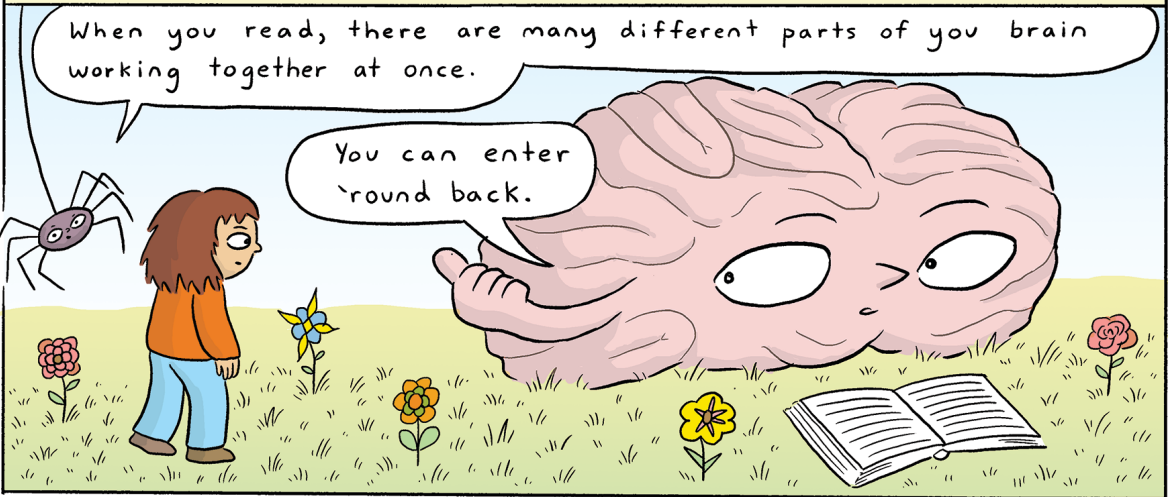
Talking really did come naturally to me.



So why doesn't **READING**?!

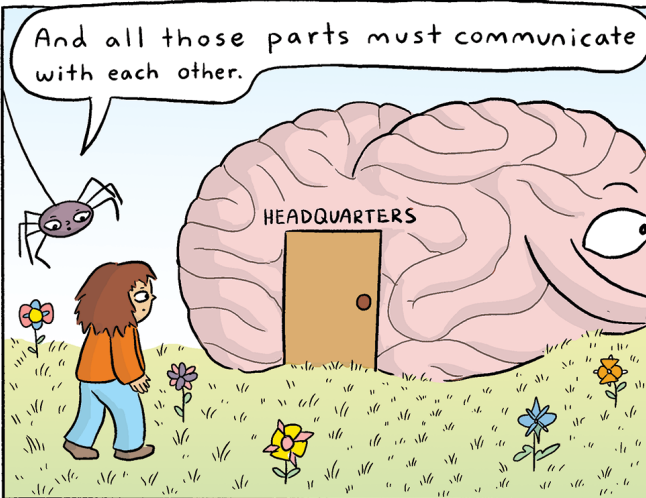
To answer that, I'm gonna have to show you...

# how a brain R-E-A-D-S



When you read, there are many different parts of you brain working together at once.

You can enter 'round back.

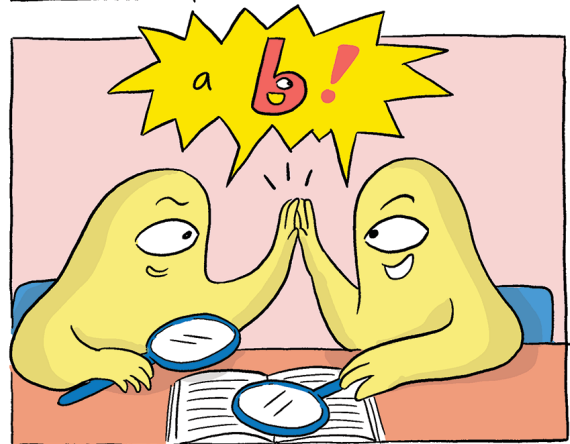
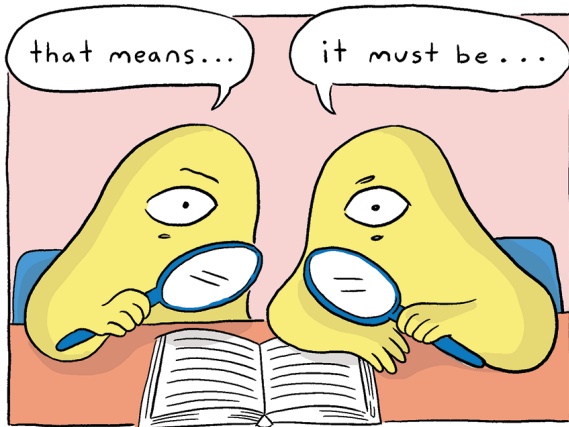
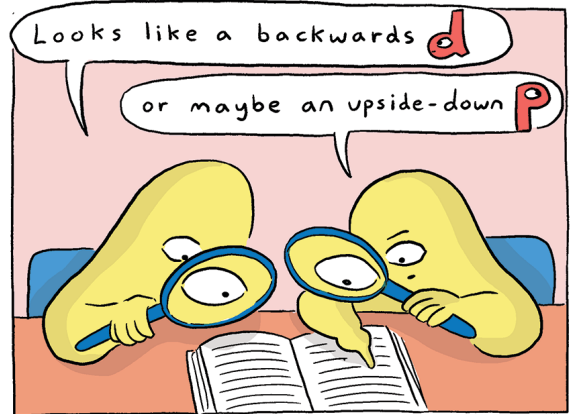
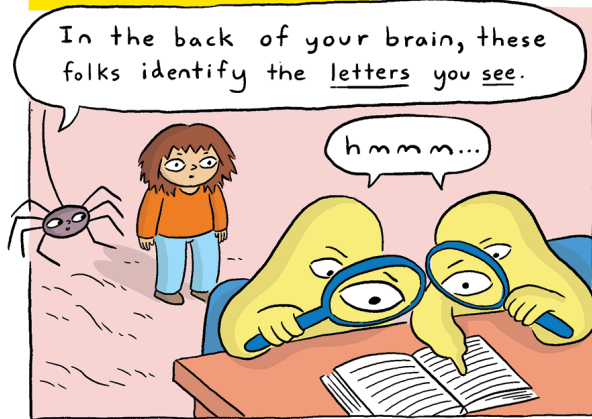


And all those parts must communicate with each other.

