

COVER
NOT FINAL

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Along Came a...

RAINBOW



~~gale~~
A ~~mind~~ blowing science story

There I was watching a worm and wondering would it
EVER stop raining when all of a sudden with a...



Along came a...

Rainbow!



Everyone knows there is treasure at the end
of a rainbow so I jumped up to look for it.



I checked every corner of
the garden.



I climbed the TALLEST tree
that I could see.



I even dug a HUMUNGOUS hole, but
the end of the rainbow was nowhere.

So I asked the
Rainbow:



Where is your
end please?



My end? Rainbows don't have ends. They are entirely round! Look, like this...

And circles do not have ends. They don't have beginnings either for that matter!

You don't look like a circle normally.



Oh, well right now you can only see half of me. That's because you're too low down AND it's daylight. But come up here and let's turn down the lights...

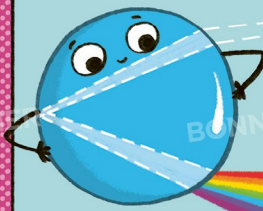


You can see the complete ME when you are high up in the sky and when it is sunset or sunrise. Look, there's my bottom. Below the horizon!



"Oh yes, I see you ARE a circle," I said. "But why are you those seven colours?"

Sunlight travels in waves, which your eyes normally see as white light.



But when the waves travelled through the raindrop, they bounced off the other side and...

PING!

IT BENT them.

And that separated them into all the colours of the rainbow to make...ME!

Freeee to be Meeeee!

Woohoo! I'm BLUE!

Hello, I'm Yellow.



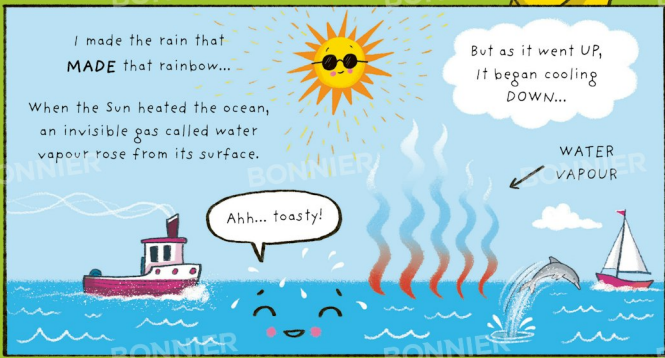
And I was about to ask, "So there's really no pot of gold?" When ALL of a sudden along came a...

...cloud!



Hey! You turned off my rainbow!

"Excuse me," said the Cloud.
"Without me there wouldn't even BE a rainbow!"



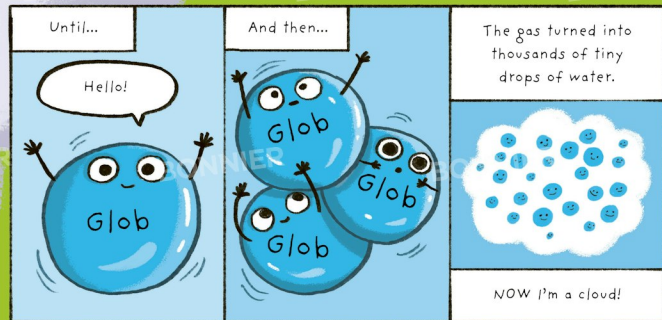
I made the rain that MADE that rainbow...

When the Sun heated the ocean, an invisible gas called water vapour rose from its surface.

Ahh... tasty!

But as it went UP,
It began cooling DOWN...

WATER VAPOUR



Until...

Hello!

Glob

And then...

Glob

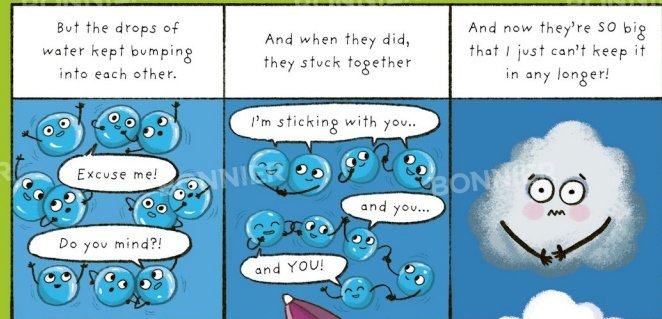
Glob

Glob

The gas turned into thousands of tiny drops of water.



NOW I'm a cloud!



But the drops of water kept bumping into each other.

And when they did, they stuck together

And now they're SO big that I just can't keep it in any longer!

Excuse me!

Do you mind?!

I'm sticking with you...

and you...

and YOU!

And now they're SO big that I just can't keep it in any longer!



I was about to ask, "Keep what in?" when ALL of a sudden from out of the cloud along came a...

...raindrop!

"Why are you SO round?" I asked the Raindrop. "Aren't raindrops supposed to be shaped like a tear?"

Oh no, we don't really look like that unless we're sliding down a window. We're actually super cool shape changers. Look!

When I fell out of that cloud, at first, I was shaped like a circle.



Then like a hamburger!



Then like a pair of headphones!



THEN...

I broke in two and...

I landed on your head.



And guess what? Because a drop of water is recycled over 100s of millions of years, a dinosaur probably weed out all the rain that falls today. Which means you've probably got ancient dino wee on your head...right now!



And I was about to say, "I thought it came from a T-rex using a sky toilet!" When all of a sudden, the air warmed up, the sky turned grey and along came the...

