Contents: Chapter 11

Comparing Lengths 72

What are some ways we can compare the lengths of objects without putting them side-by-side?

Length 88

In Chapter 10, Lizzie and her mom count the number of steps it takes to walk to the bus stop. Do you think they got the same answer?

Days 112

If May the 4th is a Thursday, what day of the week is May the 24th?

Clocks 122

What time will it be 55 minutes after 12:55?

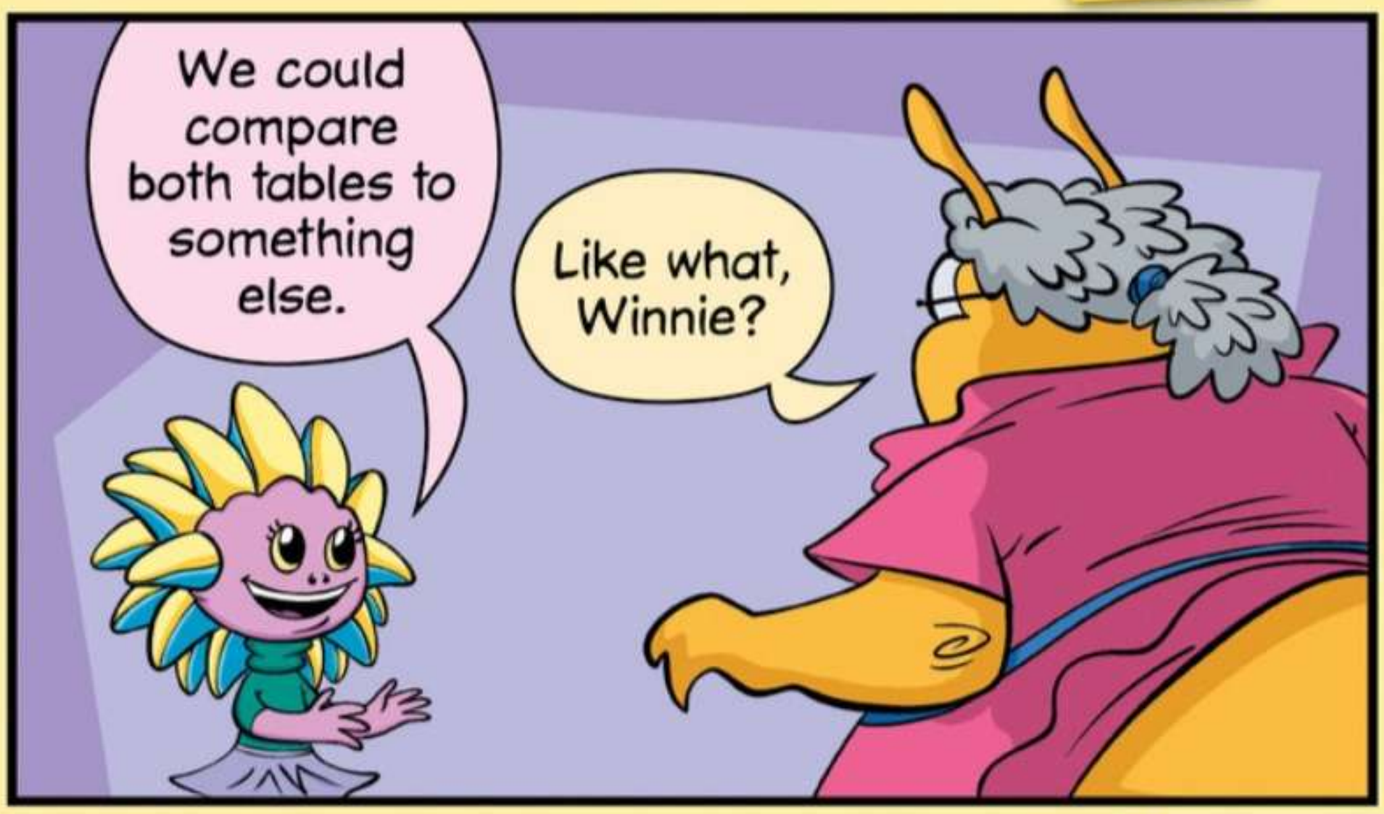
Chapter 11:
Measurement

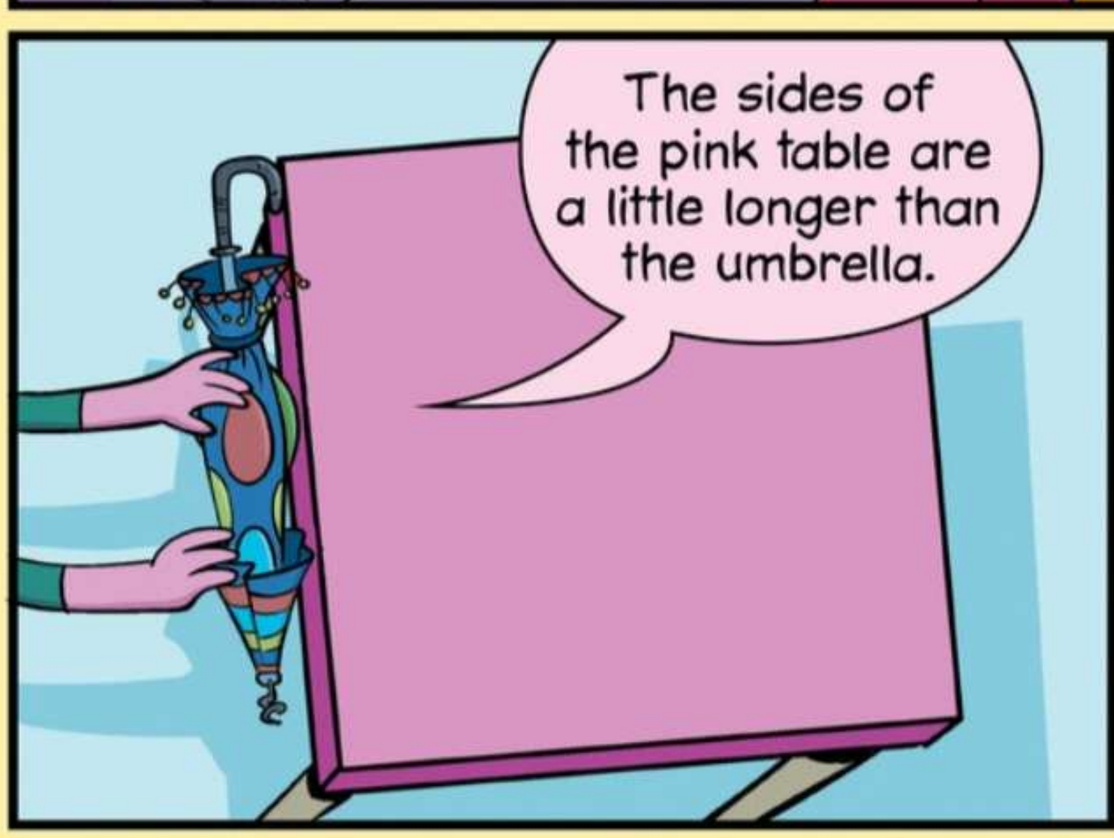
Ms. Q.
COMPARING LENGTHS
Whoa! Are these tables new, Ms. Q.?

