

# A Friend to Help Show Little Air Rocks in Big Water

Neil Redmond<sup>1</sup>, Christopher Hayes<sup>1</sup>, Jeanette Davis<sup>2</sup>, and Erin E Black<sup>3</sup>

<sup>1</sup>University of Southern Mississippi

<sup>2</sup>Science is Everywhere, LLC

<sup>3</sup>University of Rochester

January 11, 2023

An outreach presentation on the uses for measuring thorium in the marine environment, modeled after a children's book and presented at AGU Fall Meeting 2022 Up-Goer Five Challenge: Making Big Ideas Simpler by Talking About Them in Words We Use a Lot.

Pictures by Neil Redmond and Midjourney AI



# *A Friend to Help Show Little Air Rocks In Big Water*

By Neil Redmond

Christopher Hayes

Jeanette Davis

Erin E Black

Dearest daughter, look over here.

This is your big rock.

And that tiny bit of green?

That is your home.

Small, and surrounded by a deep world of  
blue.

Where everything is strange and hard to  
understand,

but there is so much for us to learn.





And when we take a look, we might find  
that just like you,  
the tiniest things  
make the biggest changes to the world.  
So together, let us look a little closer.

Now imagine.  
A friend to help show little rocks in big water.

In the middle of the biggest blue, not all  
rain is the same.  
Instead of a drop, imagine the tiniest rocks  
flying on the wind.  
It might be strange  
to picture such a meeting of land and  
water so far away!  
But the little air rocks are important to  
big water because of what they give  
and what they take.  
Understanding this helps us study how the  
world continues to change.



And in time my dear, you will make big  
changes too.  
But first you must learn what the tiniest  
things can do.

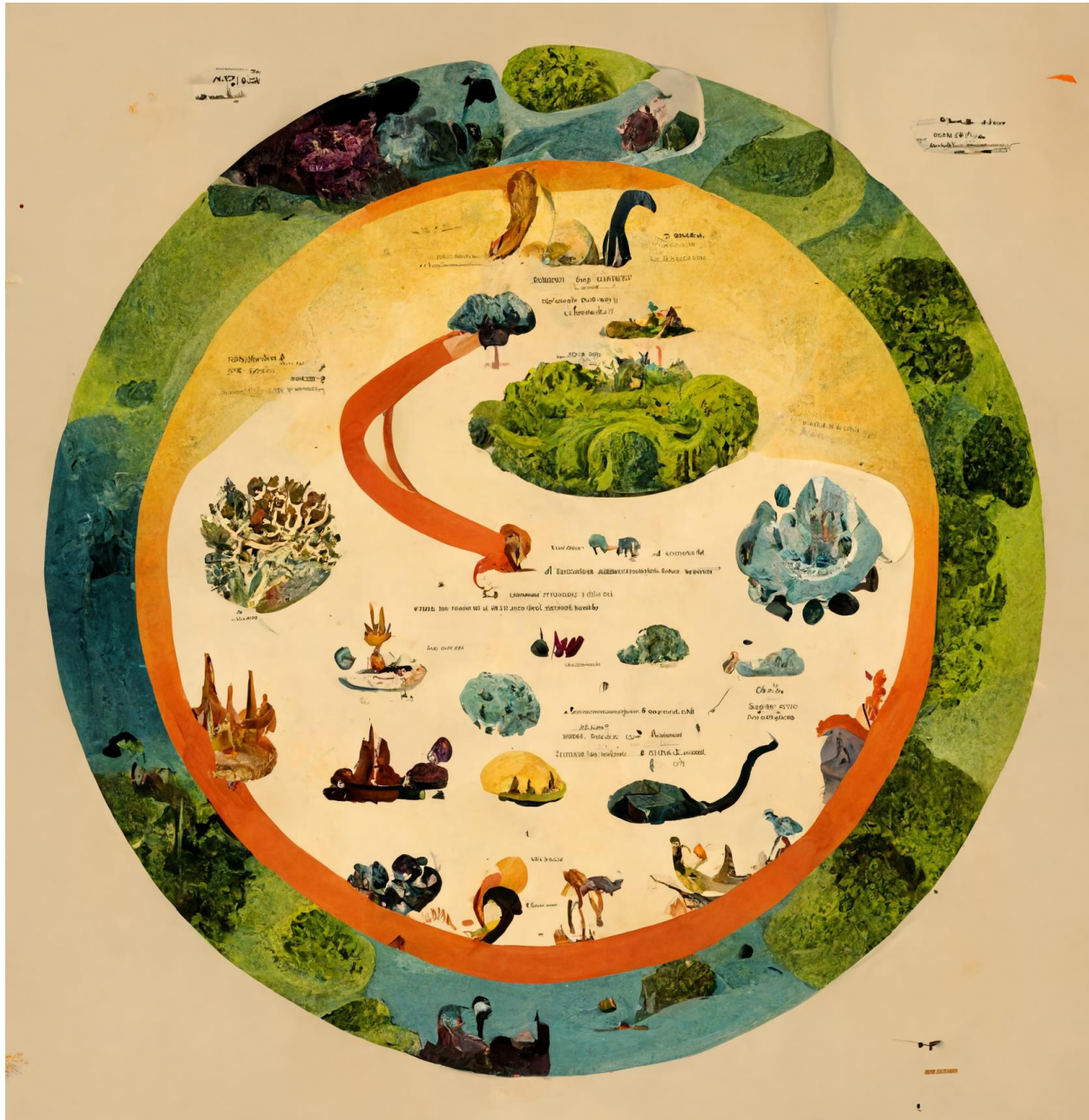
Well, little air rocks give food for the smallest  
of trees,  
which helps them grow, and helps us to  
breathe.  
And all of your favorite water animals,  
each need the food from these important  
greens.