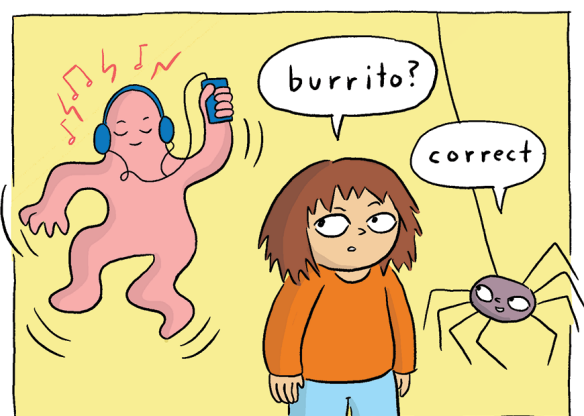
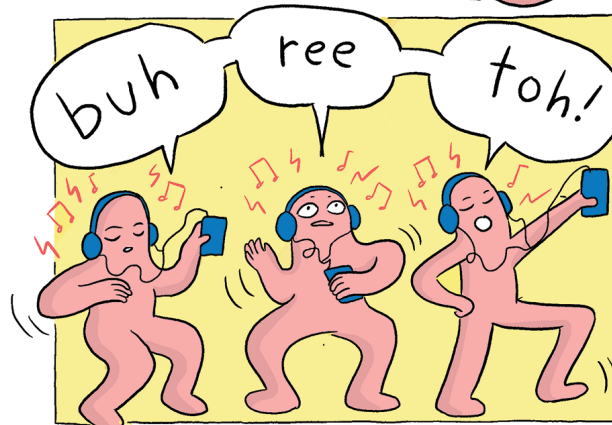


Let's take a tour!

## The Visual Cortex



## The Auditory Cortex





## The Angular Gyrus

Now we're in the deep center brain, where the angular gyrus acts like a smartphone, connecting the words you see...



...to the sounds they represent.

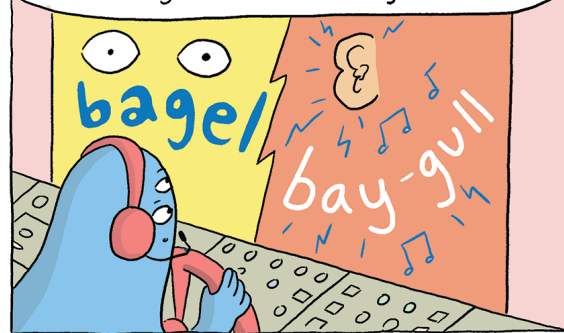


## Inferior Frontal Cortex

That's where the front of your brain comes in.



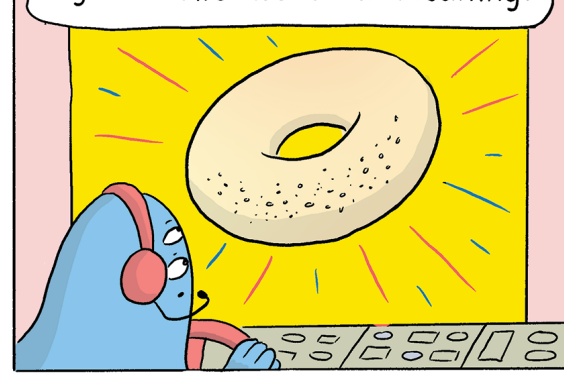
It collects all the information the rest of your brain has gathered ...



... and as if by magic,



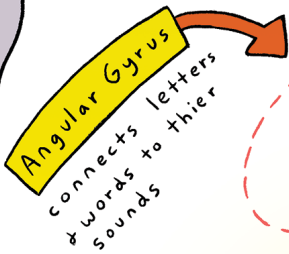
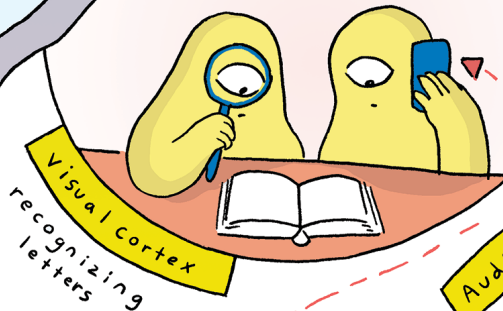
gives the word a meaning.



# ALL TOGETHER NOW!

When you read, all these different parts of your brain work together—at lightning speed.

back of your brain

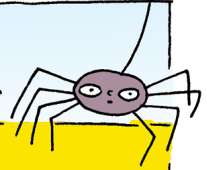


front of your brain

That's a pretty complicated process!

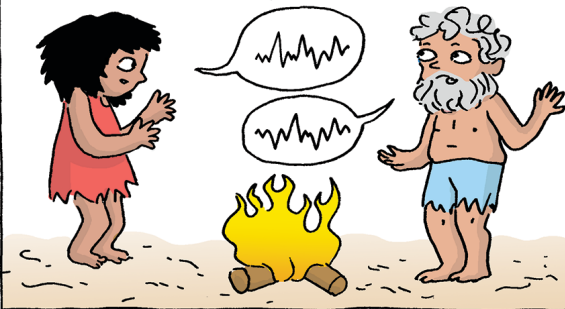


It's also a relatively new one. And it all began with...

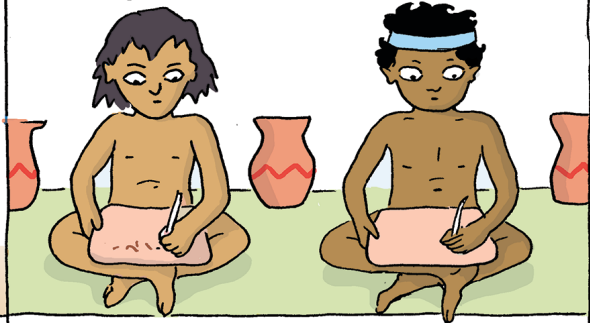


# The invention of writing

Humans have been talking for about 200,000 years.