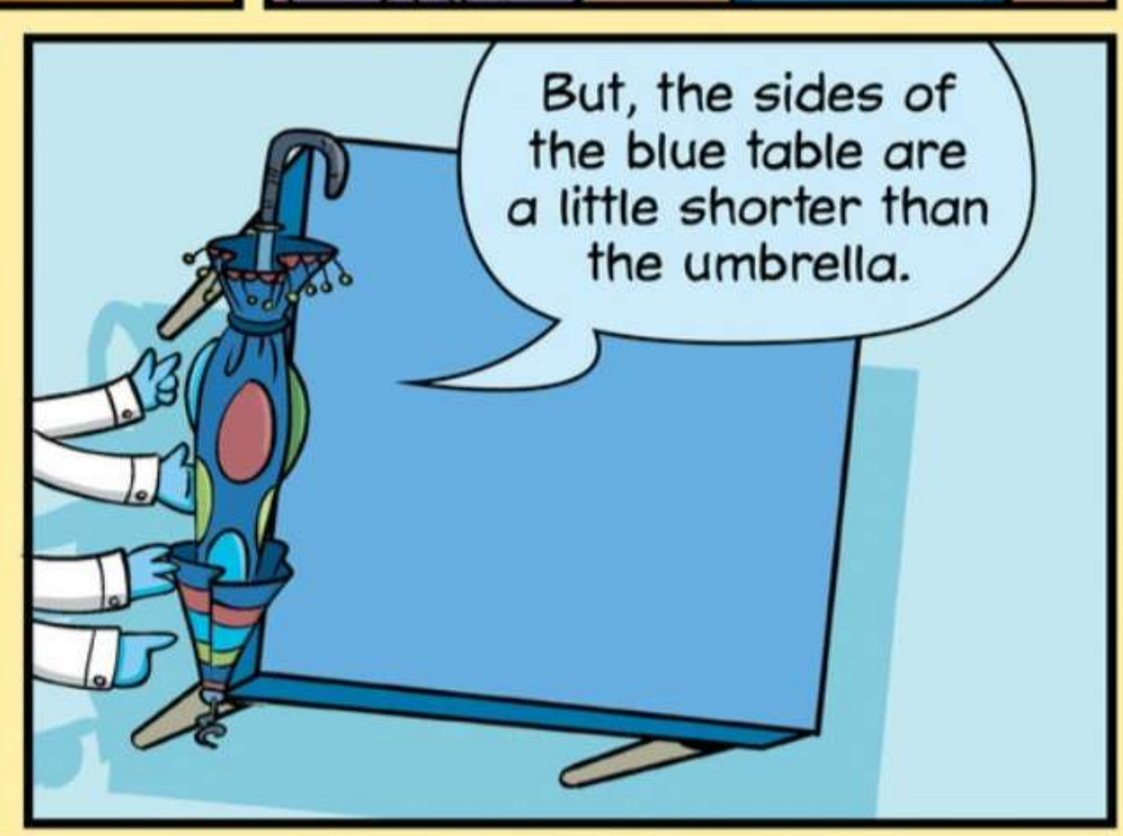
They are. Do you like them?
This one is my favorite.
Because it's purple?
No. Because it's the longest.

Are you sure?
How could we tell whether the purple table is longer than the green one?
How could we tell?

We could just slide them next to each other.
There. Now it's easy to compare.
Grogg is right.
The purple table is a little longer than the green one.
Great! We can compare the lengths of things by putting them next to each other.
How could we compare the square tables *without* dragging them across the room?
How?







So, the pink table has longer sides than the blue one.

Great!

Let's compare a few more side lengths.

I marked the sides of the triangular table A, B, and C.

How could we order them from shortest to longest?

We can't put the sides next to each other.

All three sides are longer than the umbrella.

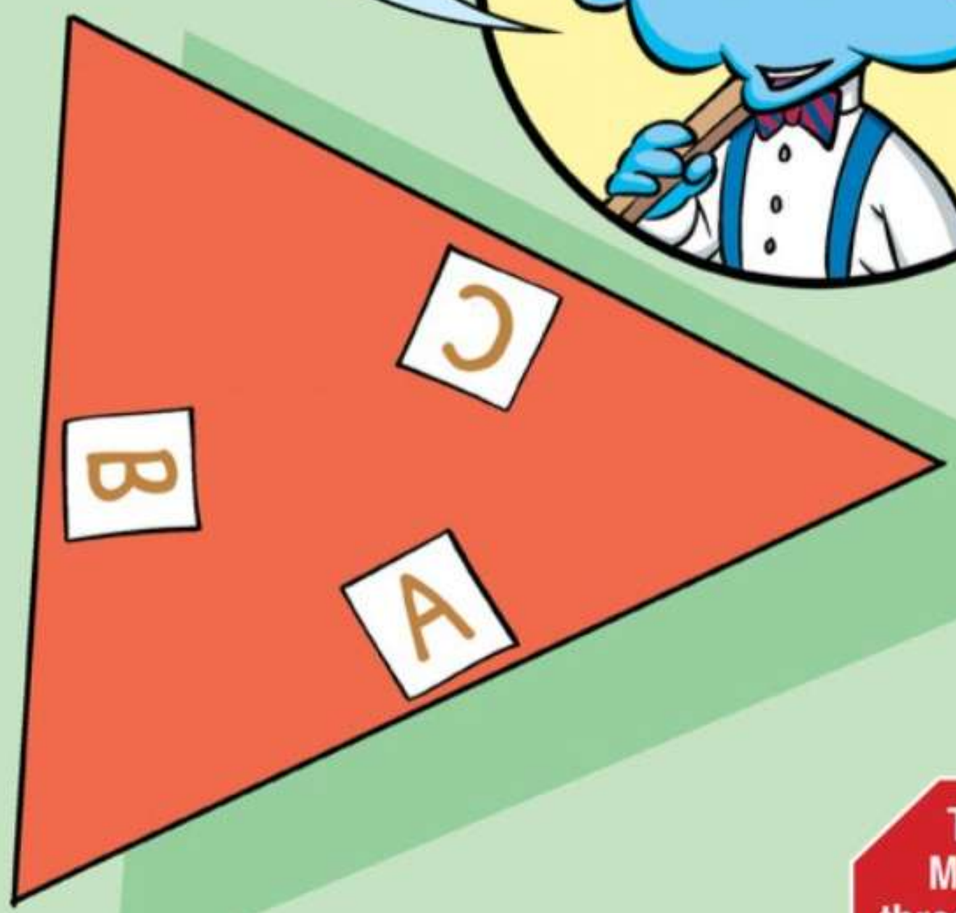
But they're all shorter than this piece of wood Captain Kraken let me keep.

I have an idea!

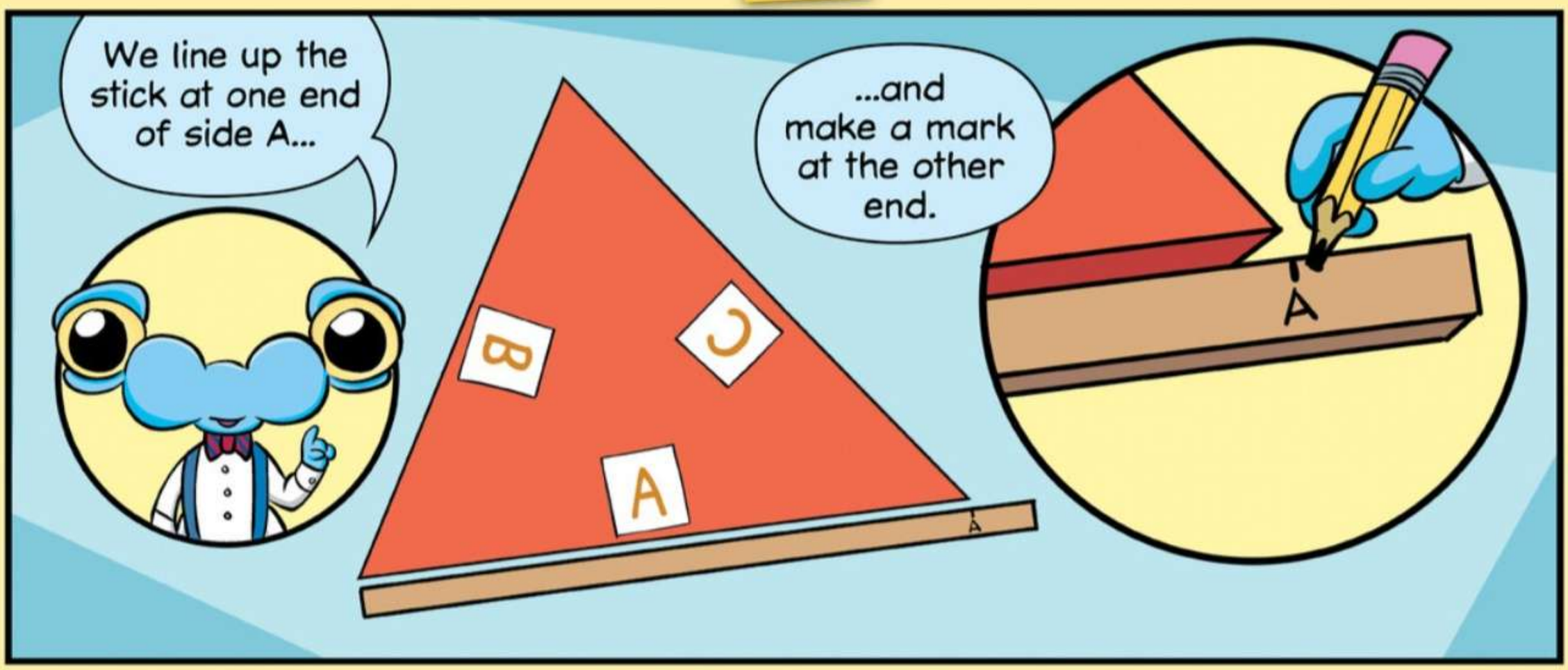
Can I borrow this, Grogg?

