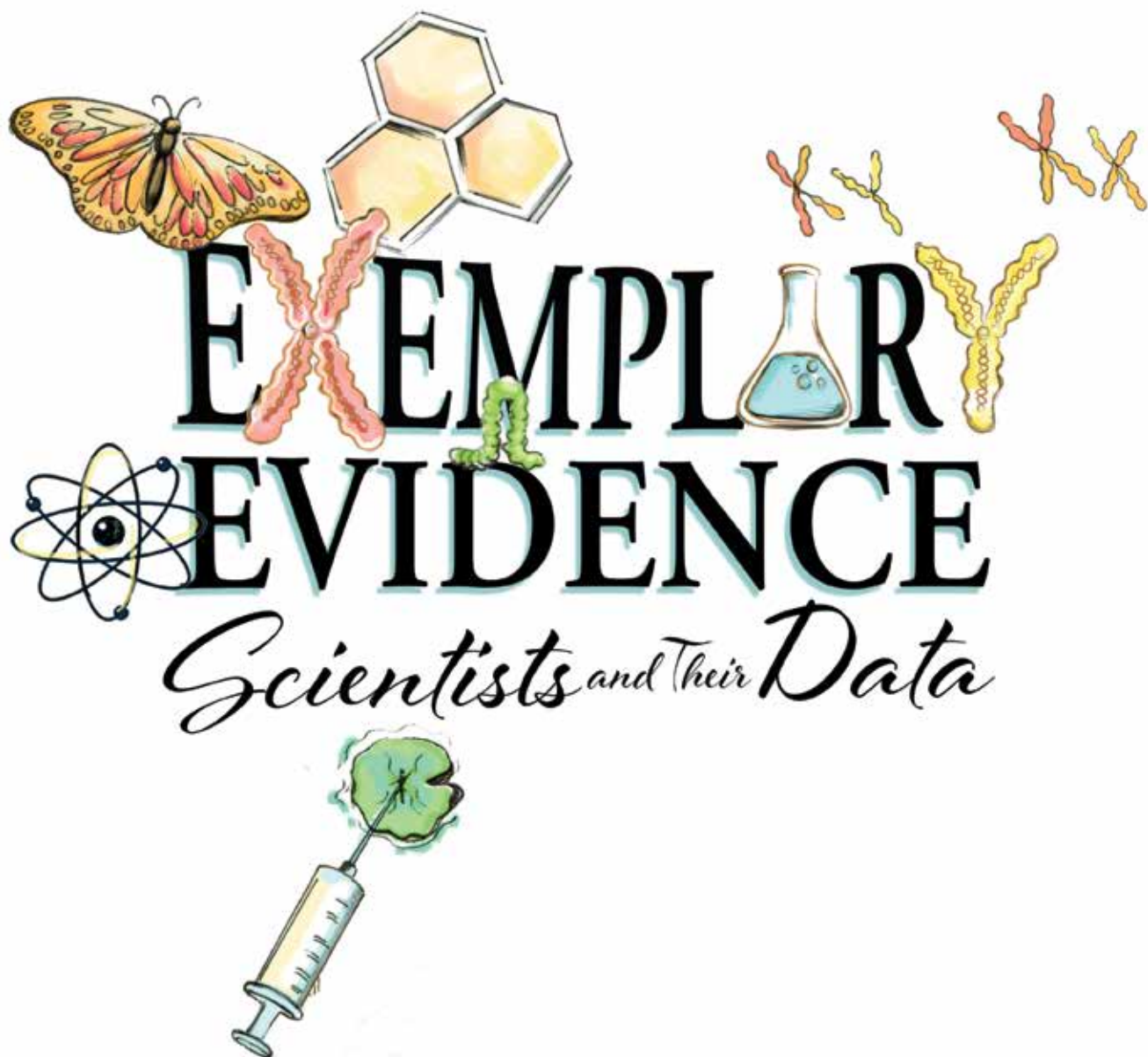


# EXEMPLAR EVIDENCE

*Scientists and Their Data*

Jessica Fries-Gaither  
Illustrated by Linda Olliver









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