

# Contents: Chapter 12



## Location

138

How can a grid on a map help us describe where things are located?



## Directions

152

You walk 4 blocks east, 2 blocks south, and 3 blocks west. If all of the city streets are connected in a grid, what is the shortest number of blocks you can walk back to where you started?



## Turns

166

If you are walking south, which direction is to your left?



## Order

174

What order would you use to connect the five points below to make a star?

J

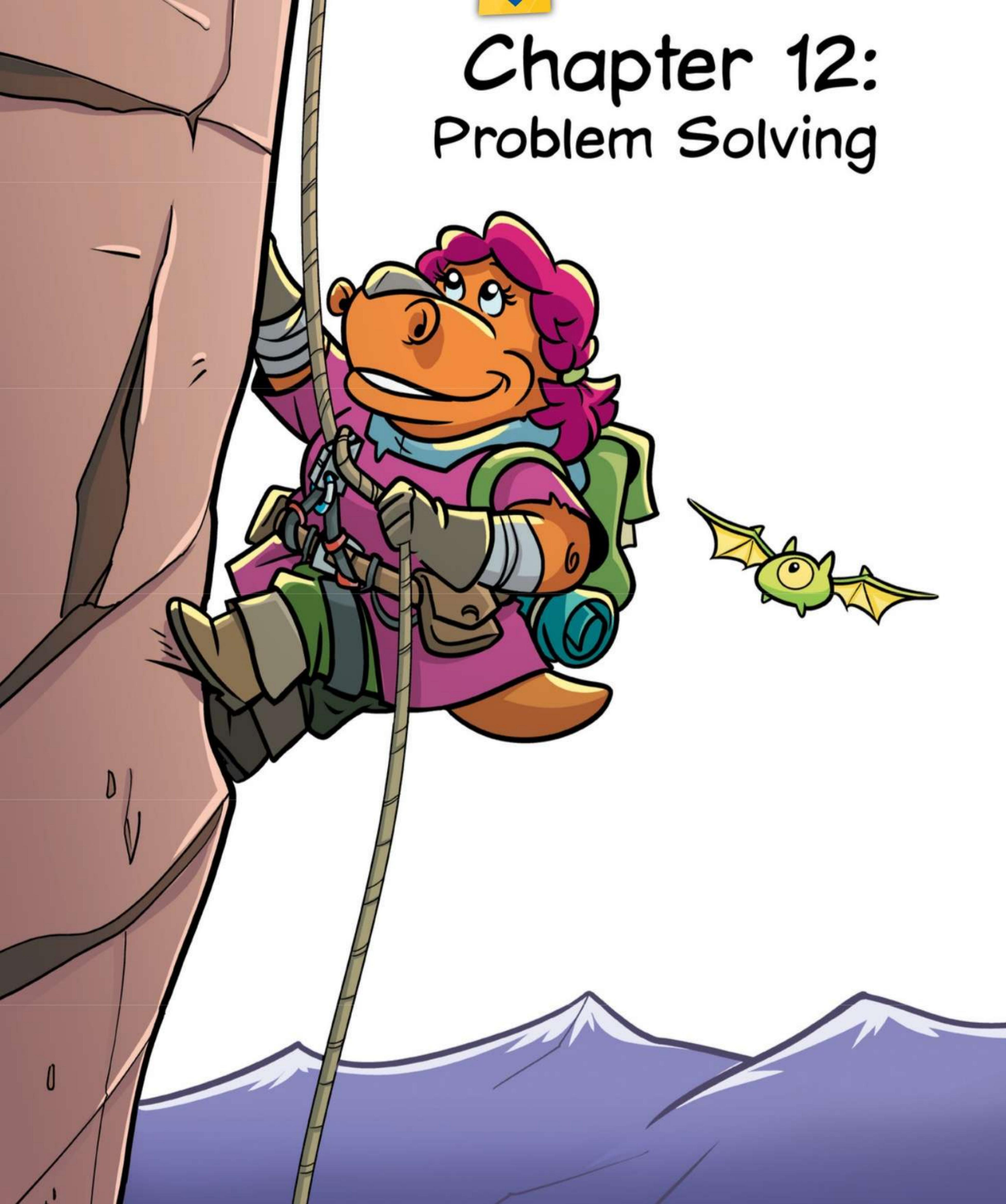
N •

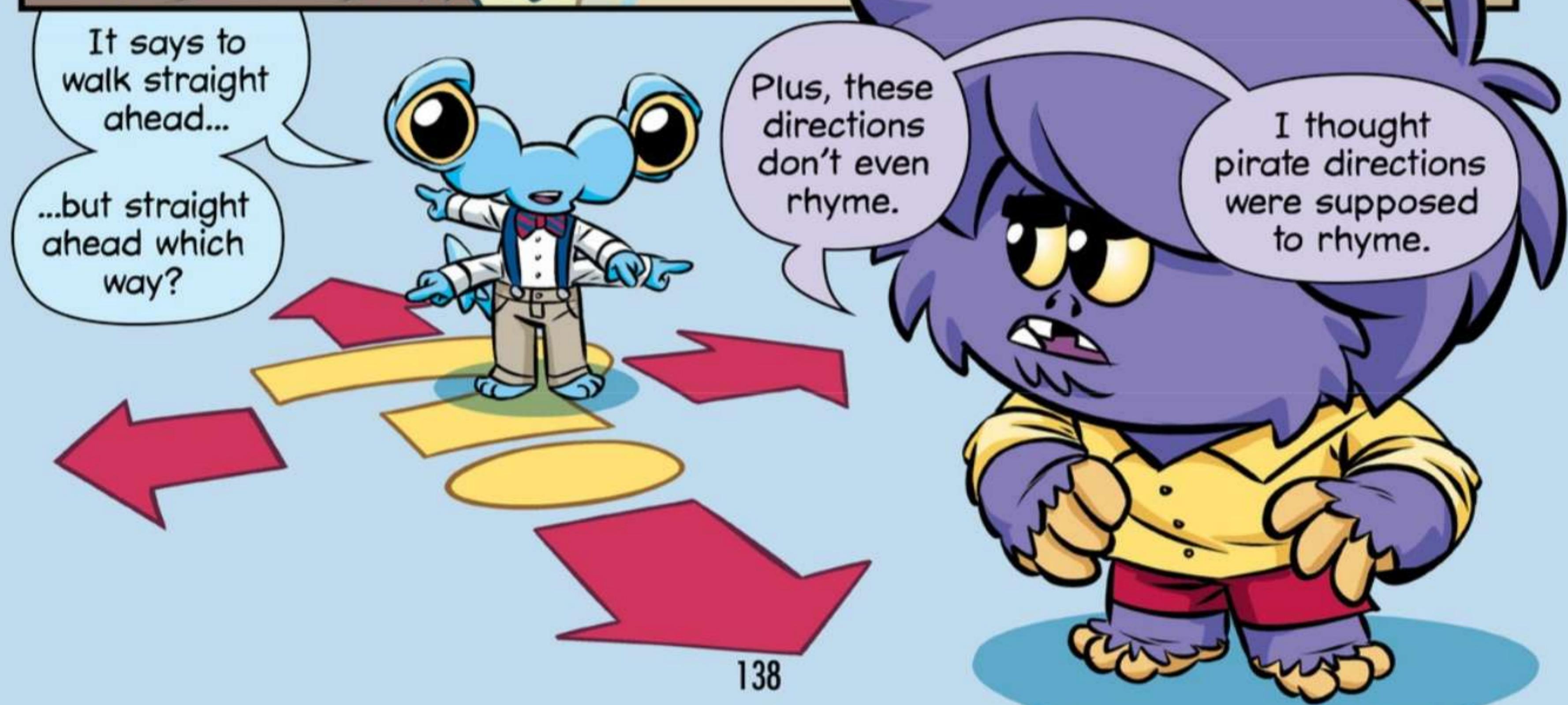
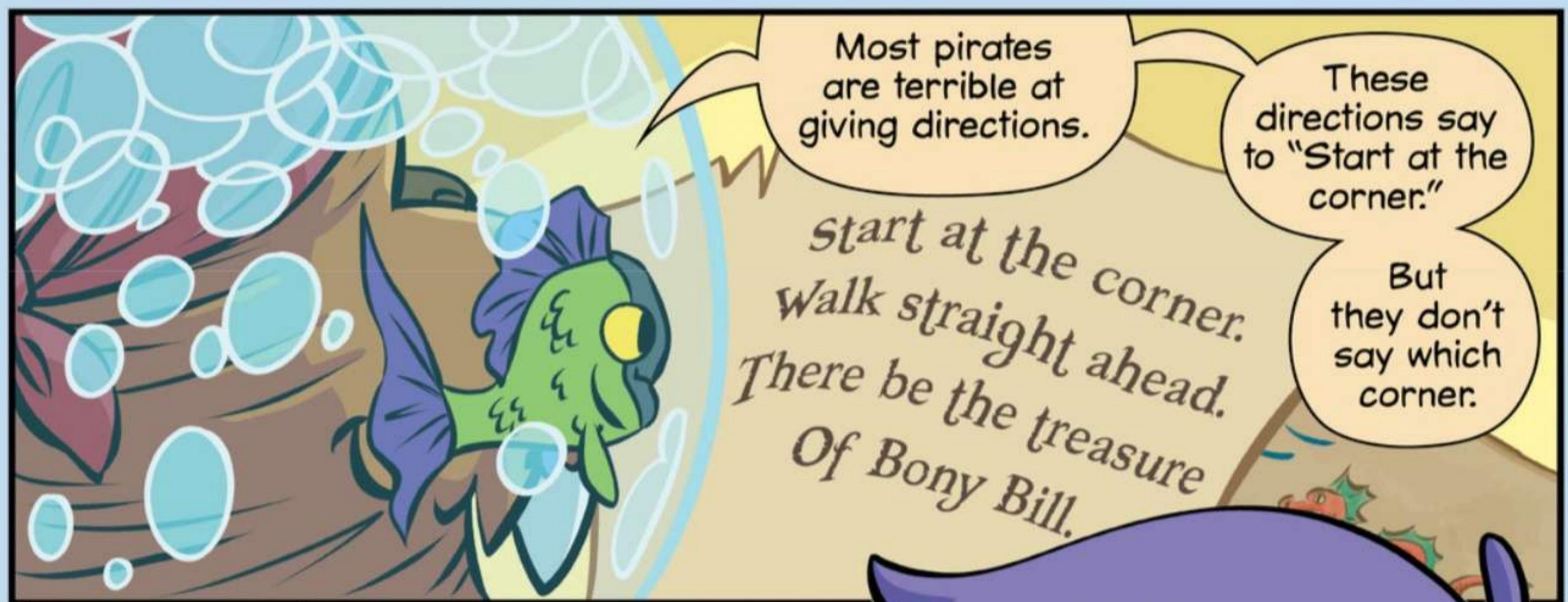
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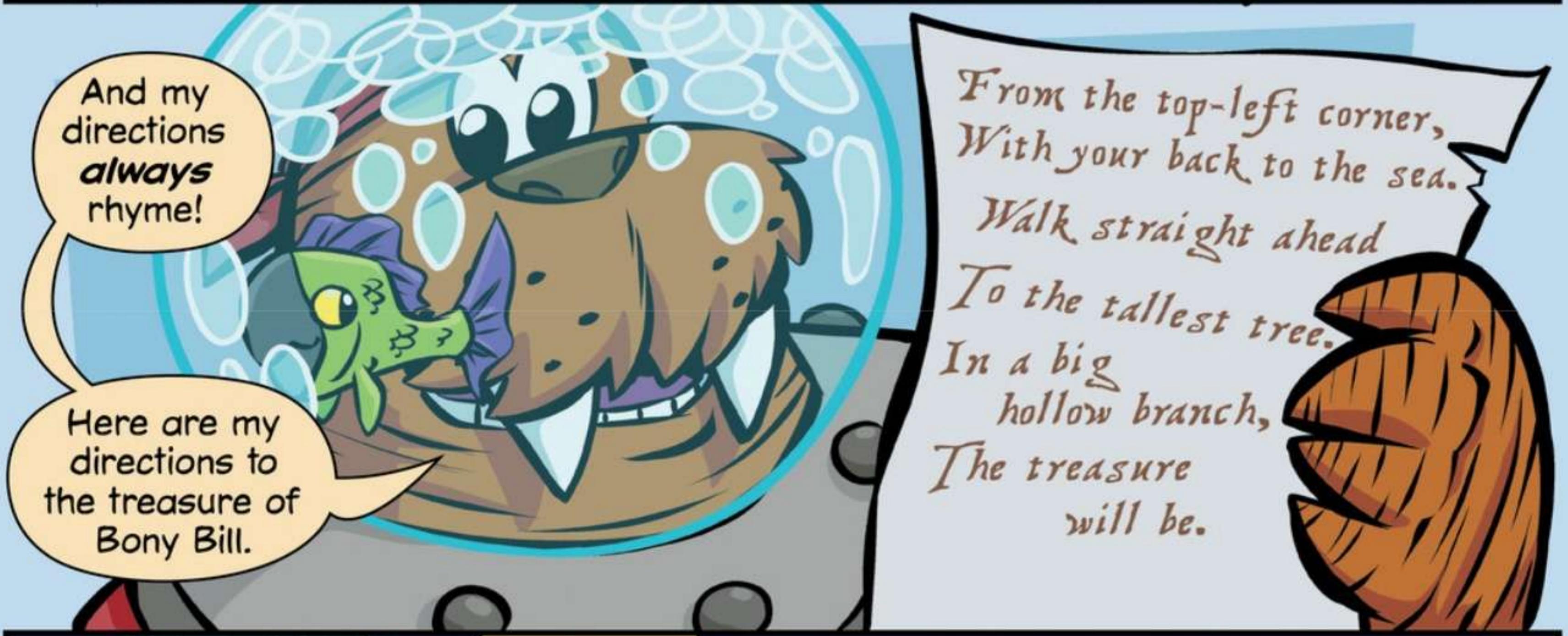
• M      I