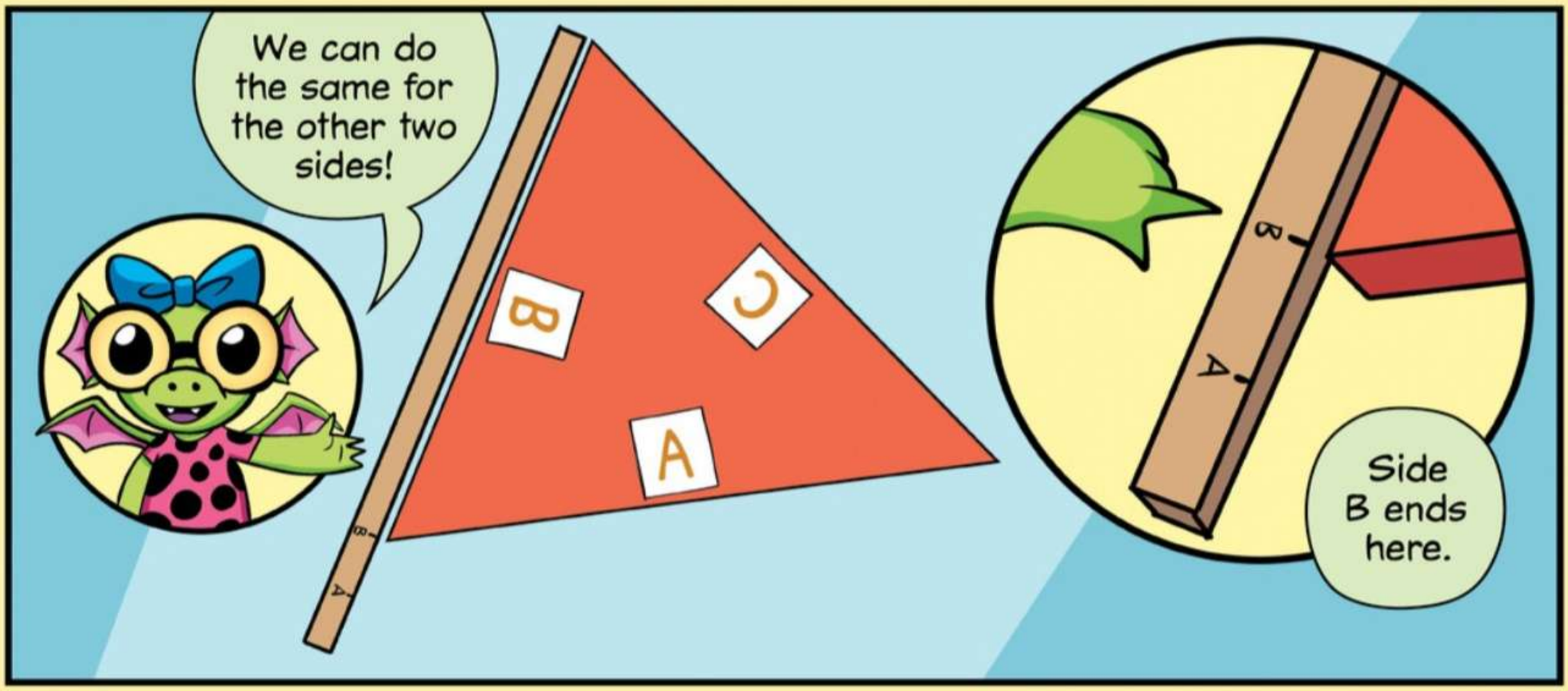
Sure!

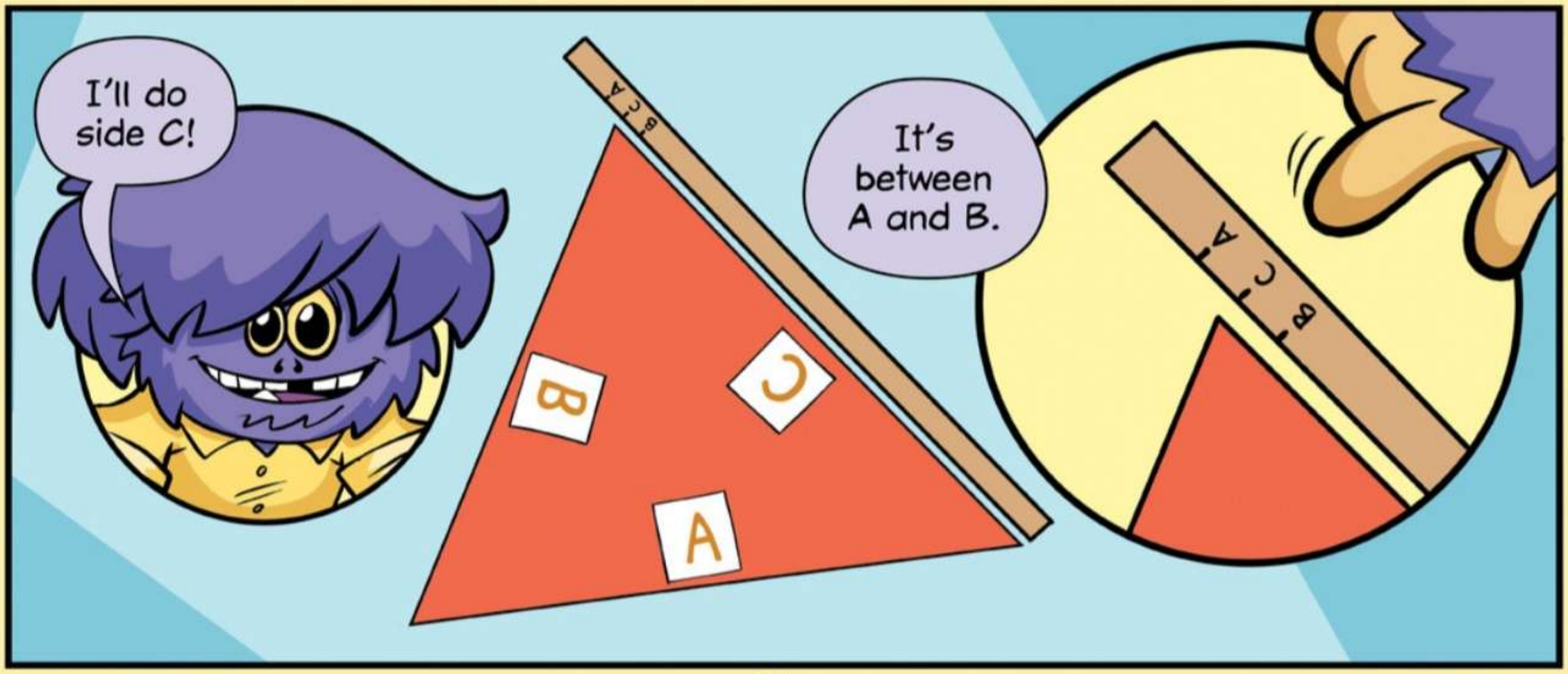
We can mark the lengths of all three sides on Grogg's stick.