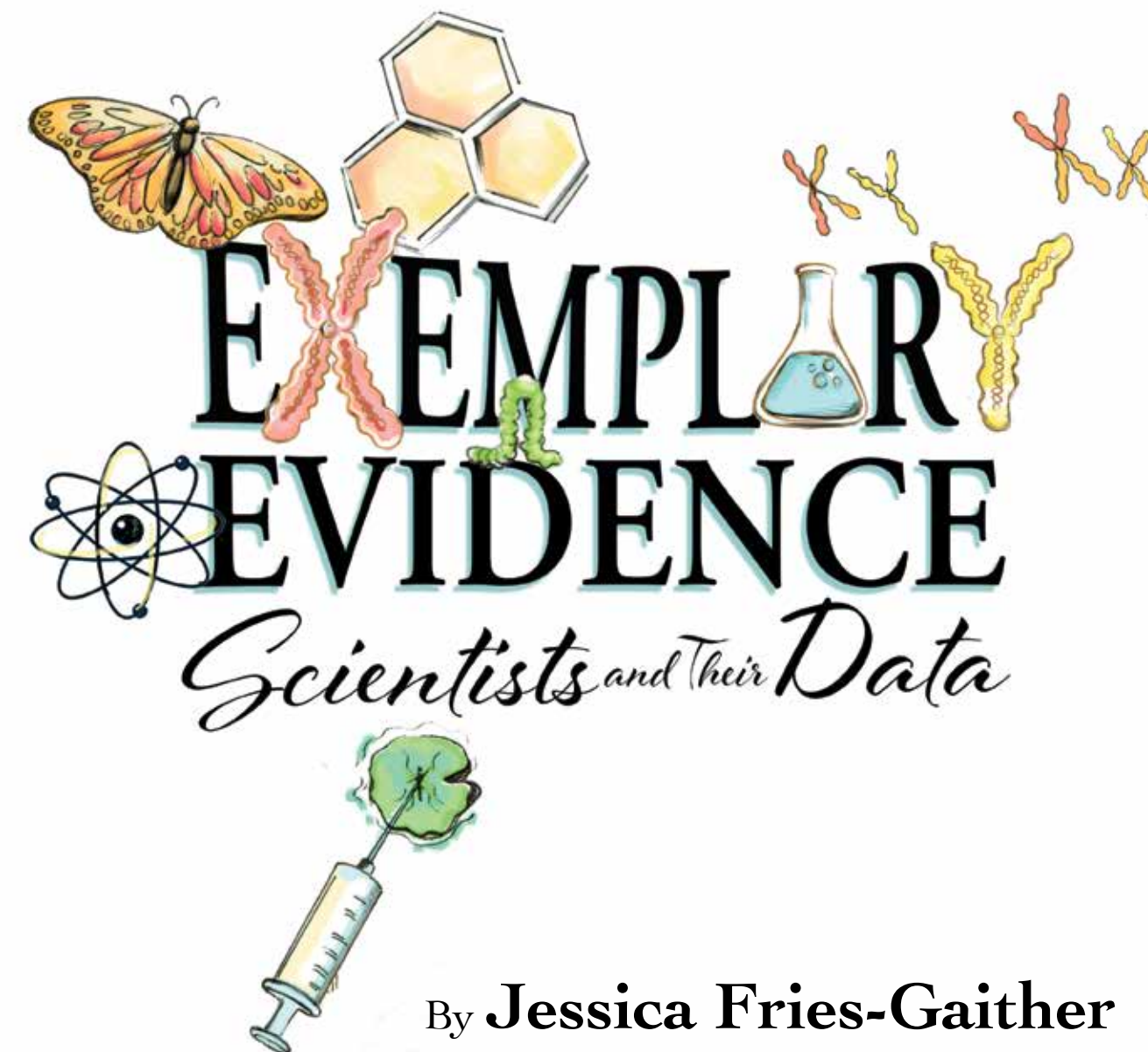
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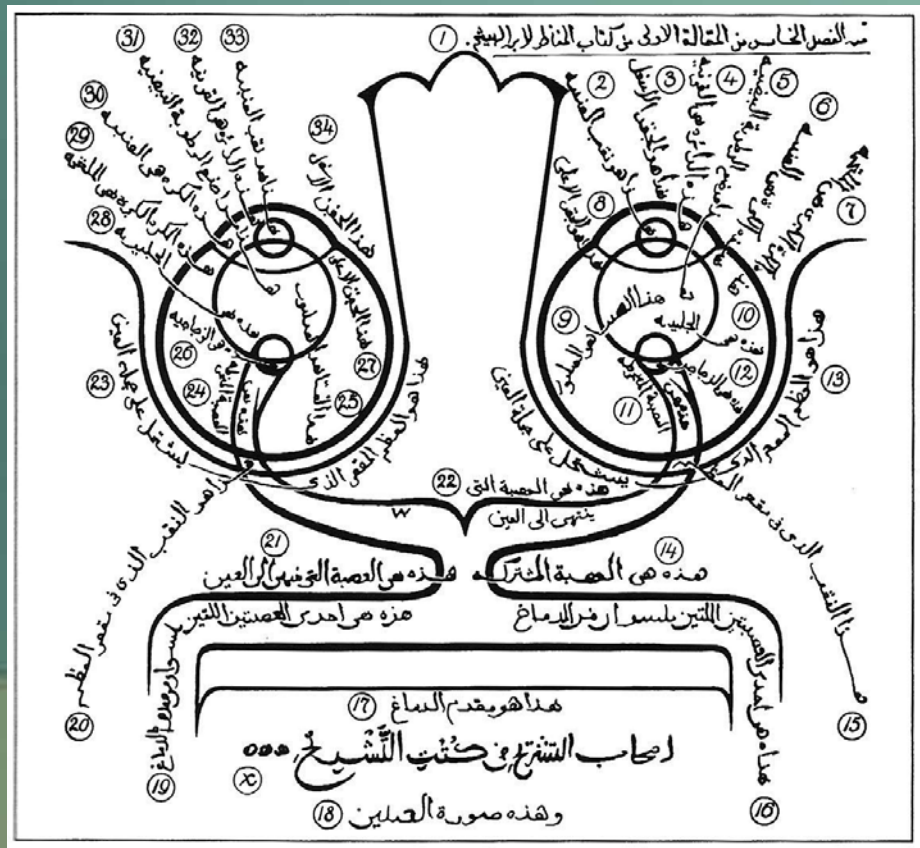
By **Jessica Fries-Gaither**  
Illustrated by **Linda Olliver**