But they only started reading about 5,400 years ago, in Ancient Sumer.

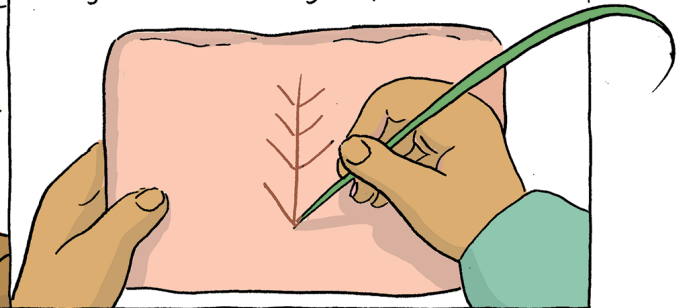


The Sumerians invented a writing system to record information.

I'll have 1 bushel of barley, please.



Scribes drew simple pictures on clay tablets using a pointed tool



For hundreds of years, the signs represented objects



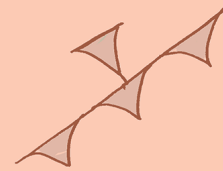
barley, c. 3100 B.C.

but over time, they began to change in form



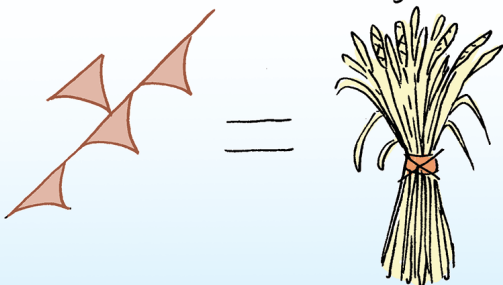
barley, c. 2400 B.C.

and in how they were used.

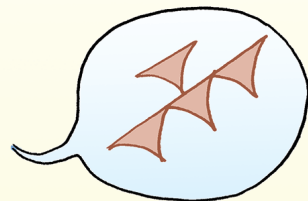


barley, c. 600 B.C.

In late Sumer, the barley sign could still represent barley...



... but it could also represent a sound\*, like a letter in an alphabet.



\* the barley sign sounded like "she"



In addition to Sumer, writing systems – and by extension the ability to read – developed independently in at least 3 other ancient civilizations.



| Ancient Egypt<br>c. 3250 B.C. | China<br>c. 1200 B.C. – | Mesoamerica<br>500 B.C. |
|-------------------------------|-------------------------|-------------------------|
|                               |                         |                         |
|                               |                         |                         |
|                               |                         |                         |

But even as reading and writing developed all over the globe, for most of human history, literacy was a skill reserved for the people in power, and those working for them.



An Egyptian scribe, recording royal affairs. 3200 B.C.

An Roman merchant, documenting trade at a port. 117 A.D.

An Islamic scholar, writing a scientific manuscript. 1062 A.D.

**FUN FACT** Today, silent reading is the norm, but most of humanity's first readers read out loud!

1276 A.D.

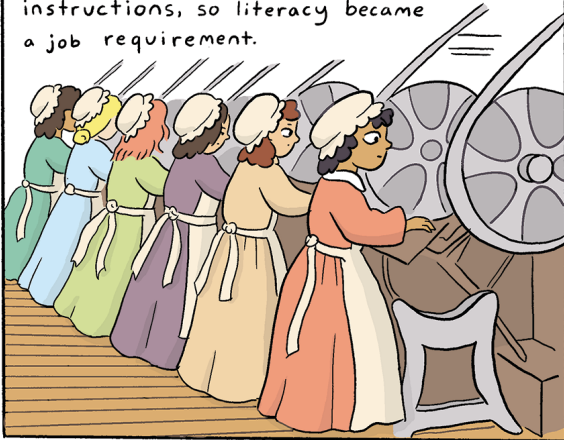
blah blah bla  
blah blah bla

**QUIET!**

# The Spread of Literacy

It wasn't until the Industrial Revolution in the mid 18th - mid 19th centuries that literacy began to spread rapidly in Europe and the U.S.

Factories needed workers who could read instructions, so literacy became a job requirement.



The population boomed. More schools opened, and more children learned how to read.



The wider availability of paper in the 1800's led to a massive expansion of newspapers, books, and pamphlets...



...which empowered people to spread and share new ideas...



... and to better understand and change their world.



Today, 86% of the global population can read.



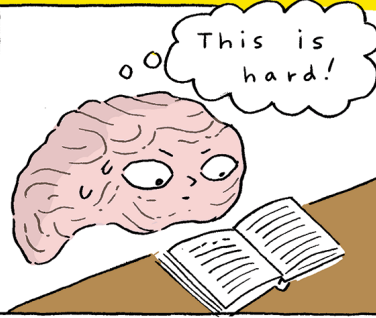


And for good reason!  
There are many benefits  
to learning how to read.

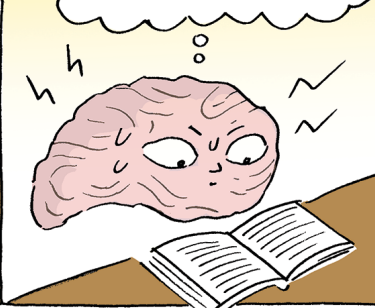


# Reading can...

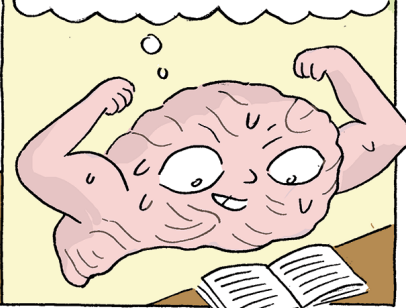
Strengthen your brain



but hard work...