Try it. Mark all three lengths on a piece of paper.


We line up the stick at one end of side A...
...and make a mark at the other end.
B
C
A
A


We can do the same for the other two sides!
B
C
A
B
A
Side B ends here.


I'll do side C!
A C B
B
C
A
It's between A and B.
A C B

The marks on Grogg's stick show that B is the shortest side...
...then C...
...and A is the longest.
B C A
I knew this stick would be handy!

What else have you used it for, Grogg?
Loads, Ms. Q.!
Games.
A bow.

Fishin'.
Poking stuff.
And now measuring!
There's nothing Woody can't do.
WOODY

WoodSHOP
LENGTH
What are we doing outside, Captain Kraken?
Today, we'll be measuring lengths and distances.
Pirates used to measure distances in paces.
What's a pace?
A pace is the length of one step.
So, to measure 40 paces, we count out 40 steps.
I counted the steps from my house to the bus stop!
It didn't take as many steps for my mom because her steps are way bigger than mine.

That's true. Counting steps is not a great way to measure.
Not every step is the same length.
And steps are probably hard to count when you have 24 legs!

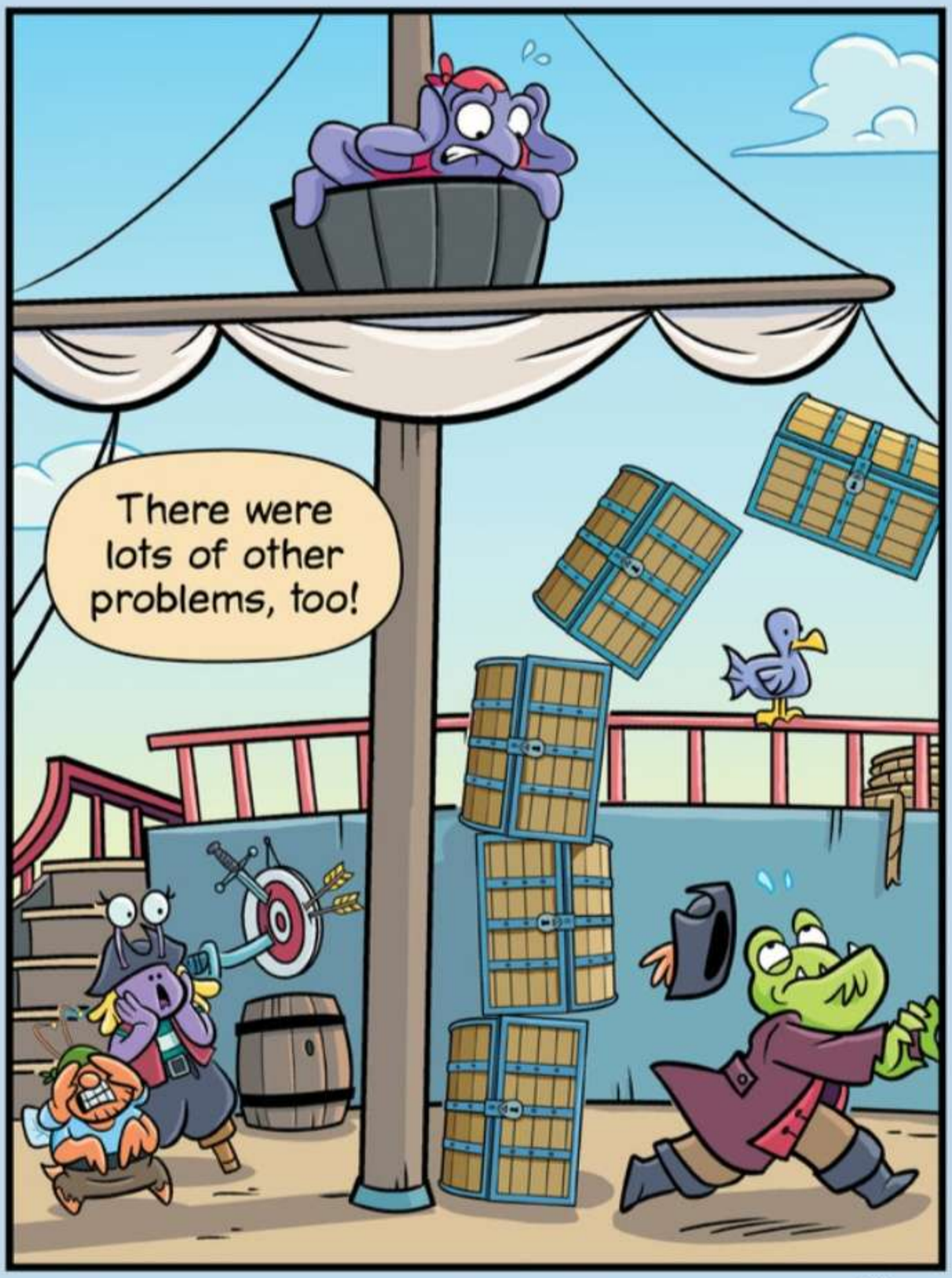
Aye.
Years ago, the pirate council met to find a better way to measure.
They decided to measure lengths with treasure chests instead of paces.
Back then, chests only came in one size.

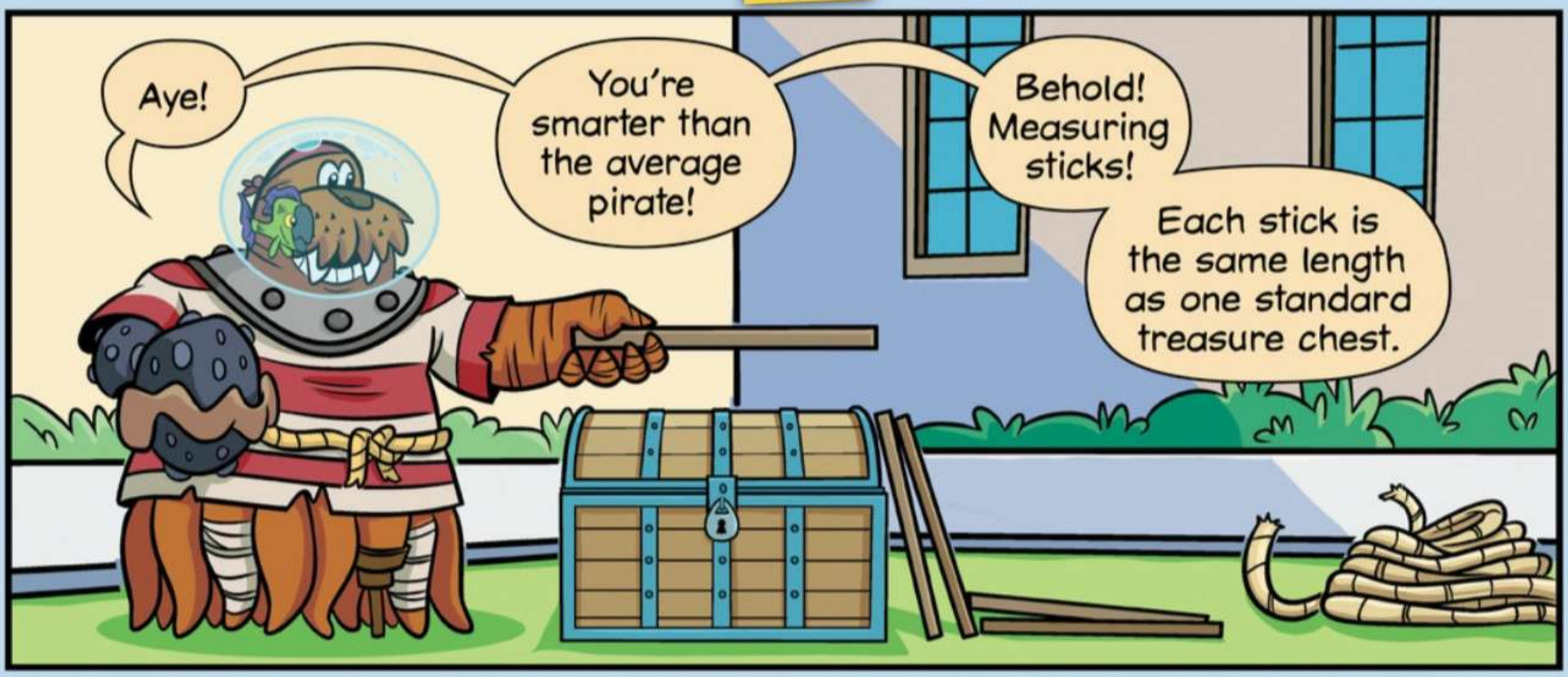
To measure objects, pirates would lay treasure chests end-to-end.
But, chests were not great for measurin'.
Why not?