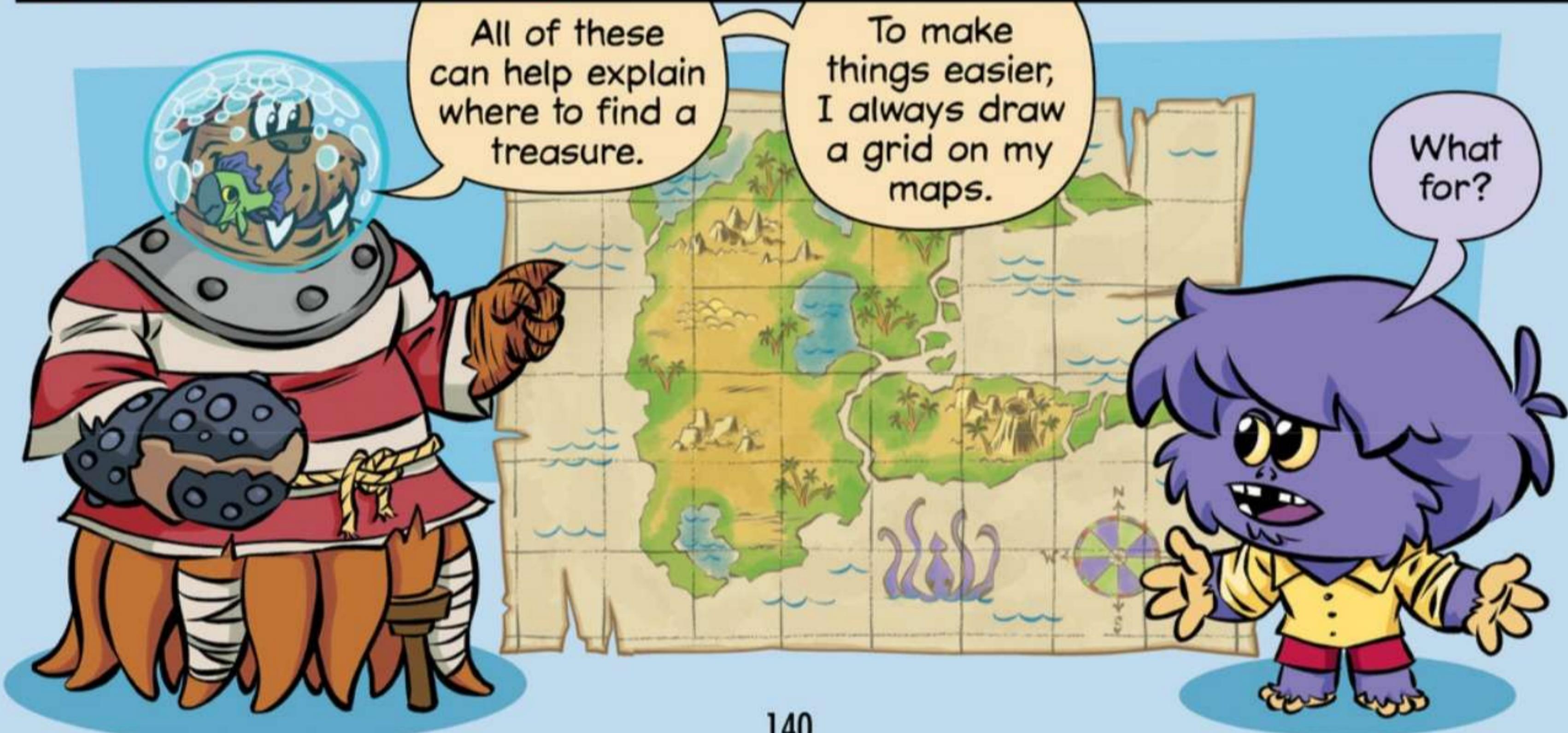
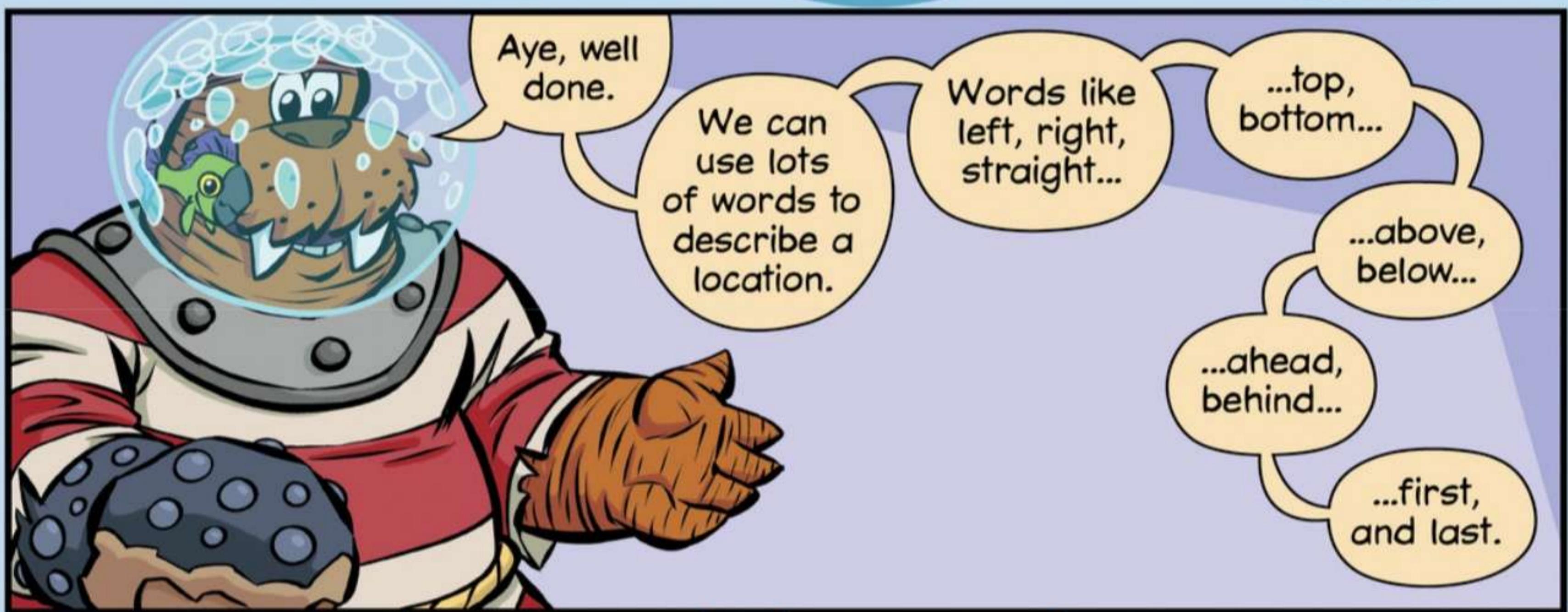
# Chapter 12:

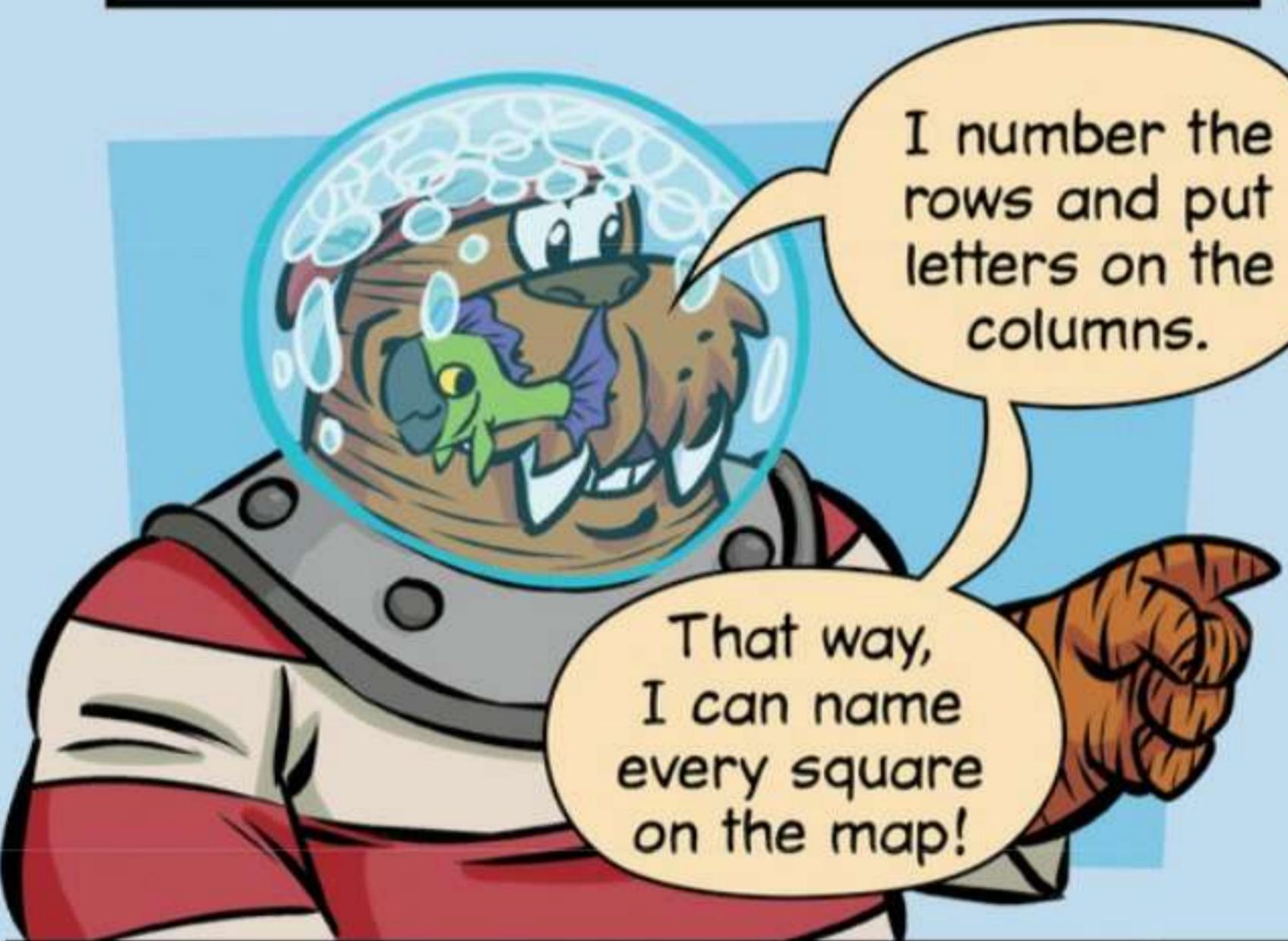
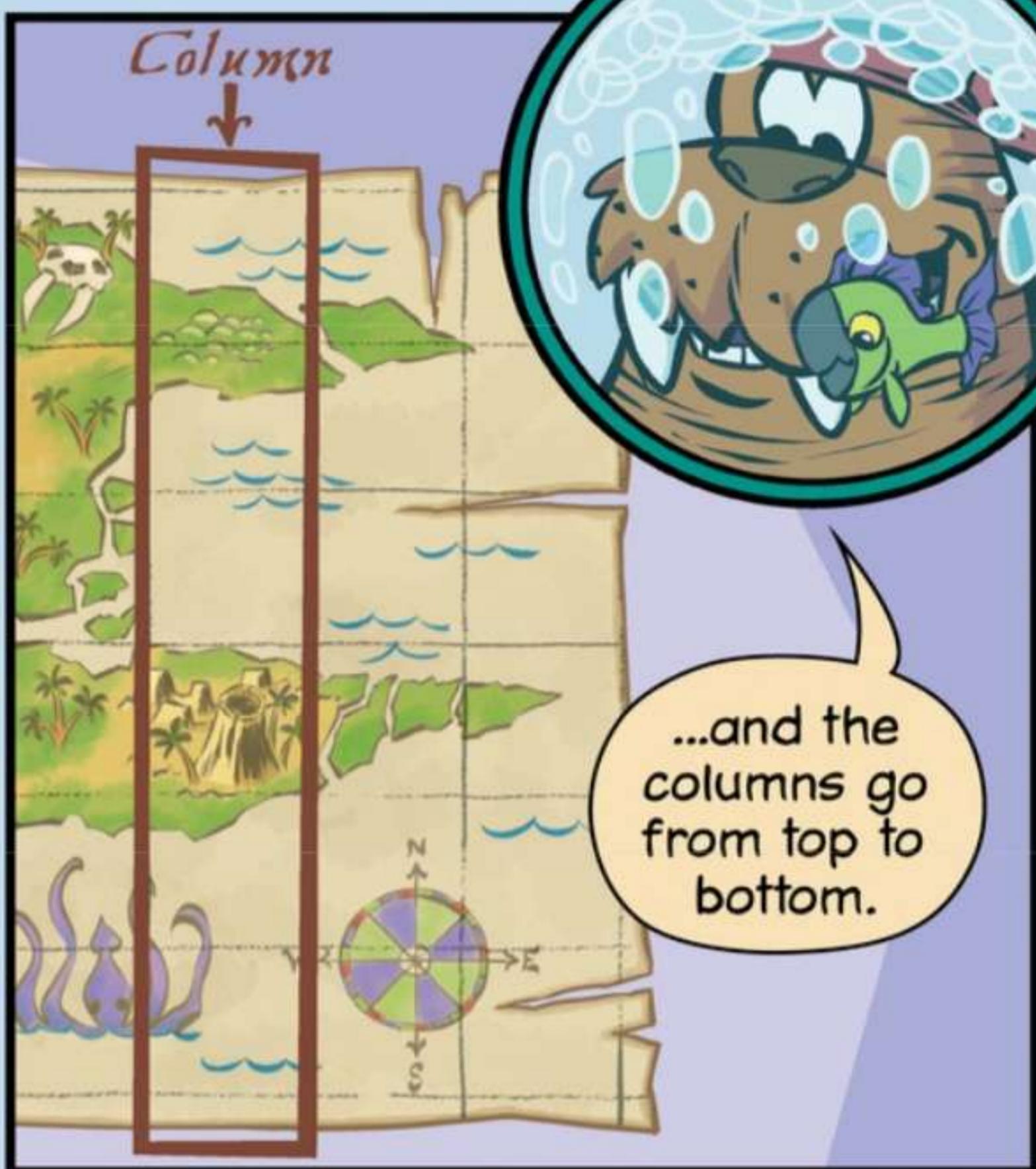
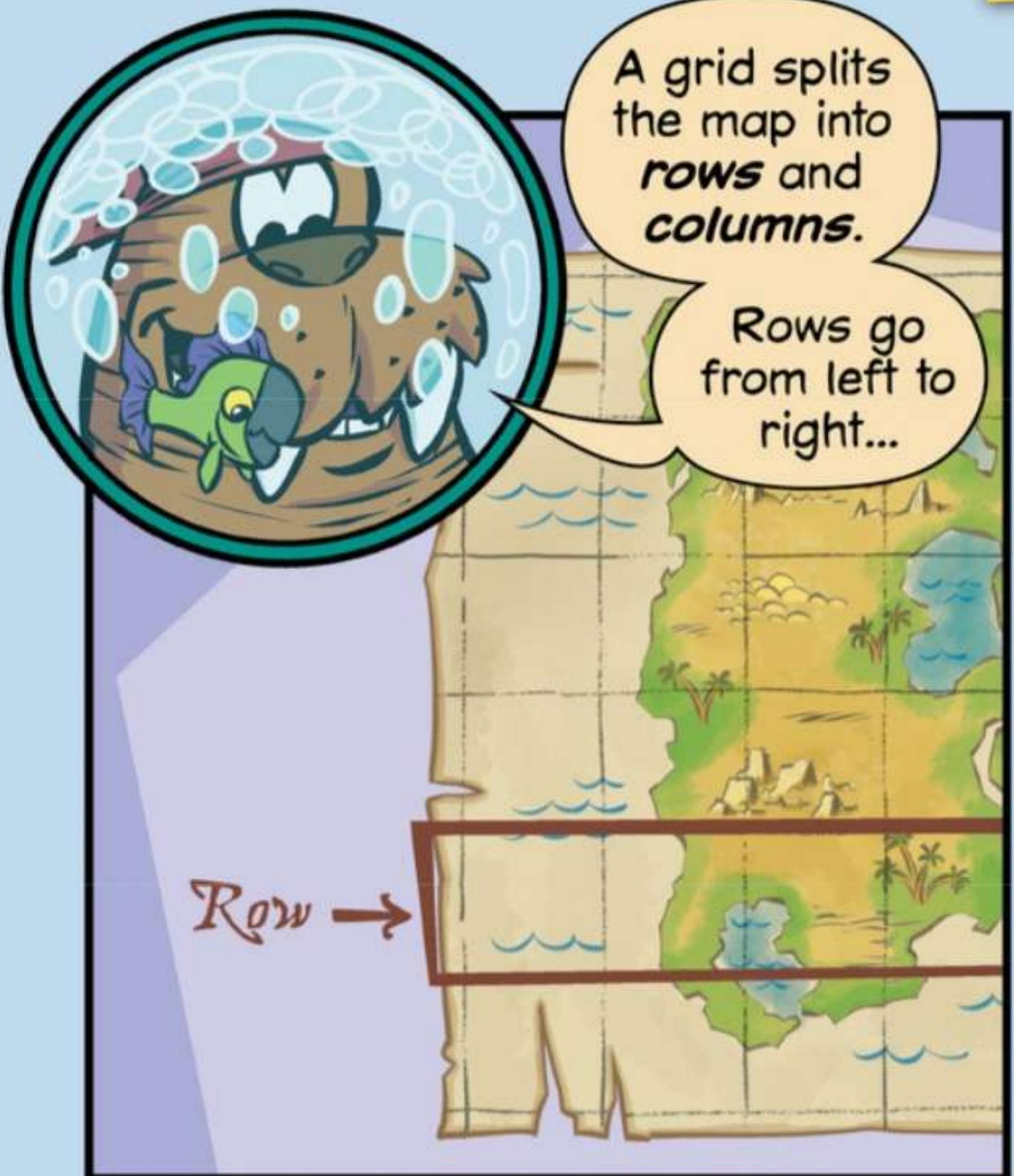
## Problem Solving