... makes me stronger!



build vocabulary



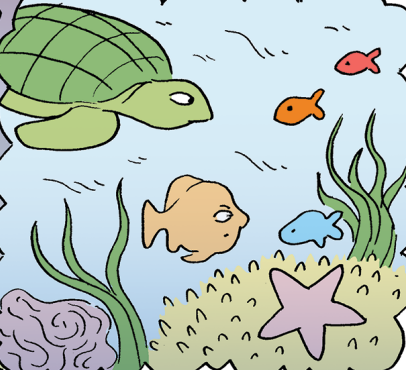
Sounds cool, but  
what does it mean?



"of, relating to, or resembling  
twilight."



expand your mind



reduce stress



maybe this fantasy  
novel will empower me.



soon:





improve focus



need



bzzzzzzz



improve writing



How should I start?



I can't stop! I need to know how it ends!



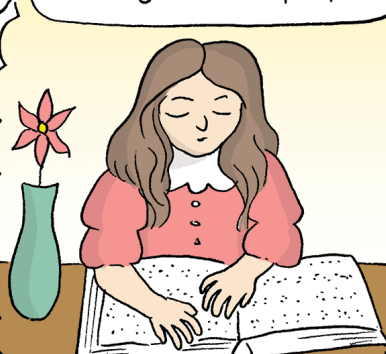
increase empathy



They let me see the world...



...through other people

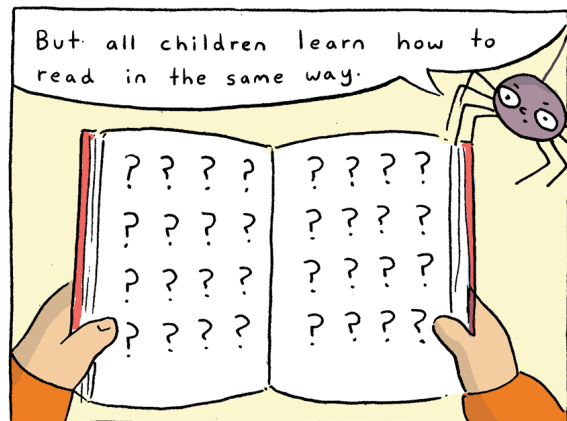
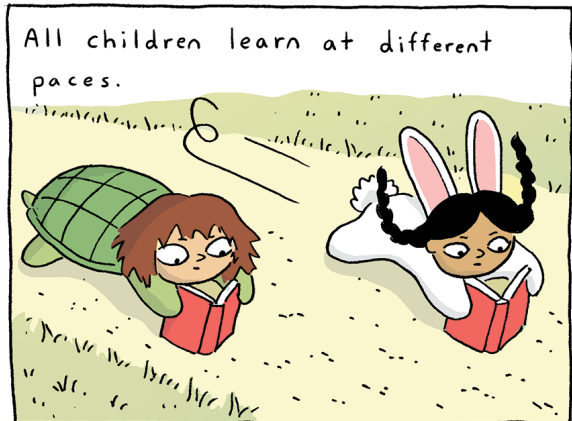
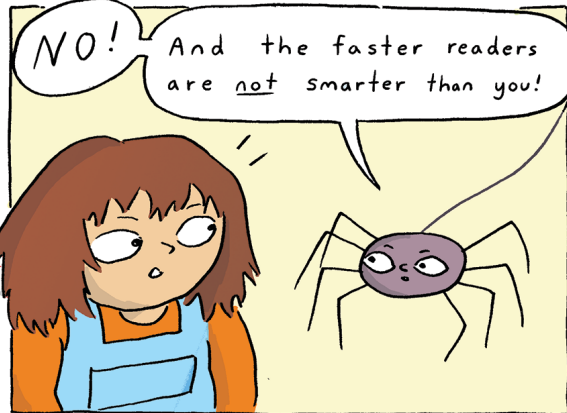


increase engagement



I HAVE TO DO SOMETHING!!

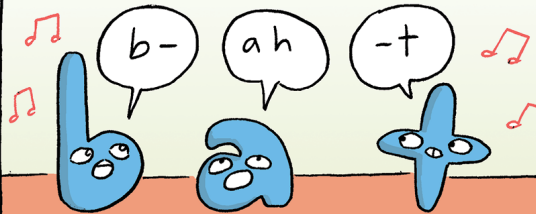




# The 5 KEYS to Learning How to Read

## 1. Phonemic Awareness

Phonemes are the individual sounds that make up a word



When we train our ears to hear the sounds in words, we build phonemic awareness.

I heard 3 sounds in the word bat

good job, ears



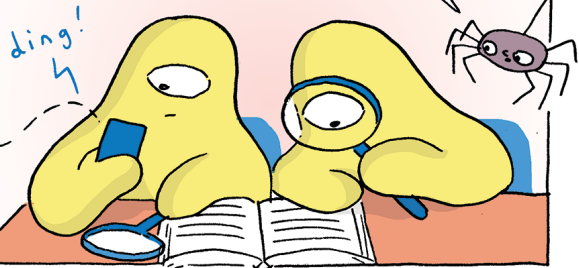
## 2. Phonics

Next we connect the sounds in words



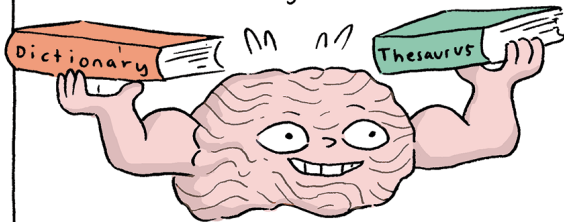
... to written letters. This skill is called phonics

sound familiar?



## 3. vocabulary

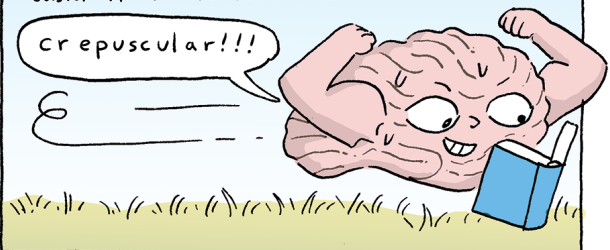
The more words you can read, the more words you'll learn!



## 4. Fluency

And the more words you learn, the easier it is to read them.

crepuscular!!!