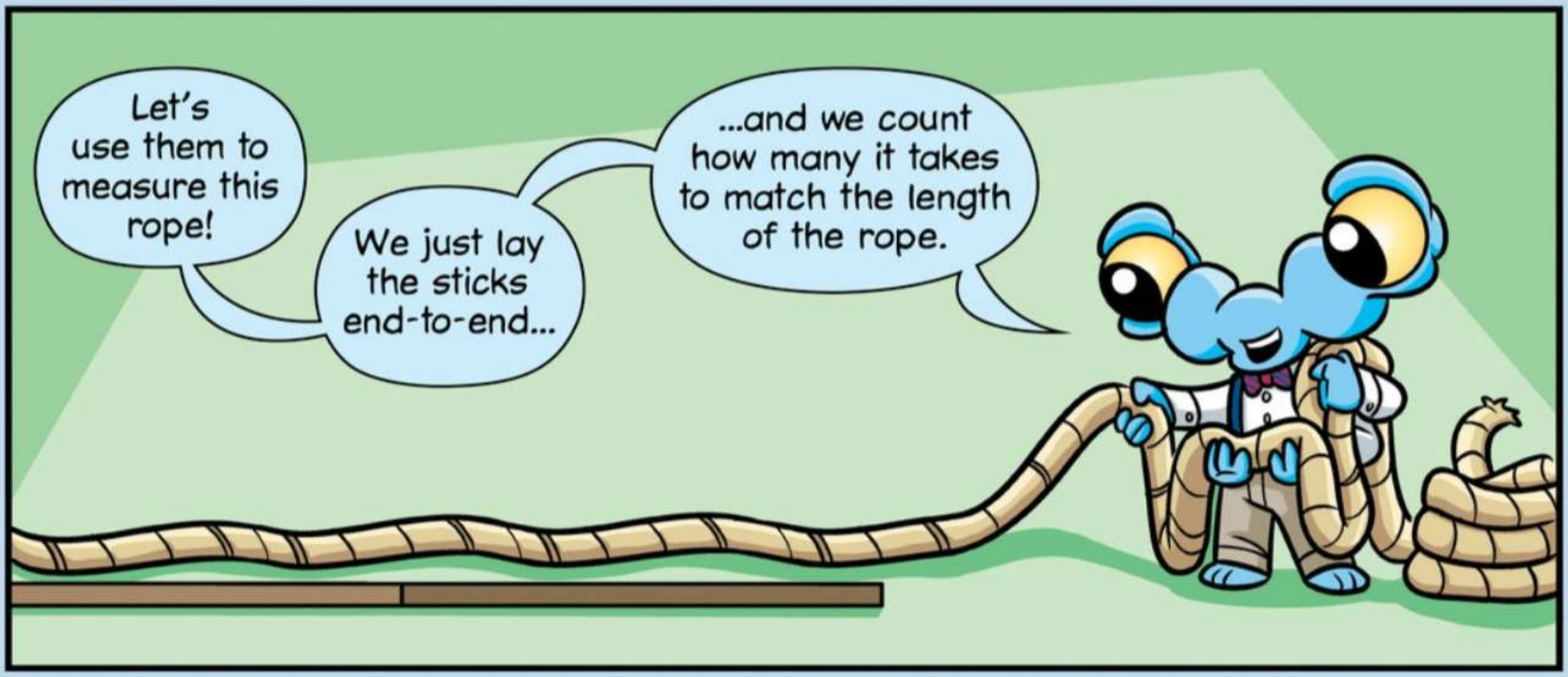
Chests were hard to carry.

And for measuring long distances, pirates would run out of chests.

Mt. MONSTRO 920 chest



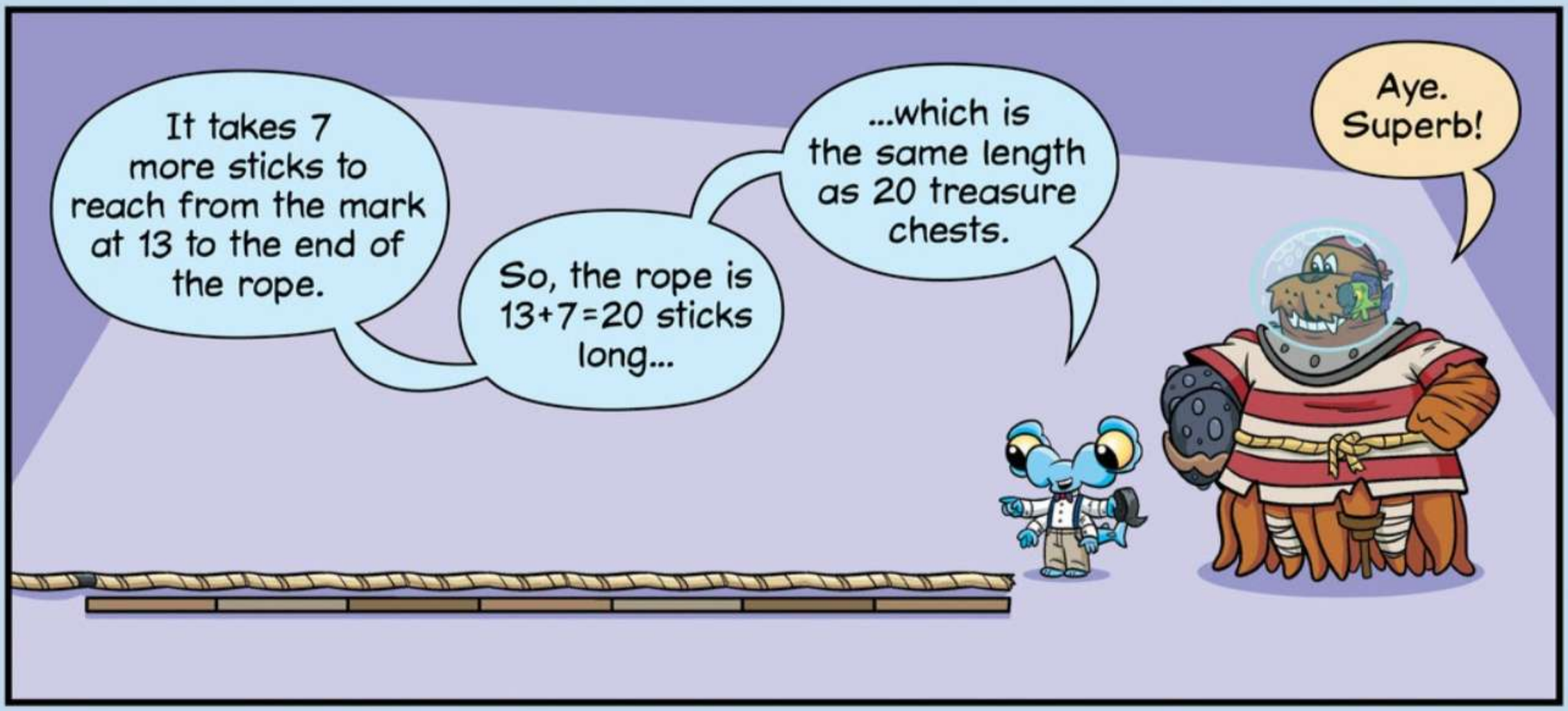

Aye!
You're smarter than the average pirate!
Behold! Measuring sticks!
Each stick is the same length as one standard treasure chest.