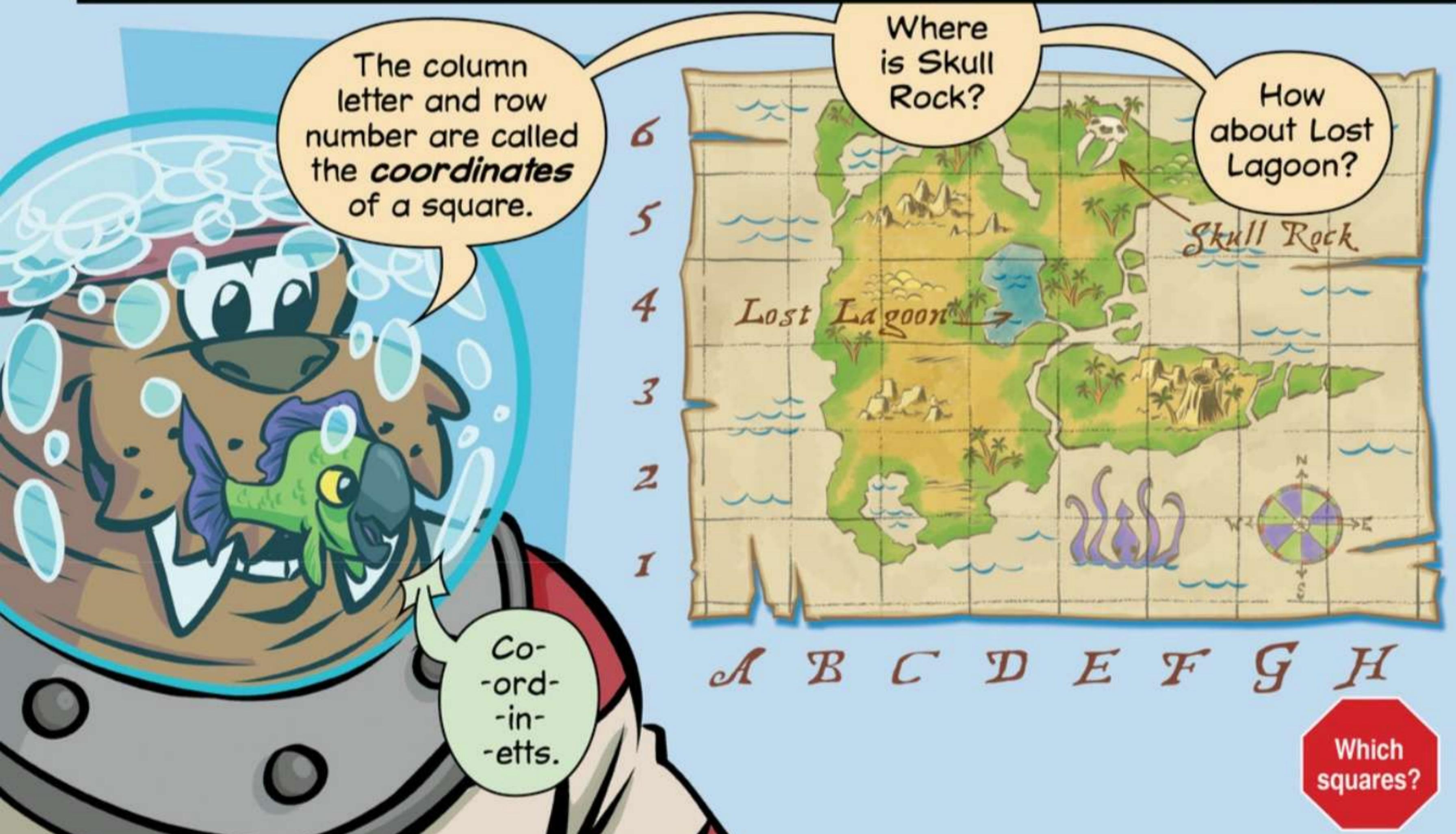
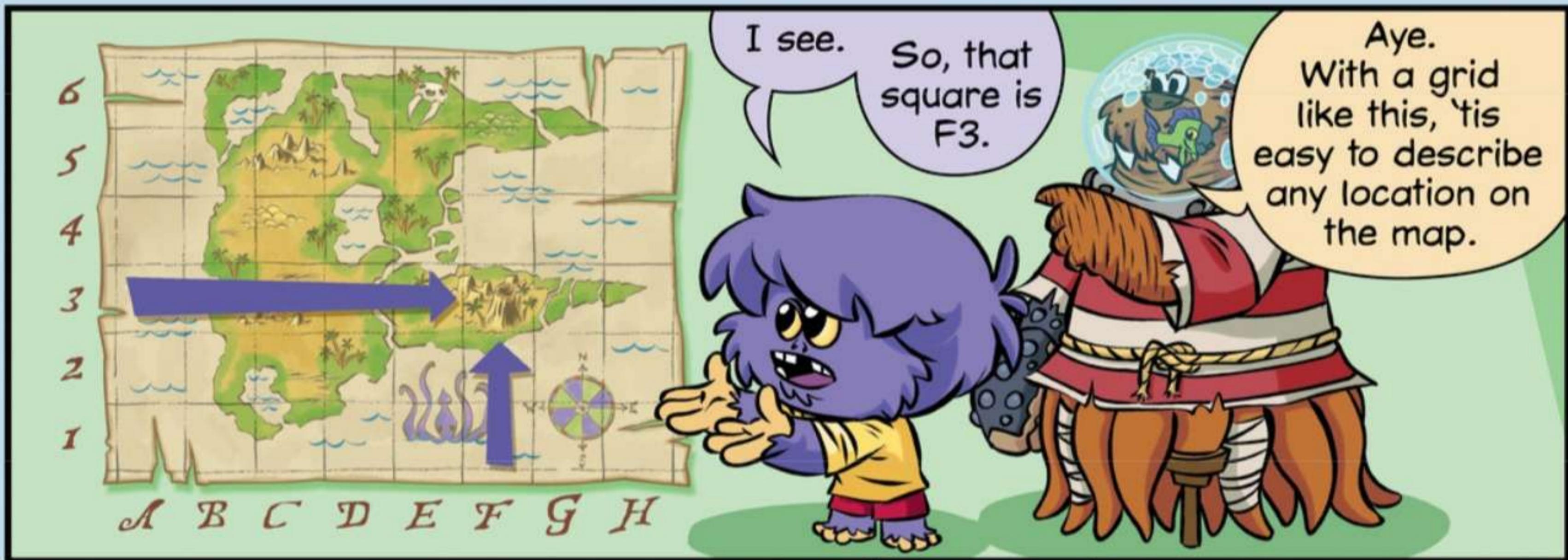
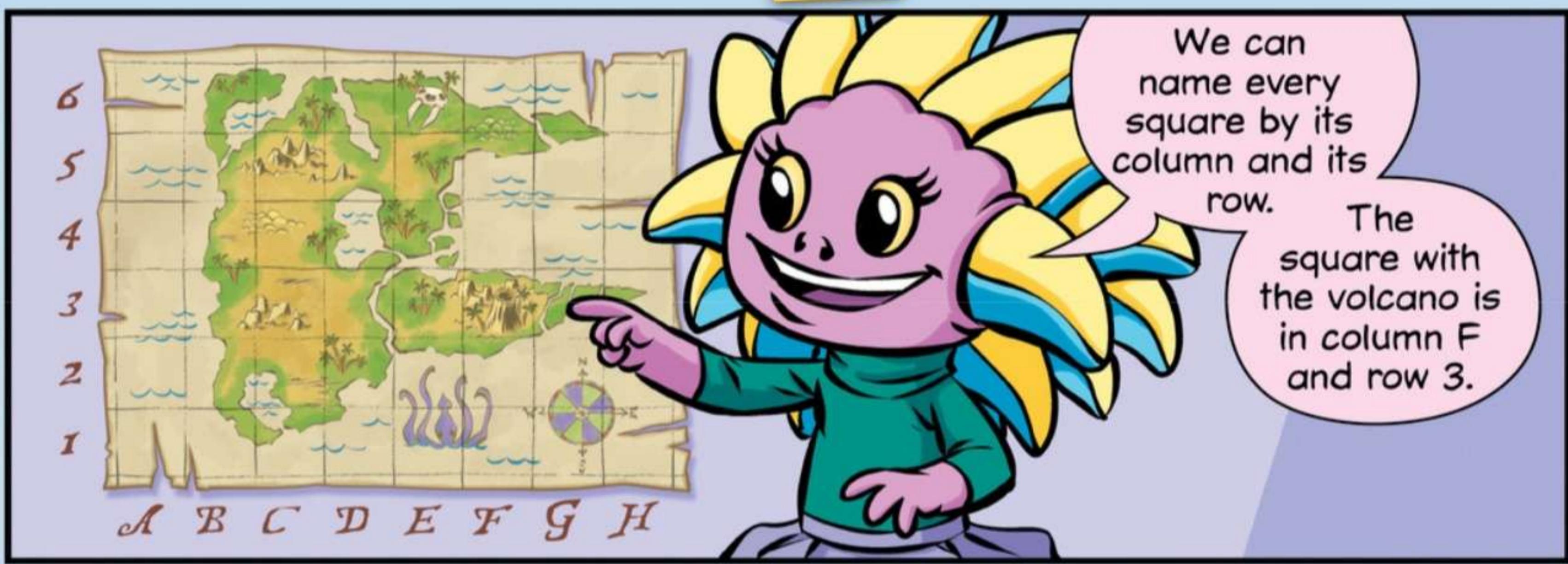