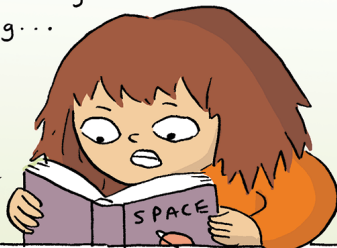


## 5. Comprehension

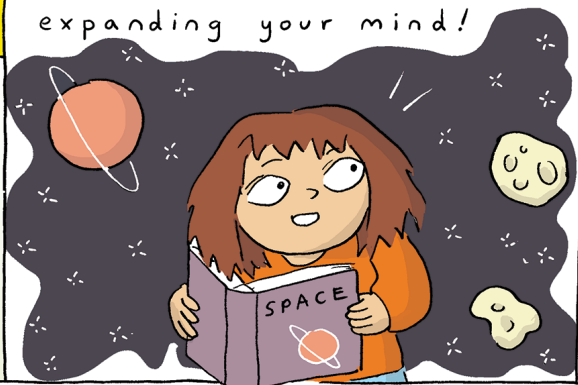
And the easier reading gets, the more immersed you'll be in what you're reading...

come down for dinner!

one more page!



expanding your mind!







Easier said than done!

I struggle with all those things.

Well, you're not alone. Many kids - and adults - have trouble reading.

# Why it can be a struggle to learn



I have trouble recognizing sounds in words.



How many sounds are in the word "burger"?



Uh, I'm not sure!

I should know this...



I need help sounding out written words.



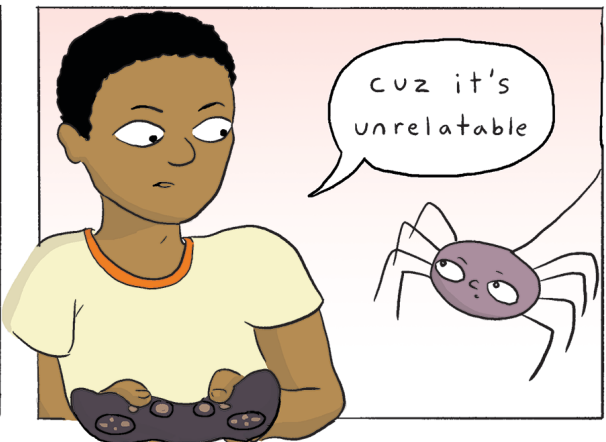
dark

b-a-h-r-k?

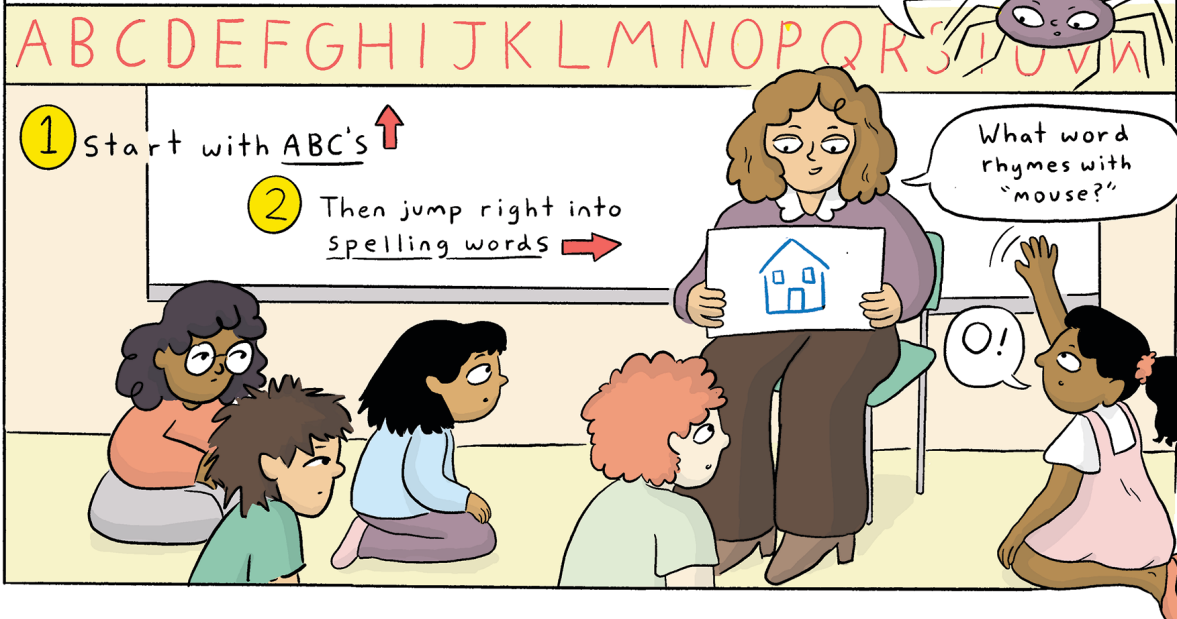
bark!



No, that can't be right...



Unfortunately, many schools teach reading in ways that don't support all their students. In fact, some schools teach reading the wrong way, which often looks something like this:



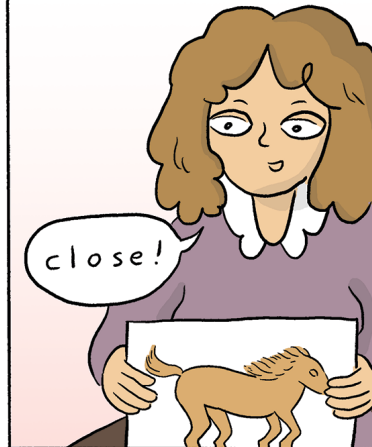
3 And memorizing their meanings



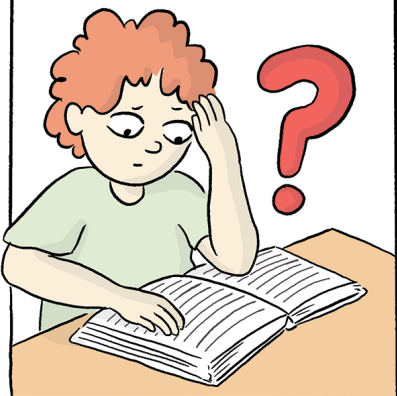
This isn't reading.



It's guessing.