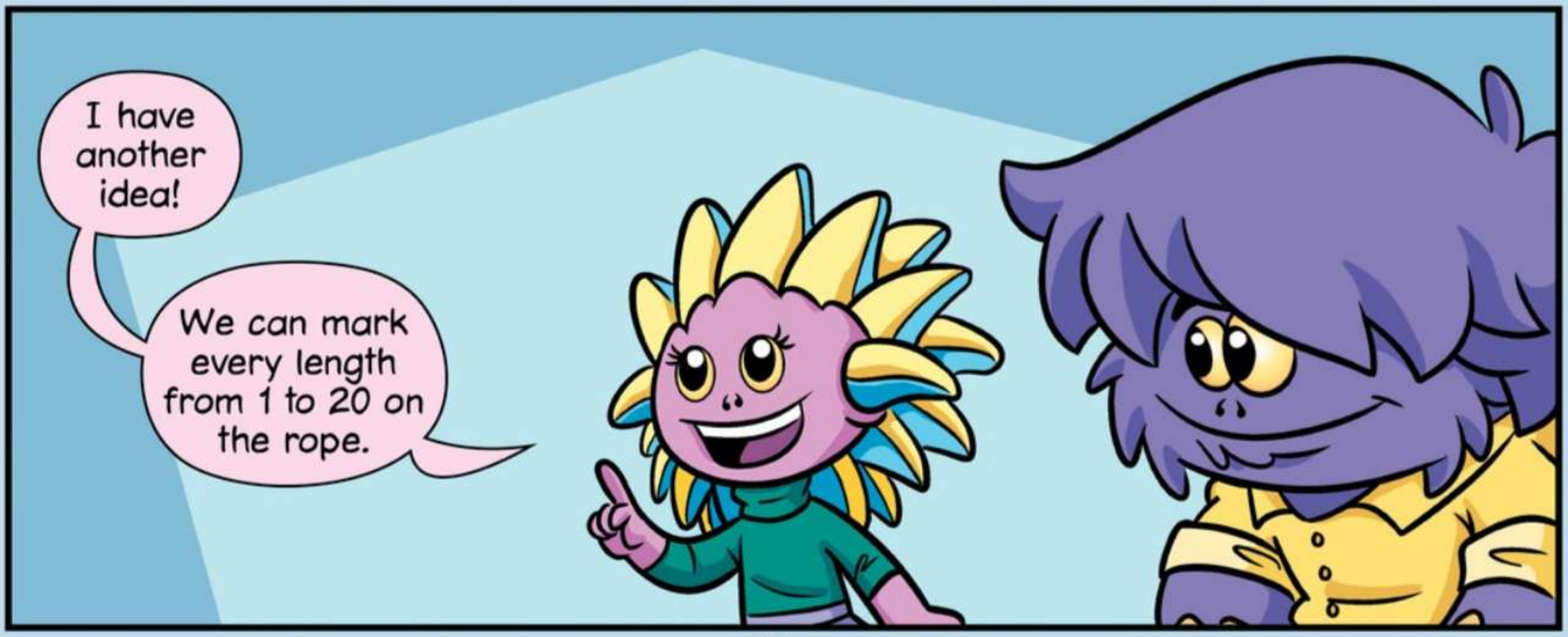

Let's use them to measure this rope!
We just lay the sticks end-to-end...
...and we count how many it takes to match the length of the rope.

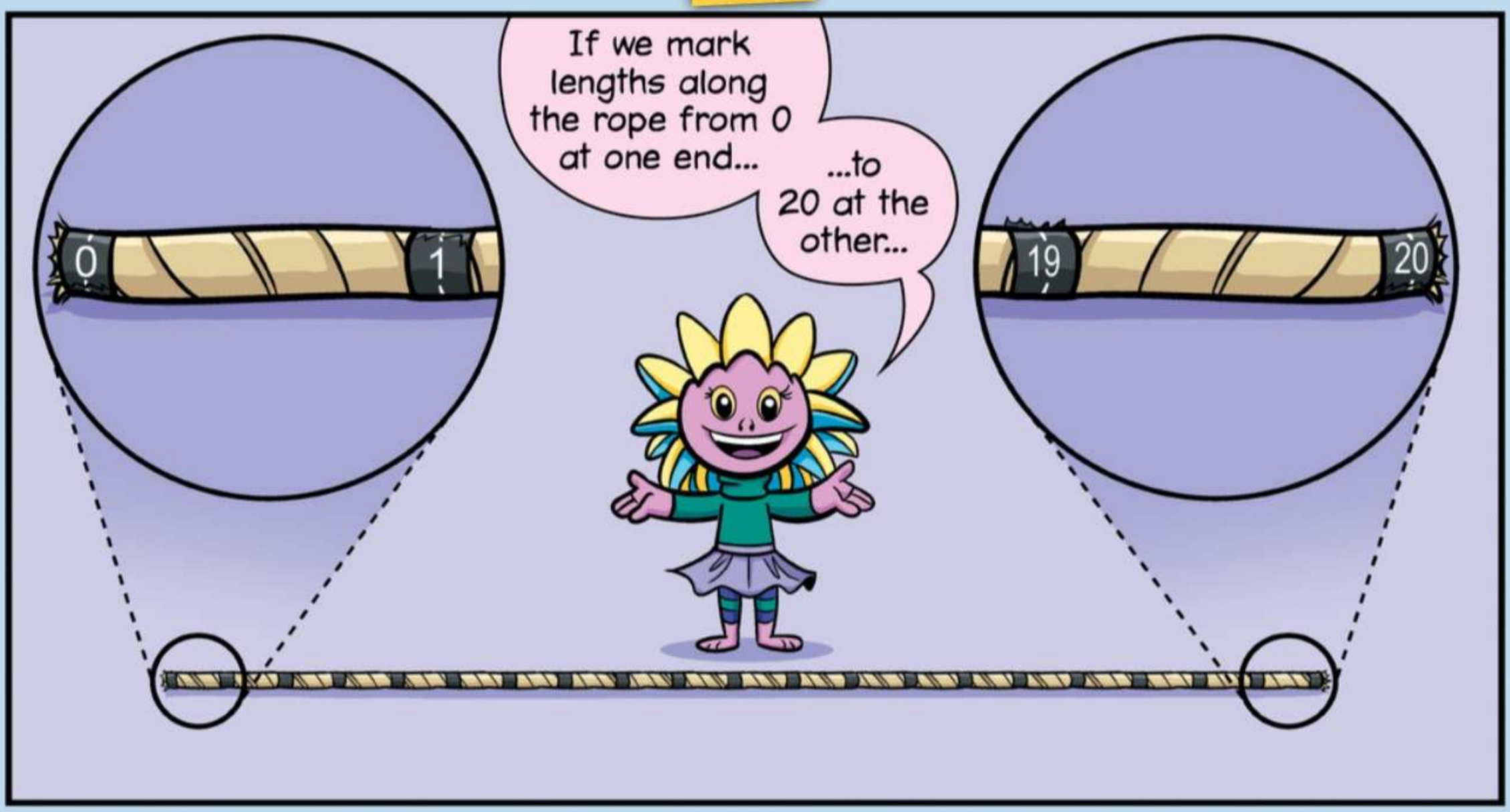
Uh oh. We ran out of sticks.
The rope is longer than 13 sticks, Captain Kraken.
How could we measure the rest of the rope?