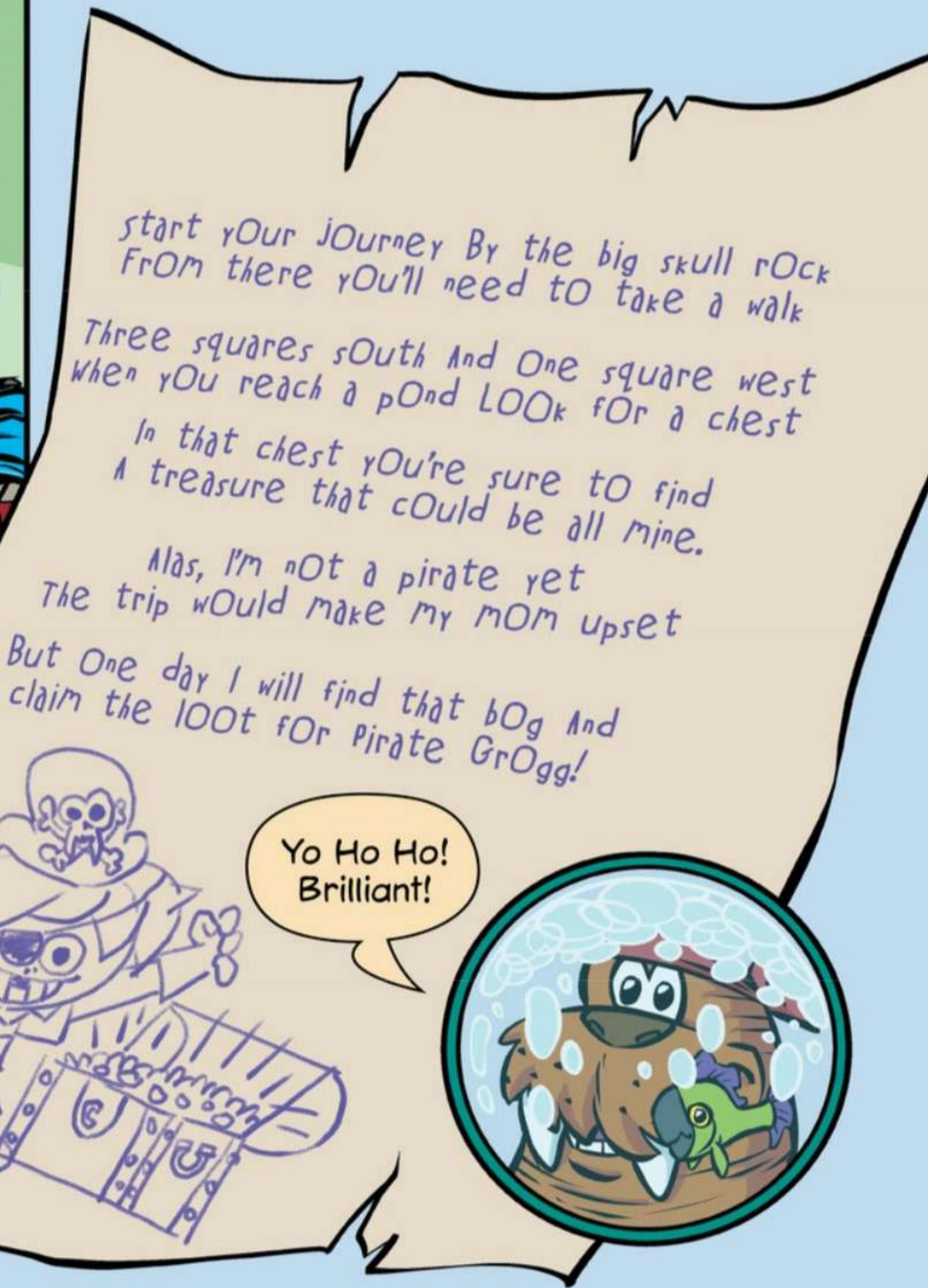
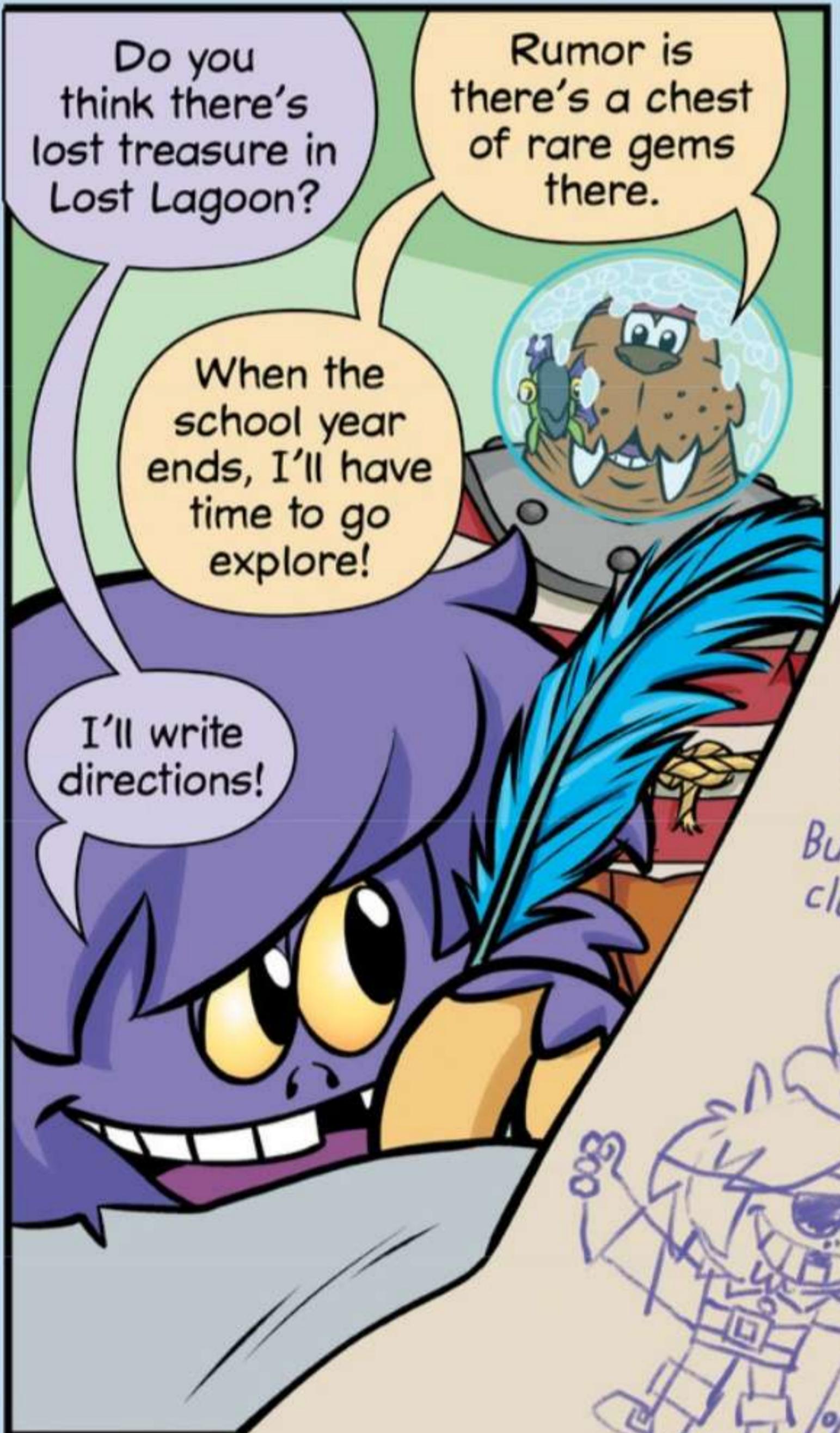
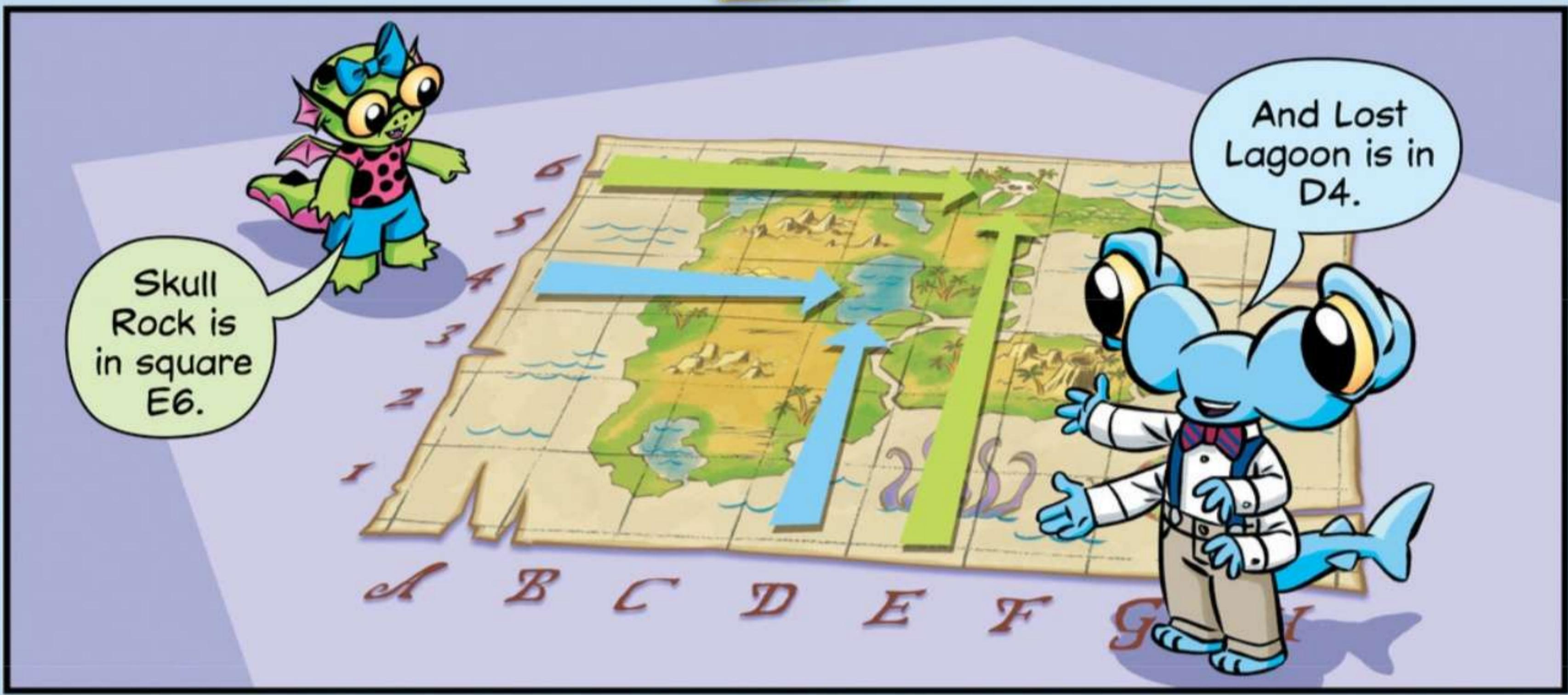