Arlington, VA

Alhazen lived in Egypt a thousand years ago, yet still is important for what he did show. A groundbreaking study not hard to understand; investigations need not always be grand.

Into a darkened room, two lanterns shone light, each of them hung from a different height. On the far wall, two bright spots could be seen, each of them formed by a lantern’s strong beam.



Alhazen’s schematic of the visual system

If he covered a lantern, the spot became dark. This simple finding ignited a spark. Light did not come from our eyes, as believed! Instead, it came from a source, he perceived.

Alhazen went on to more complex topics and even wrote seven books about optics. He is remembered, as his method was clear. He was the first to use data to support his idea.

The power to show that an idea is untrue — it’s amazing what **collecting data** can do.





Down deep in the ocean, at the bottom of the sea,  
Marie Tharp wondered what there might be.  
Very few scientists cared about that,  
for they assumed it was boring and flat.

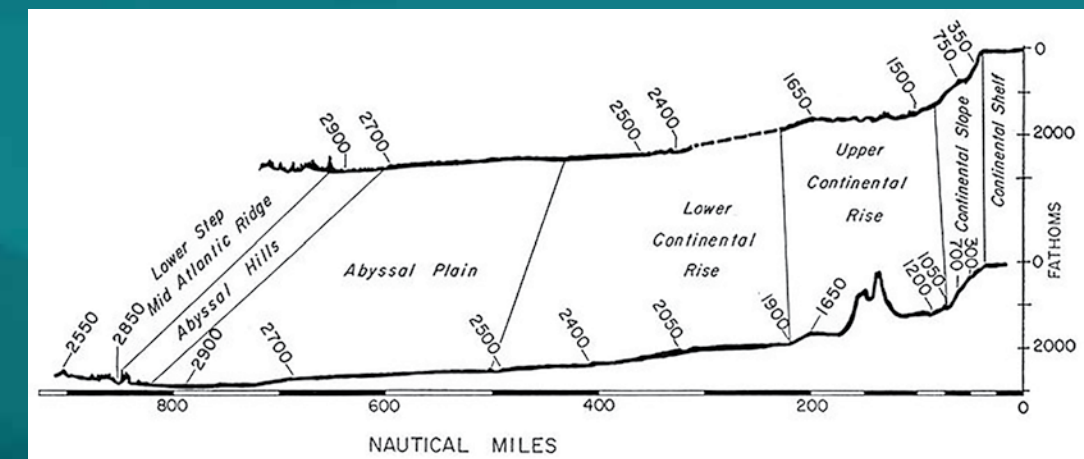
No one could travel there, she had to concede.  
So how could they get the data they'd need?  
Sonar was used—a great innovation  
to measure the depth of underwater locations.



She couldn't go to sea; she stayed on dry land,  
plotting out thousands of soundings by hand.  
Tedious work, but she and her partner pressed on,  
consulting the data for what should be drawn.