How?

We can mark the spot at 13 sticks...
...then use the sticks to measure the rest of the rope.
Great idea!
Use this tape to mark the rope.


It takes 7 more sticks to reach from the mark at 13 to the end of the rope.
So, the rope is 13+7=20 sticks long...
...which is the same length as 20 treasure chests.
Aye. Superb!

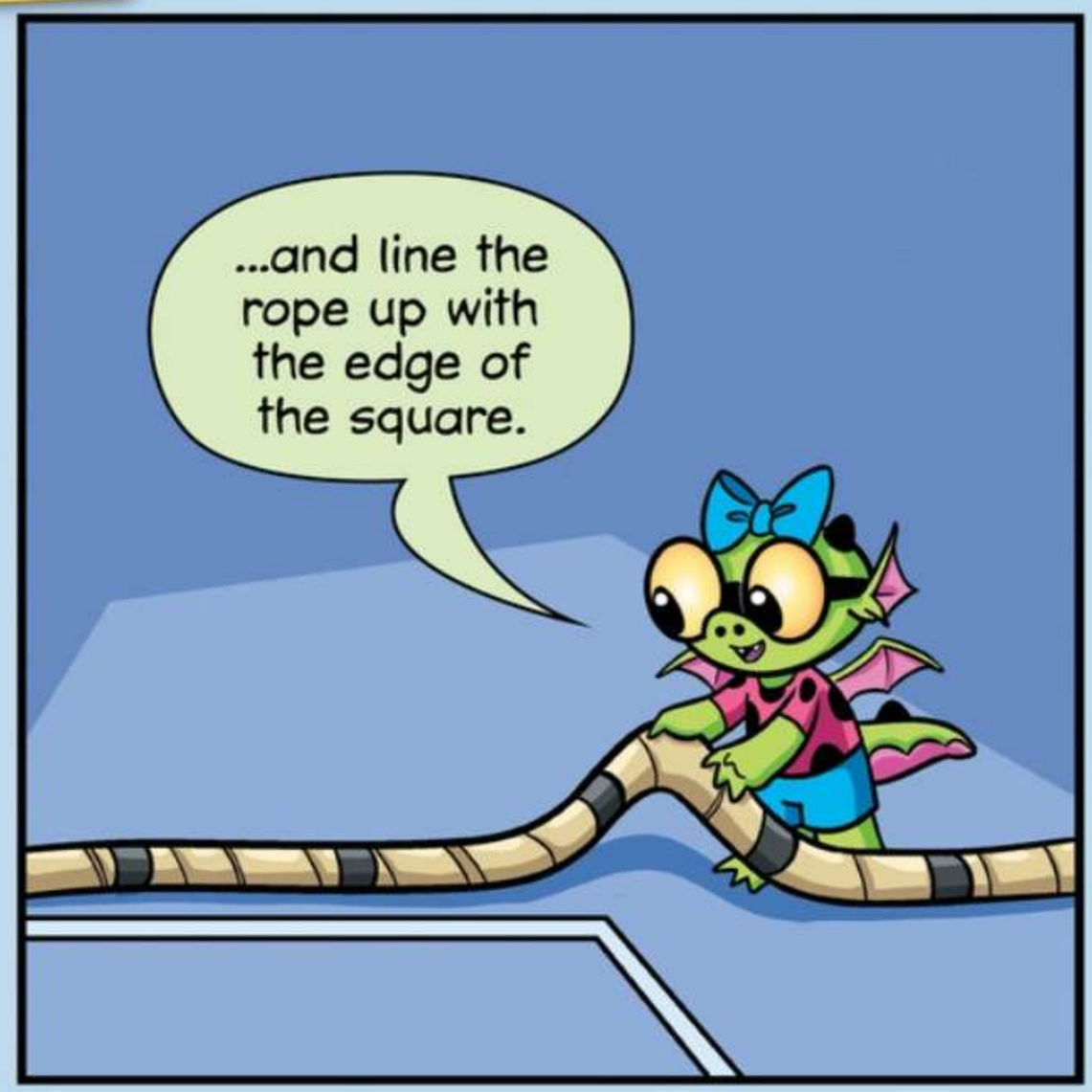

I have another idea!
We can mark every length from 1 to 20 on the rope.


If we mark lengths along the rope from 0 at one end...
...to 20 at the other...
0
1
19
20

...then, we can use the rope to measure other stuff.
Fantastic!
What should we use the rope to measure?

How about the yetiball court?
We can measure the length of one side.

We put this end of the rope at one corner...


...and line the rope up with the edge of the square.

The other corner of the yetiball court is at 12.
So, the sides of the yetiball court are 12 treasure chests long.
12

Brilliant!
You've invented the measuring rope!
Pirates will love the idea.

It's a lot easier to carry a rope than to lug 20 treasure chests around.

Most pirates have lots of ropes.

They can use long ropes for measuring long distances.

And pirates won't need to worry about a big stack of chests crashing down on their heads!

R & G DAYS
The school year is almost over.
Just 22 days until the last day of school.
22
Days until school ends
Summer break!
We can start those surf lessons I signed us up for.
What day is the last day of school?
Today is Thursday, June 5th.
In 22 days, it will be June 27th.
What day of the week is that?
Can you tell?

Let's see.
There are 7 days in a week.
Today is Thursday.
Thursday
THE DAYS OF THE WEEK ARE SUNDAY, MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, AND SATURDAY. AFTER SATURDAY IS SUNDAY AND THE DAYS REPEAT IN THE SAME ORDER OVER AND OVER AGAIN.

In 7 days it will be Thursday again.
And 7 days after that is Thursday, too.
Right.
That's 14 days from now.
+7 days
Thursday
+7 days
Thursday
Thursday
+14 days

Yep. That's 7+7+7=21 days.
7 days after that is Thursday again.
So, in 22 days, it will be...
+7 days
Thursday
+7 days
Thursday
+7 days
Thursday
Thursday
+21 days
What day?

Friday!
22 days from today is the same day of the week as tomorrow.
+7 days
Thursday
+7 days
Thursday
+7 days
Thursday
+1 day
Thursday
Friday
22 days
Neat. Every 7 days is a Thursday.
It will be Thursday in 7 days, 14 days, 21 days, 28 days, 35 days...
...and so on, counting by 7's.
Sewing Club
Seams cool!
CAUTION
WET FLOOR
Huh?
So, in 34 days, it will be the same day of the week as yesterday!
Is that true?

Since 35 days from today is Thursday...
...34 days from today is the day **before** Thursday...
...which is Wednesday!
Oh, yeah!
What's special about 34 days from today?
It's our first surf lesson!
JUNE
JULY
Who do you think will be a better surfer?
I bet we wipe out the same number of times.

MATH CLUB
CLOCKS

That's it for Math Club today.

I hope everyone can make it to the pizza party after school!

What time is the party?

4:30.

Ms. Levans?

What's up, Grogg?

I can't read a clock.

That's ok! I'll help you learn!

Let's start with this clock.