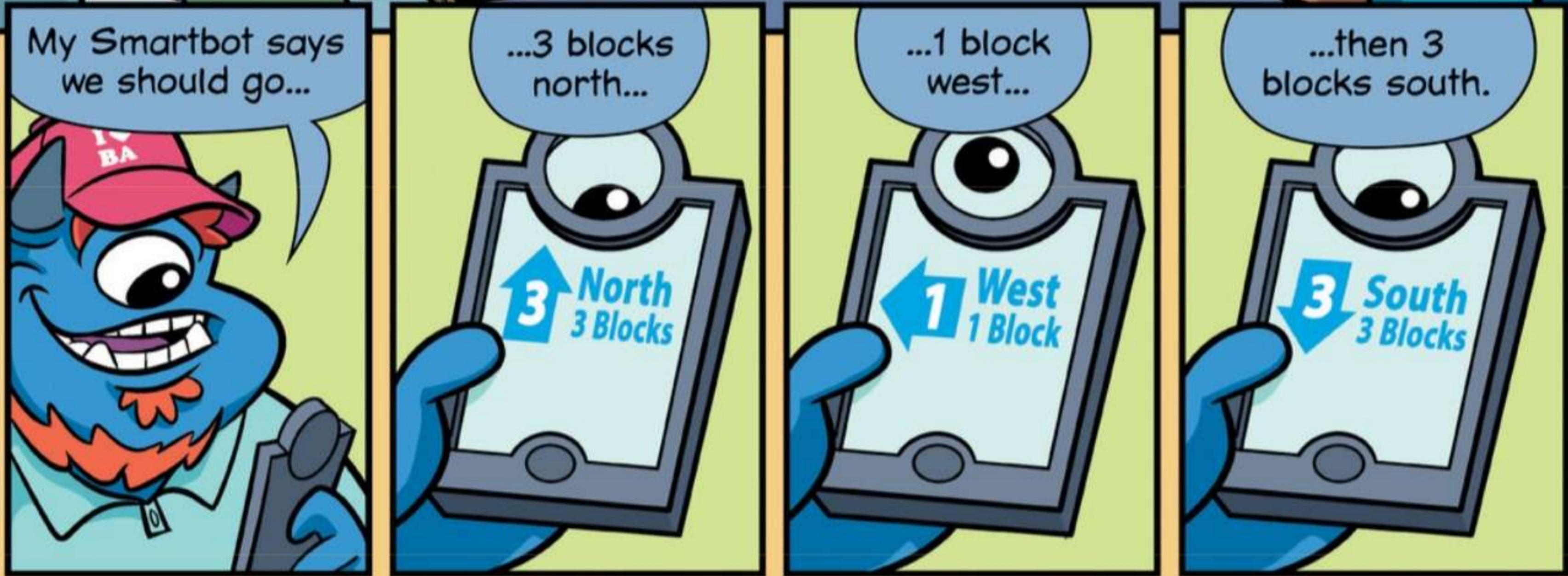


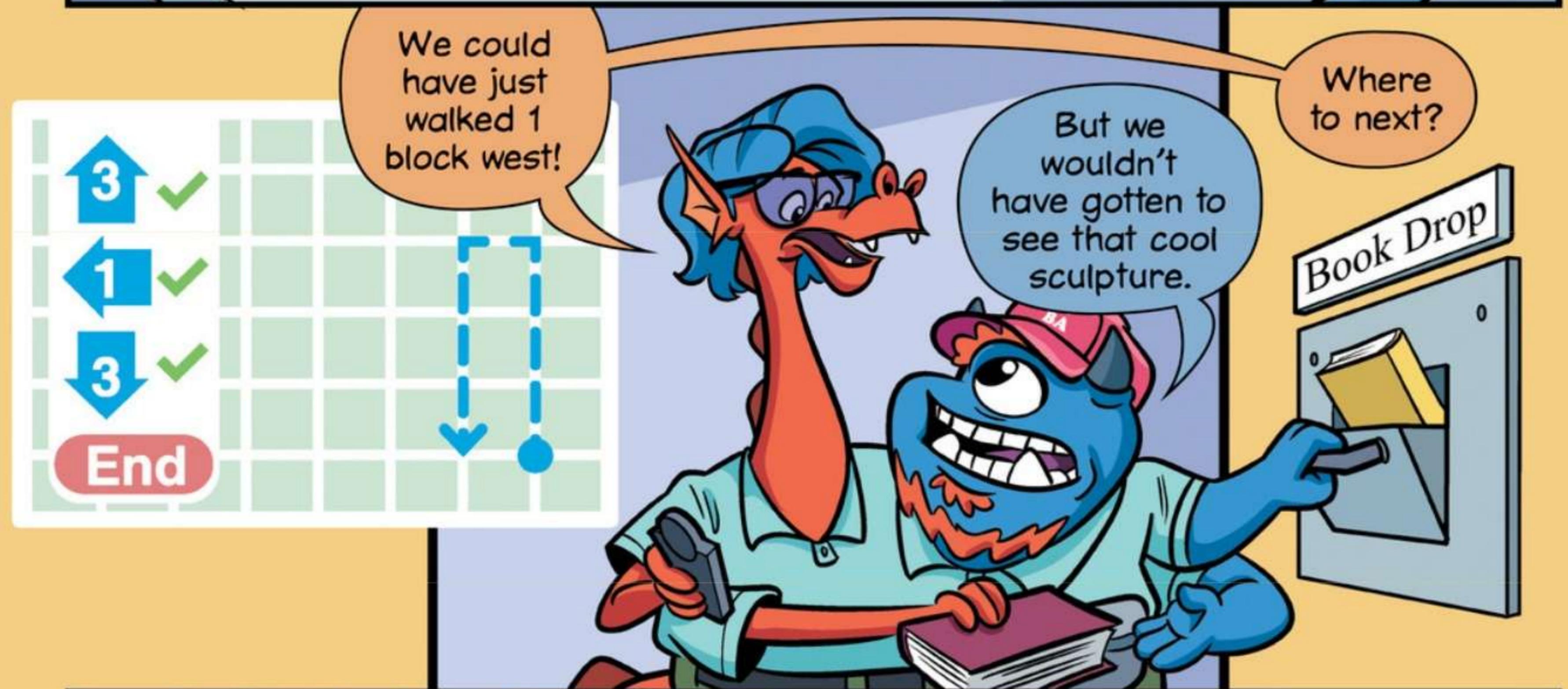
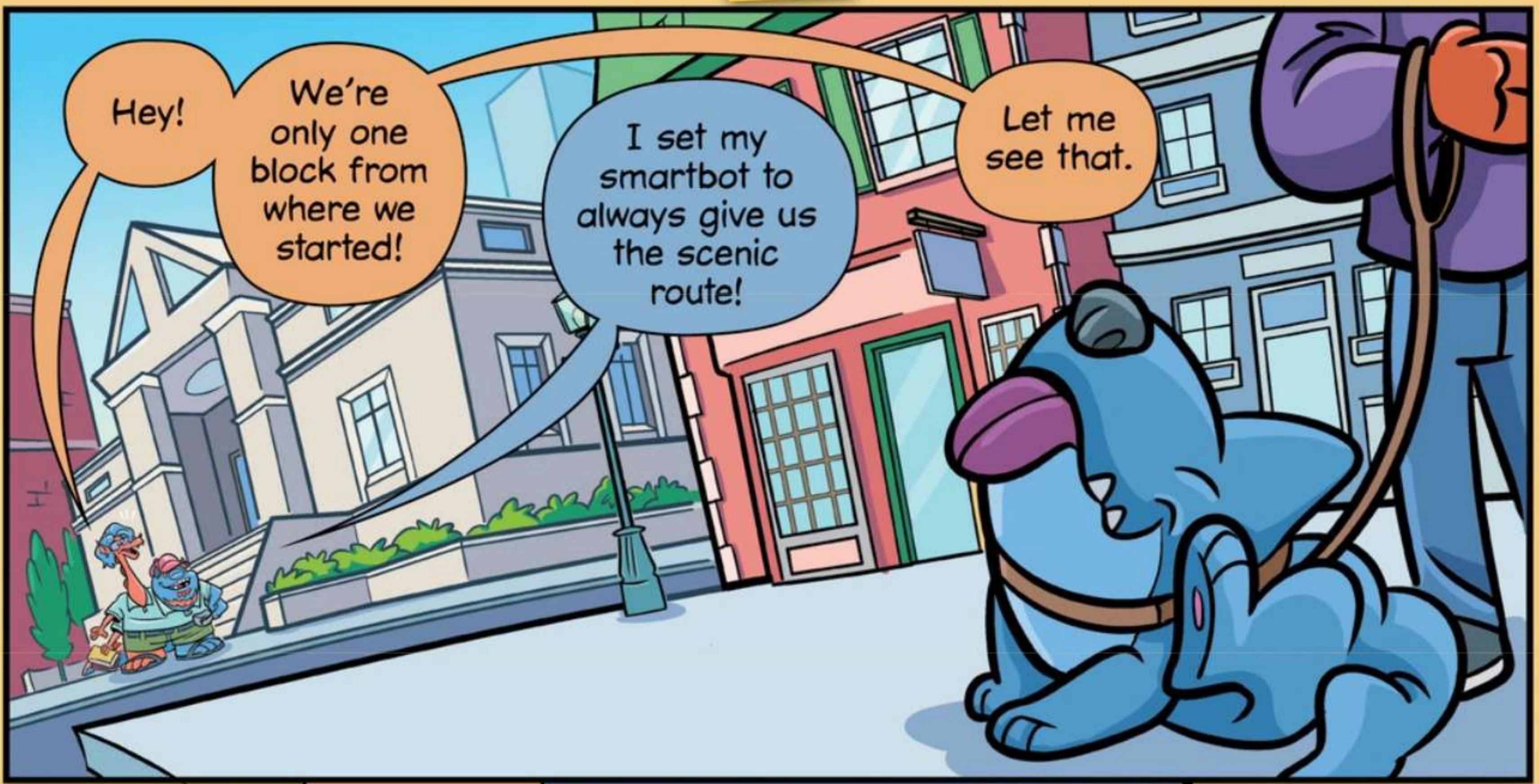












Let me see that map.

It looks like we can just go 2 blocks south and 1 block east.

