

Rock

and a

Feather



This boy has a rock and a feather.
He wants to do some tests.

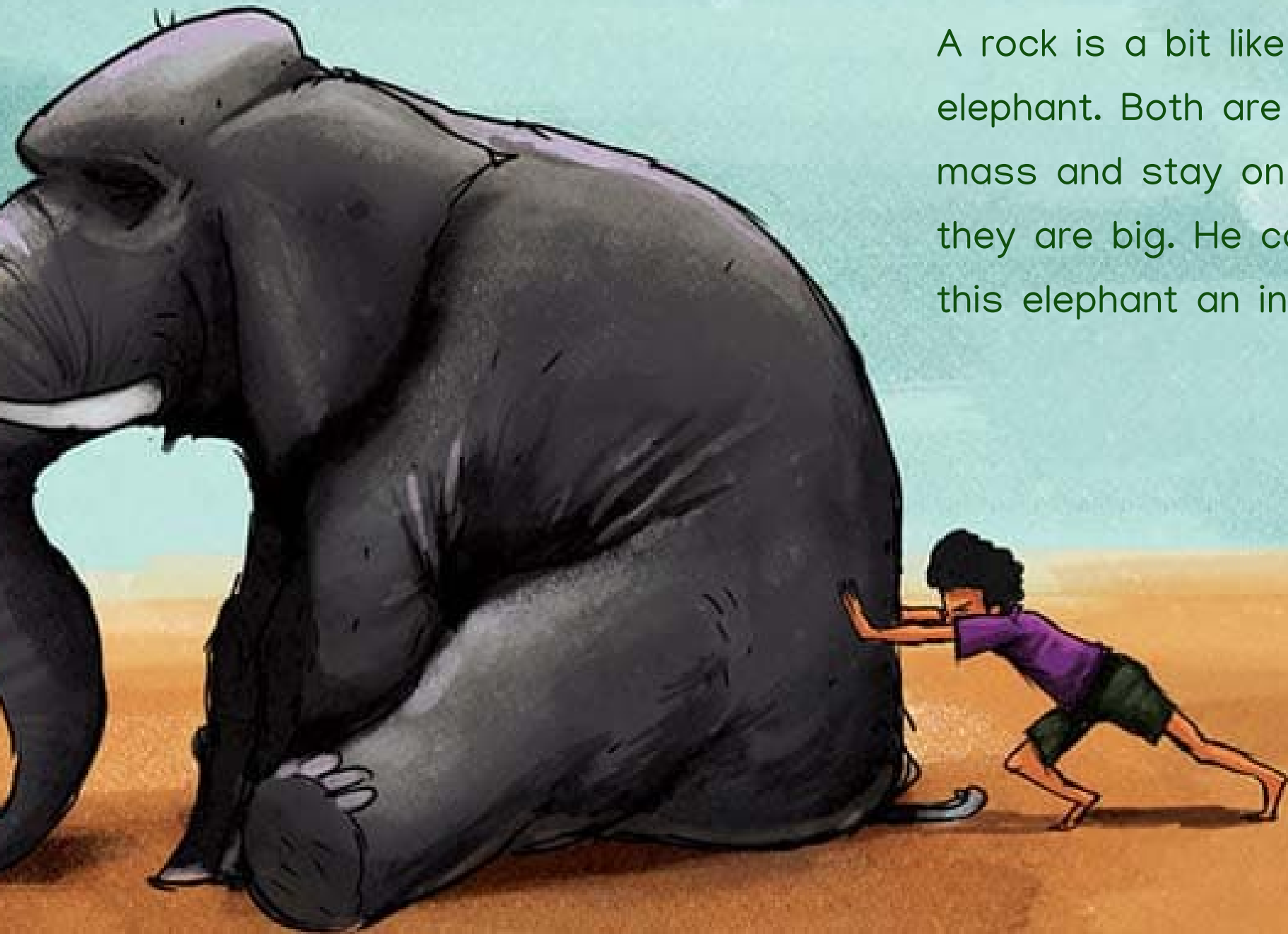
The rock has more mass than the
feather. It drops to the ground
faster.





A rock is strong.

It was made over a long time through heat and pressure. It can keep its shape when it is in a tight grip.



A rock is a bit like an elephant. Both are high in mass and stay on the spot if they are big. He cannot move this elephant an inch.

A feather is a lot lighter than a rock. It is soft and can float in the breeze. It does not take much for a feather to lose its shape.



Now he wants to know how much the rock weighs. How can he do that? It can be hard to forecast how much something weighs just from picking it up.





He asks his dad how he can find out the weight of the rock. His dad brings out a set of scales. That is the right tool for the job!

His dad finds a flask and fills it with water until it weighs one kilogram.
Now they can use the flask on the scales to weigh the rock.