And a bad habit that's hard to break.





Thankfully, science has shown us the right ways to teach reading, and it looks something like this...

# Best Practices for Learning to Read



## 1. Build Phonemic Awareness



## 2. Focus on Phonics!

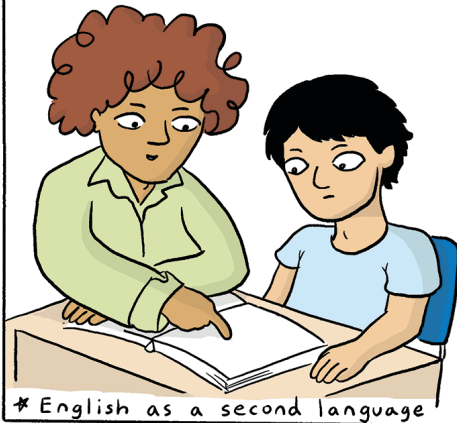


## 3. Befriend Books!



It's also helpful if you have access to...

Trained ESL teachers



A culturally-inclusive learning environment



Books you want to read



so you want to read for fun!



because when it comes to learning how to read, the most **IMPORTANT THING** you can do is...



And with enough practice, you'll become a fluent reader!

Cool! But... what does 'fluent' mean?

Good question.

A fluent reader is familiar enough with the connections between words, their sounds, and their meanings, that they can read effortlessly.

back of brain



**fluent readers**

can recognize whole words as easily as faces...

...because communication between different parts of the brain speeds up.