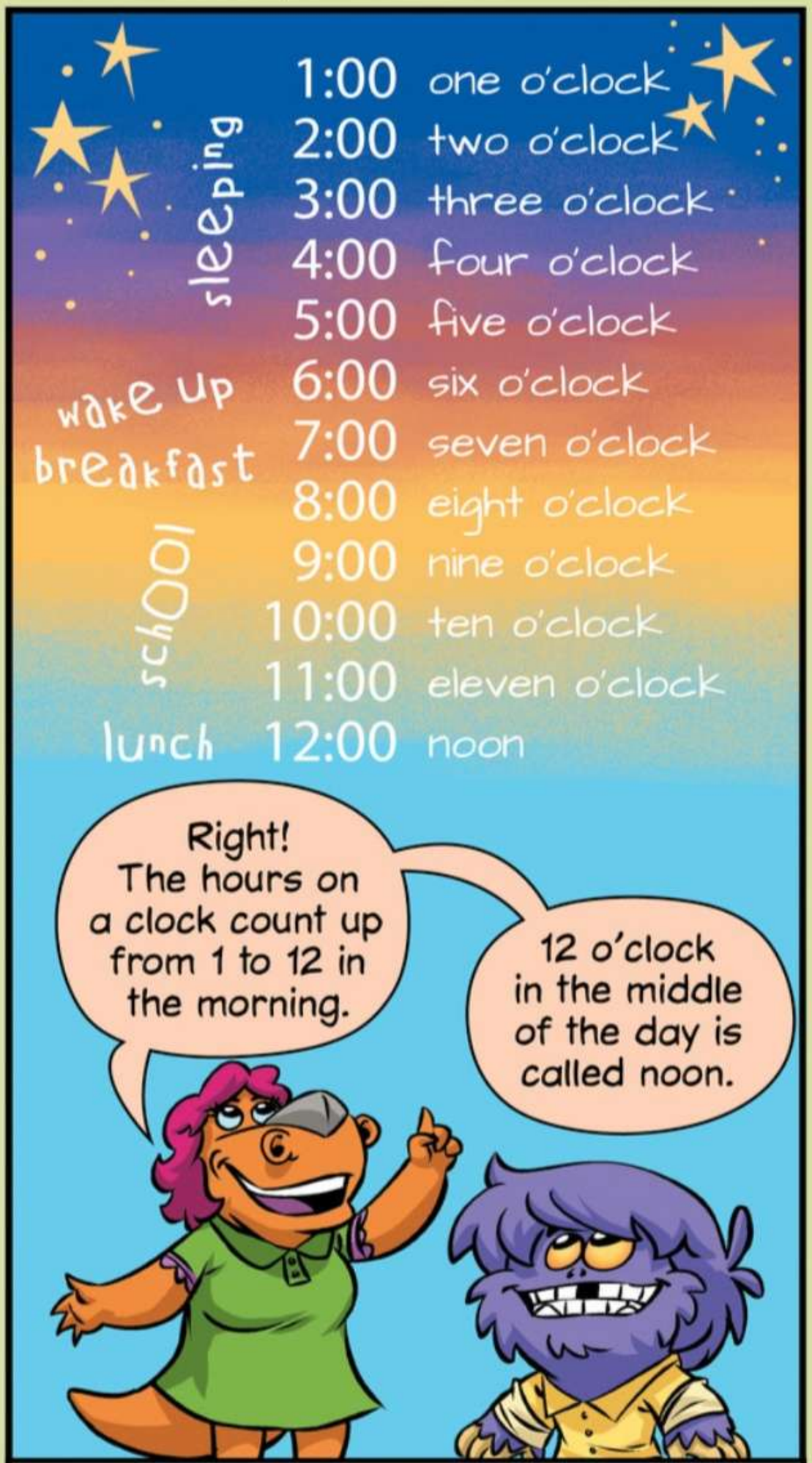
It's easier to read than the round one on the wall.

This clock tells us the time in hours and minutes.

2:48

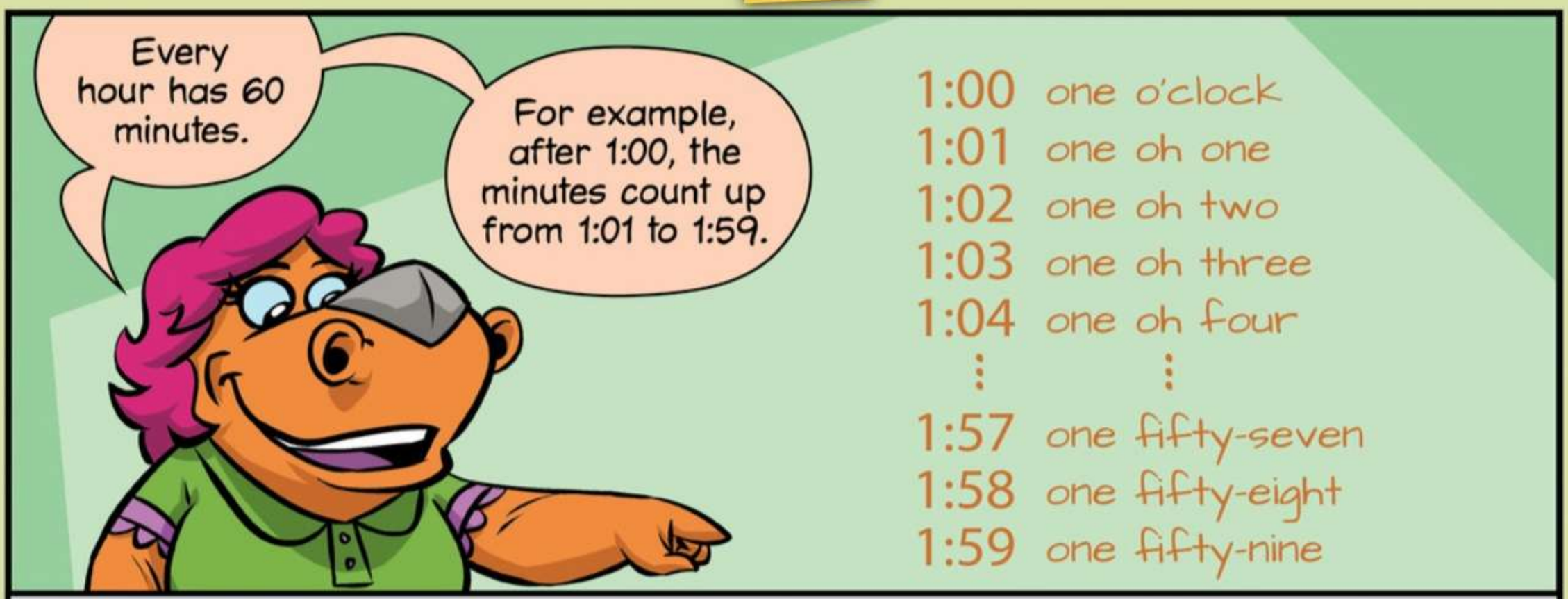
Hours

Minutes



STARTING AT MIDNIGHT, THE TIMES BEFORE NOON ARE CALLED "AM". 7:00 IN THE MORNING IS 7 AM.

STARTING AT NOON, THE TIMES BEFORE MIDNIGHT ARE CALLED "PM". 7:00 IN THE EVENING IS 7 PM.



WE SAY "OH" WHEN READING MINUTES THAT ARE LESS THAN TEN, AS IN "ONE OH FIVE" FOR 1:05. WE CAN ALSO SAY "FIVE PAST ONE".

*NOT ALL CLOCKS SPLIT THE DAY THIS WAY. SOME CLOCKS SHOW ALL 24 HOURS IN A DAY FROM 00:00 (MIDNIGHT) TO 12:00 (NOON) AND THEN UP TO 23:59 BEFORE STARTING AT 00:00 AGAIN.

The long hand points to the minutes.

But the minutes aren't numbered on most clocks.

There are 60 marks around the clock, one for each minute.

We can number them starting at the top with 00, like this.

At 3:00, the minute hand points straight up at 00.

But in 5 minutes...

...it will be here.

In 20 minutes...

...it will be here.

And at 3:42...

...it will be here.

The hour hand isn't pointing at the 3 any more. How can it be 3:42?
Between 3:00 and 4:00, the hour hand moves slowly from the 3 to the 4.
3:42
So, by 3:42, the hour hand is closer to the 4 than the 3.
And at 3:59, the hour hand is pointing almost straight at the 4.
3:59
Exactly!
3:59! I better go. I don't want to be late to the pizza party!
It's only 3:07, Grogg. We moved the hands on the clock!
Can't talk, gotta run!
Thanks, Ms. L.!
See you at the party!