...fog?

A fog so thick I could barely see!
"Cloud! Where did you go?" I called.

"I'm all around you," boomed the cloud.
"I AM the fog! When the night was full of stars...
and you were out at sea and fast asleep..."

Excuse me,
I wasn't at sea AND
I wasn't asleep.

In this part of the story you are.
As I was saying...the **BEST** way to
make fog is overnight.



This time LOTS of
water vapour rose
from the waves.

The salt in the air from
the ocean mixed with the
water vapour. Then...

Mix it all up over a
cool surface and...Fog.
Perfecto!

BUT when the water vapour hits something
icy cold like a mountain top, you get...



FREEZING FOG!



PS. You don't
have to have the salty
ocean to make fog. As long as the
ground is wet, the air has dust in it
and the wind it just right, the water
in the air will stick to it to
make fog.

Move
Bubble up? →
Mountain
Goat!?



And I was about to say, "Err how will I get down?"
when ALL of a sudden along came the...

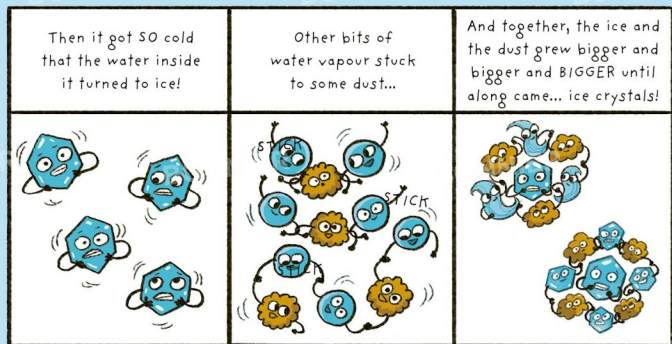
...snow!

Beautiful flakes of tiny, shiny snow,
each one different to the next.
The kind of snow that is perfect
for making a snowman.

Did you come
from a cloud too?

"Yes!" The very same
cloud that made the
rain and the fog.

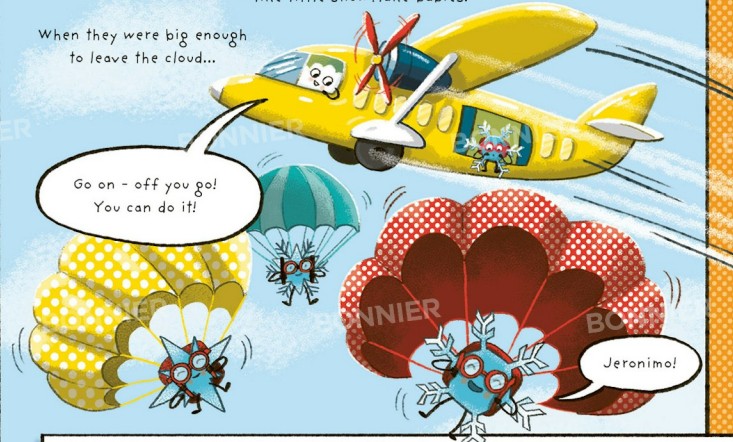
When it got really cold
outside, the cloud got
colder and colder and
COLDER too.



But these are just the beginnings of snowflakes
- like little snowflake babies.

When they were big enough
to leave the cloud...

Go on - off you go!
You can do it!



...the ice crystals fell through the sky and even more water vapour
stuck to them. Then it froze and turned the ice crystals into one
of ME. Beautiful six-sided shapes called...

SNOWFLAKES – YAY!
Just like you, every single
one of us is different too!



BUT the air has to be the right
temperature, mind. If it's too warm,
then on the way down we turn into...

SLEET – YUCK!



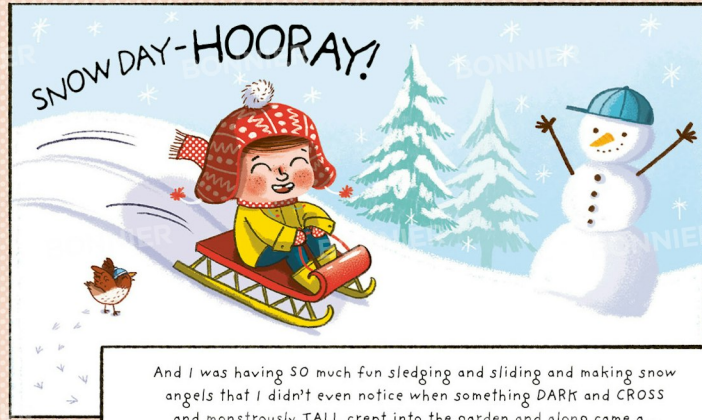
AND THEN if the air gets cold AGAIN,
on the way down we turn into...

FREEZING RAIN – BRRR!



But, when it's cold enough
the whole way down, we get a...

SNOW DAY – HOORAY!



And I was having SO much fun sledding and sliding and making snow
angels that I didn't even notice when something DARK and CROSS
and monstrously TALL crept into the garden and along came a...

...storm cloud!



Who are YOU?

I am a storm cloud.

Enormous. Gigantic. The Queen of Clouds. Bursting with energy. And yes, my bottom may be flat and yes, my head may be shaped like a cauliflower. But I am more powerful than ten superheroes at a birthday party all trying to win pass the parcel.

Where I started it was wet and hot... SO hot that the water vapour shot up SO fast it created a colossal tower. You see it all happened when along came the...