Auditory Cortex



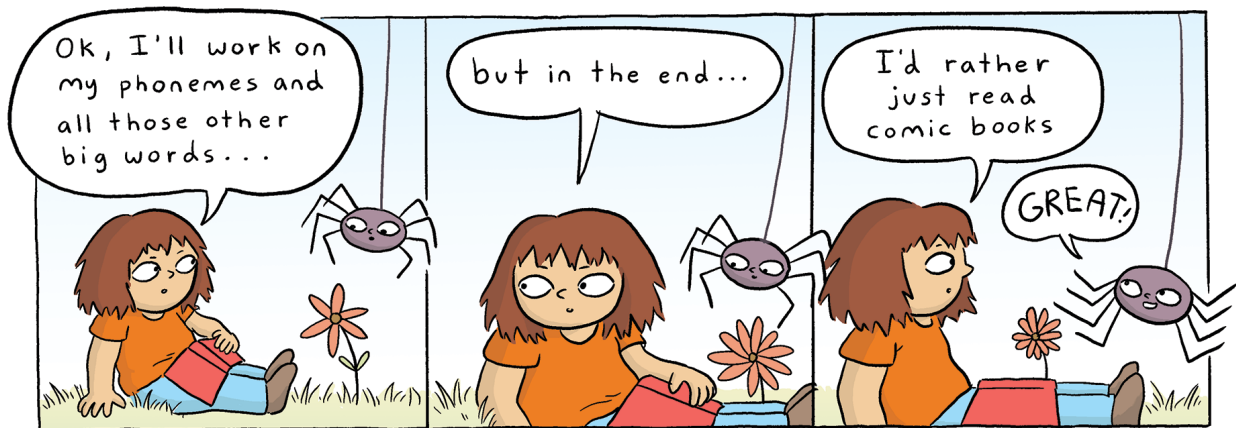
Inferior frontal cortex



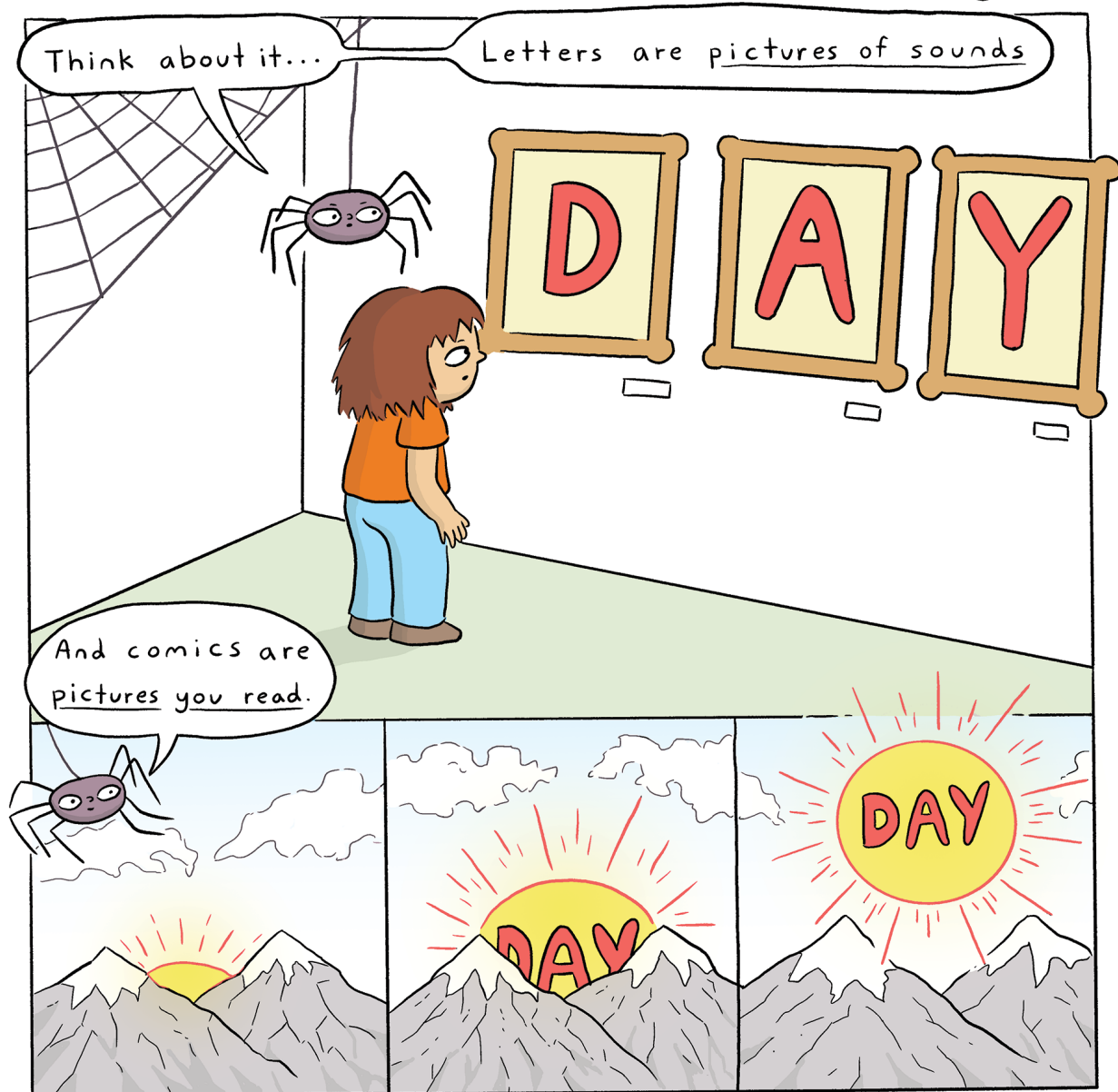
front of brain

**BUT** to become fluent, you need to master slowly sounding out written words. There's no shortcut.








# COMICS can help!



Comics use the same parts of your brain needed for reading text...

|  |  |  |
|--|--|--|
| <p>visual cortex</p>  | <p>auditory cortex</p>  | <p>inferior frontal cortex</p>  |
|--|--|--|

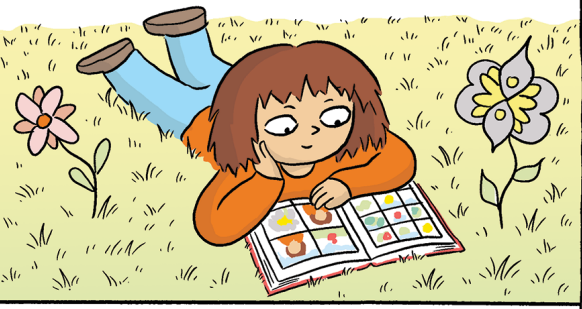
... and applies them to reading pictures.

Like you've been doing this whole time!


And while reading comics can't replace solid reading instruction...



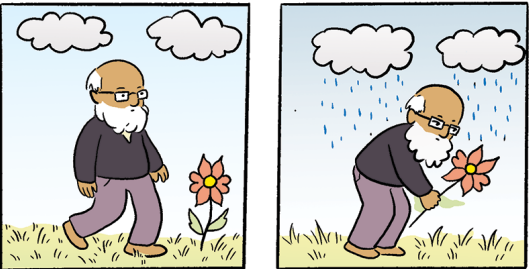
comics can make reading more fun.



Why?




Because it's easier to get immersed in a comic.



And as the Brazilian philosopher Paulo Friere once said

We learn to read the world...



... before we learn to read words.



Learning to read is like building a web...