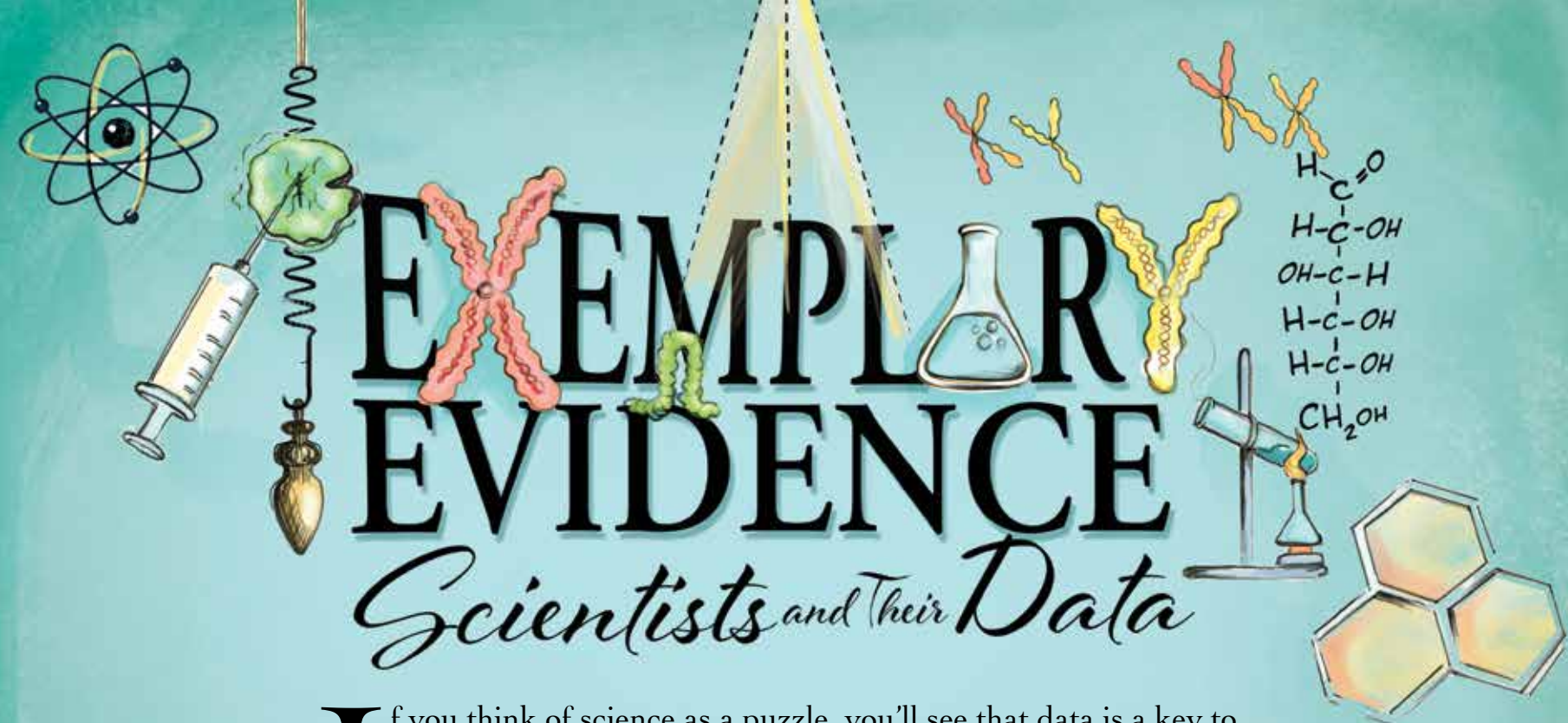
Mountain ranges and valleys began to take shape;  
it was an entire underwater landscape!  
The map she created of the whole ocean floor  
was used to prove others' theories and more.

The power to change our current world view—  
it's amazing what **visualizing data** can do.



Map of the ocean floor created using Marie Tharp's sounding data





# EXEMPLARY EVIDENCE

## *Scientists and Their Data*

If you think of science as a puzzle, you'll see that data is a key to unlocking it. *Exemplary Evidence: Scientists and Their Data* touches on the world's many riddles—from how we see to what's at the bottom of the ocean. It shares how scientists have solved such puzzles by collecting measurements, taking notes, and even making sketches. The book also provides mini-bios of the nine featured scientists plus four steps to using data to tease out your own answers about how the world works.

*Exemplary Evidence's* author is Jessica Fries-Gaither, a science educator who also wrote the award-winning NSTA Kids book *Notable Notebooks*. Once again, she mixes sprightly storytelling with energetic rhyme, and Linda Olliver's light-hearted drawings bring the ideas to life. It all helps explain how a sometimes-unappreciated part of science is as important now as it has been to scientists for centuries. As the author writes:

*Data supports conclusions; it can change people's minds;  
it is used to build theories that help humankind.  
Scientists all along have known this to be true:  
Data is powerful! Now, what will yours do?*

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