Sometimes you can have a lot less of something but it can still weight more. Ten cows are going to weigh a lot more than 200 dogs! The scales will tip.

The world is too big for a set of scales. Can we still find a way to know how heavy it is? Yes, we can use maths to find out the mass.



We can use the size of the Earth to find out how much it weighs. We can also find out its weight from how dense it is and gravity.




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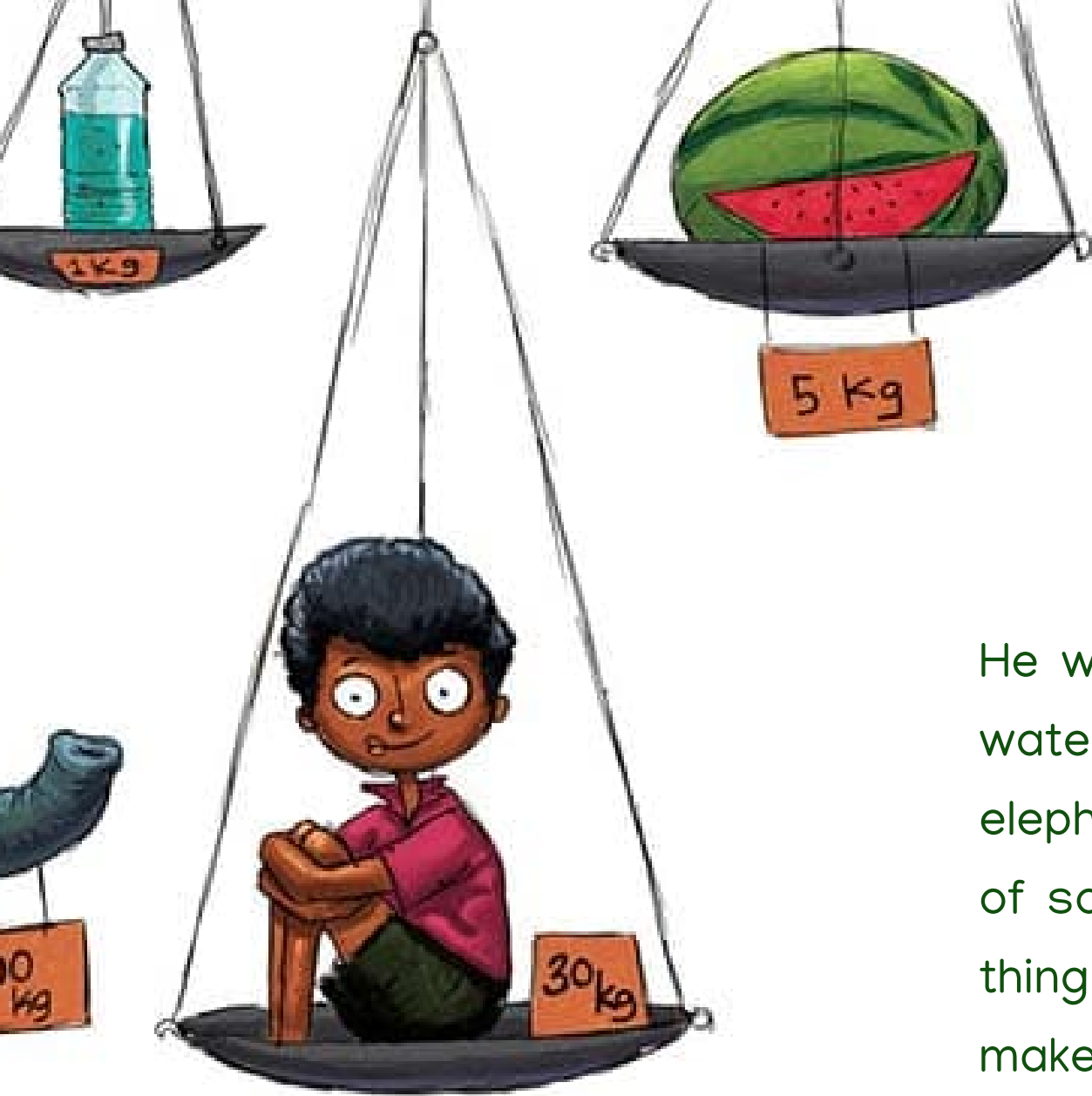


Look at how many feathers it takes for the scales to be even with our one kilogram flask. There is such a difference in the space that the two sides take up.

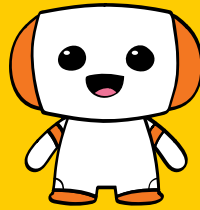


Raindrops are light, but when they
come together they can make
something very heavy: the sea!

Mass is fun to think about.



He weighs more than the watermelon but less than the elephant. When we know the mass of something, we can guess other things about it as well. It helps us make sense of our world.



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