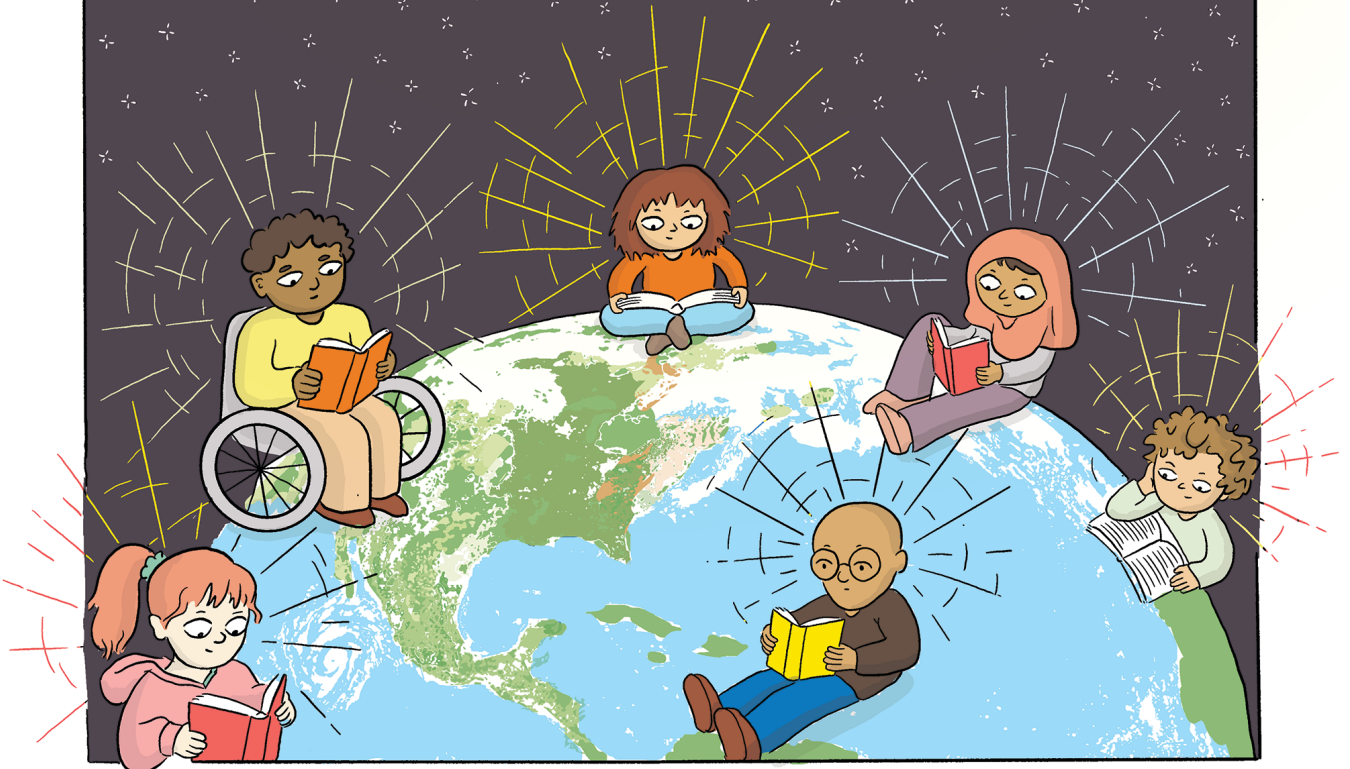


Making connections

between different parts of your brain

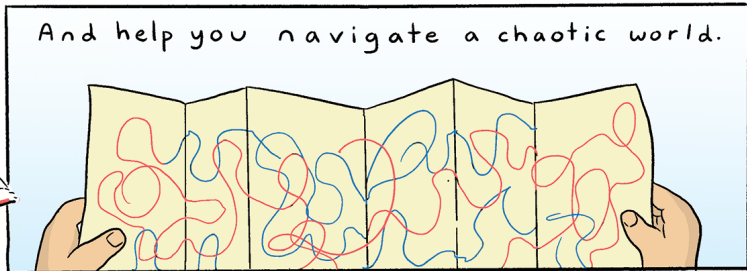
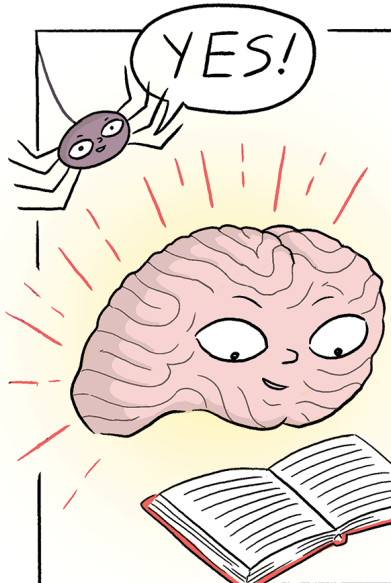


So that you can connect with the rest of the world.



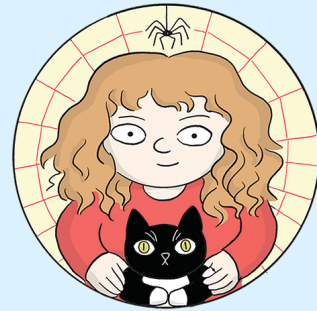


**AND REMEMBER:**



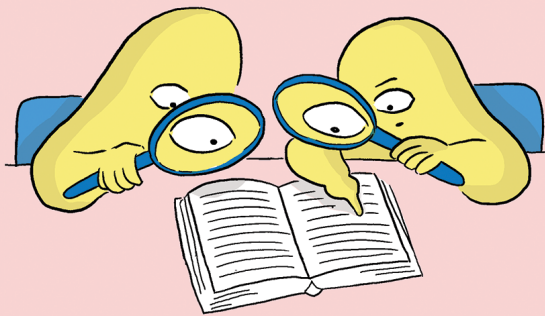
## THIS COMIC WAS WRITTEN AND DRAWN BY DARYL SEITCHIK

Daryl Seitchik is a cartoonist and teacher currently living on unceded Abenaki land. She received her MFA from the Center for Cartoon Studies and has been nominated for several industry awards. Her work has appeared in such periodicals as Resist! and The New Yorker. Daryl loves to draw with children and to help adults reconnect with their inner child through her cartooning classes. To learn more visit: [www.darylseitchik.com](http://www.darylseitchik.com)



The concept of a student-centered guide to the reading brain was the brainchild of David Liben. Meredith Liben brought the idea into being by linking key people together. This project would not exist without them. Special thanks to Amy Briggs and Celeste Hogan of Student Achievement Partners for their support. James Sturm was the editor and Dan Nott provided additional editorial input. How We Read, A Graphic Guide to Literacy exists because of a partnership and rights sharing between the Center for Cartoon Studies and Student Achievement Partners. We trust it will be of value to many students, parents, and teachers.

### FURTHER READING



#### **Know Better Do Better: Teaching the Foundations So Every Student Can Learn** by David and Meredith Liben

This book is a straightforward, narrative overview of foundational skills and has chapters for supporting older students who did not receive adequate reading instruction.

#### **Word Journeys** by Kathy Ganske

A full foundational skills program-in-one-book. Includes assessments and what to do about them.

### ONLINE RESOURCES



#### **Achieve the Core: [achievethecore.org](http://achievethecore.org)**

Provides free, ready-to-use classroom resources that support excellent, standards-aligned instruction for all students.

#### **Reading Rockets: [readingrockets.org](http://readingrockets.org)**

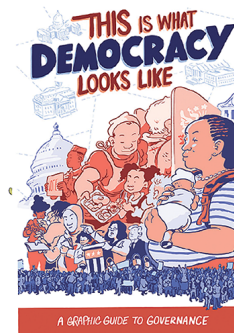
An excellent source of information on everything to do with reading including a series of short videos that demonstrate different aspects of reading and looks at specific reading problems and what can be done to strengthen them.

#### **Reading Done Right: [readingdoneright.org](http://readingdoneright.org)**

At this website you can find **Best for All: Sounds First Program**, a free-for-download complete basic and advanced phonemic awareness program that provides straightforward, grounded support for improving your students' reading capacities.

The Center for Cartoon Studies teaches people how to make comics to help us better understand ourselves, our community, and our world.

All of CCS's graphic guides are available to download for free at: [cartoonstudies.org/cartooningprojects](http://cartoonstudies.org/cartooningprojects)



Produced in White River Junction, Vermont and published by The Center for Cartoon Studies. This comic book is available for free download under a CC-by-NC 2.0 License at: [www.achievethecore.org](http://www.achievethecore.org) and [cartoonstudies.org/reading](http://cartoonstudies.org/reading). The Center for Cartoon Studies retains all print and licensing rights. To inquire about printed copy or licensing the content for educational purposes, please contact: [appliedcartooning@cartoonstudies.org](mailto:appliedcartooning@cartoonstudies.org).



T H A A n k

f o r

R

e A D i n g



**If you can read this sentence, something amazing is happening in your brain.**

How do we learn how to sound out written words? How was writing even invented? What are the benefits of reading? Why is it so hard to learn?

**How We Read: A Graphic Guide to Literacy** answers these questions and more. Whether you are learning how to read or helping someone who is, this comic will help.



PRESENTED by **ACHIEVE THE CORE** and **THE CENTER FOR CARTOON STUDIES**

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