Little air rocks can give power to the sky  
and change the winds that round the eye.  
So, when you hide in your house from the  
meanest, black rain.

It started from little rocks that fly in the  
wind!



And last what they take, anything that makes  
up water.

All the pieces of you, daughter,  
and mom, and dog, and even father,  
we all come from living matter.

And your flying wind rocks help bring to the  
ground.

Everything in the life-turn-round.

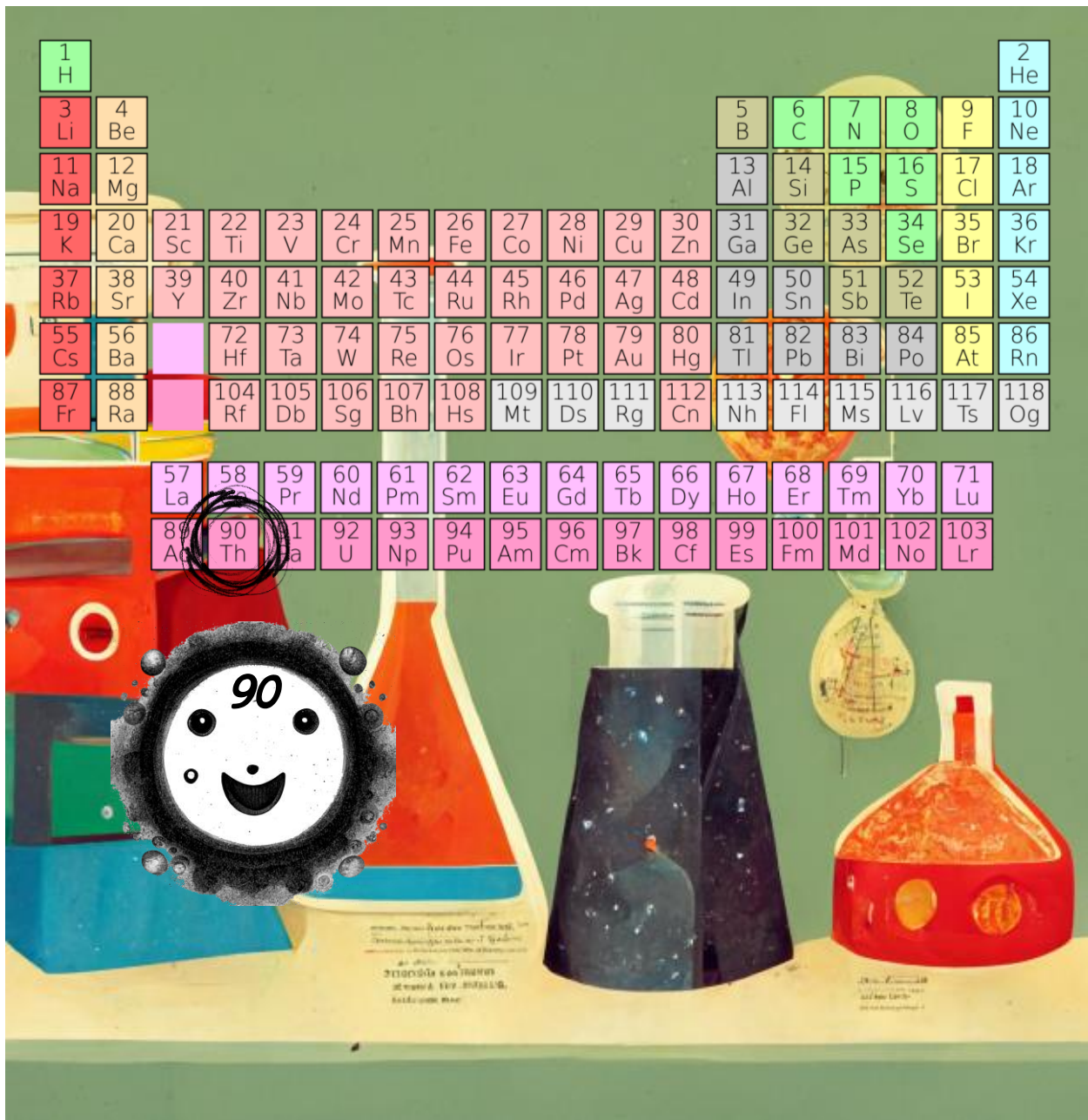
But how do you catch the wind? It seems  
like a problem.

We need more friends to help us learn about  
them.

It may be hard to learn about small rocks in  
the water,

But we can meet a teacher if we look even  
smaller!





I'd like you to meet this small bit from the  
table,  
who moves with the little air rocks or sticks  
to them as soon as it is able.  
I can add up my friend (who is four twenties  
and ten!),  
in the water or ground,  
and it helps me see where these strange  
little rocks have been.

"How does big water change because of rocks on the wind?"





And if you listen you will learn:

About the breathing of the smallest trees.

About eye of dark rains that hurts The Keys.

A world that will change around you and me.

All from our friend, a teacher, so tiny!

Like you!

A friend to help show  
little rocks in big water.

Now its time for you to make the  
world change little daughter.

**THE END**