But we won't get to see the Yeti Fountain.

We can see it after the cafe. I'm hungry.

OK. But instead of going 2 blocks south, then 1 block east...

...can we go south 1, then east 1, then south 1?

Route 1



Route 2



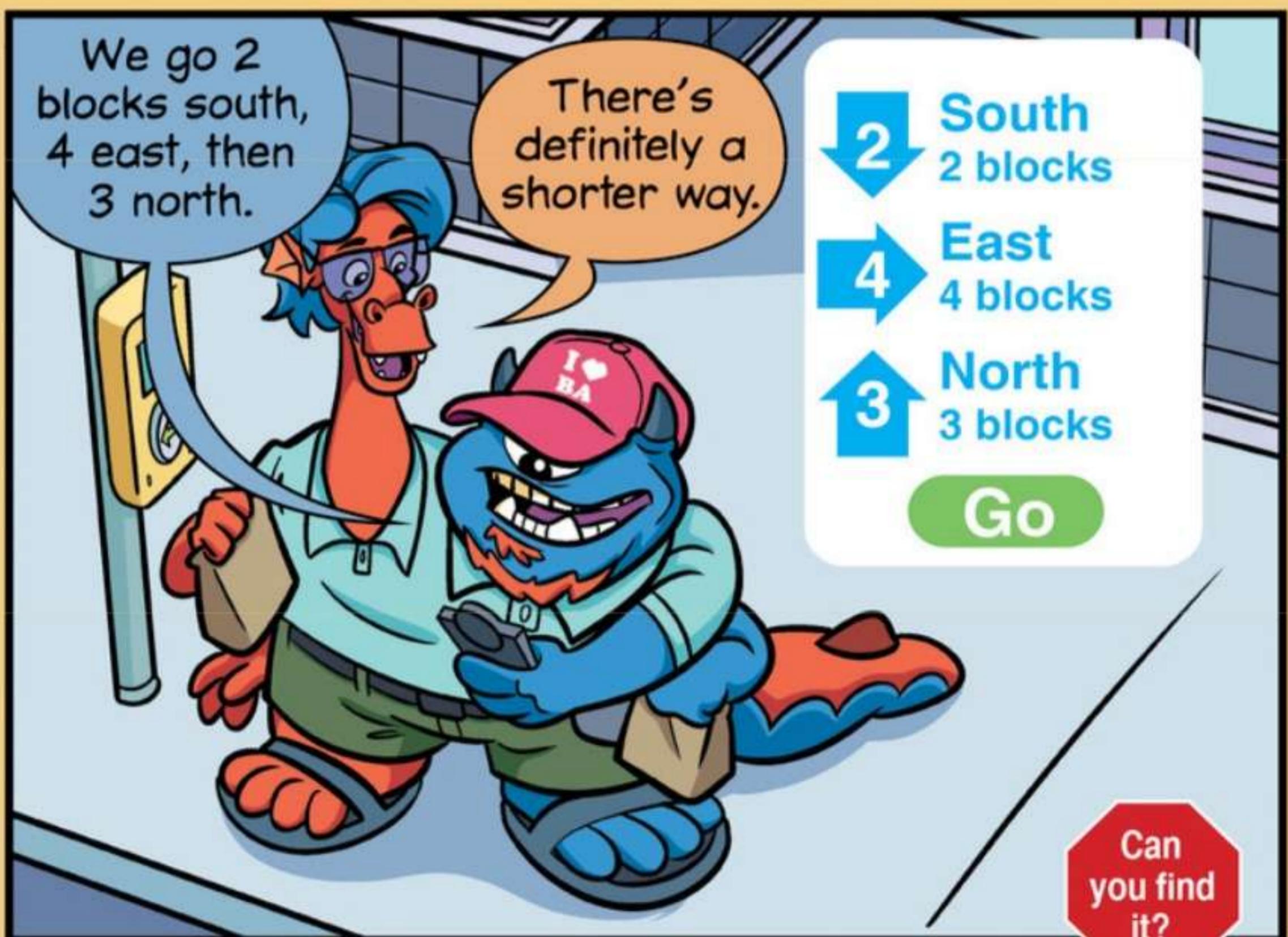
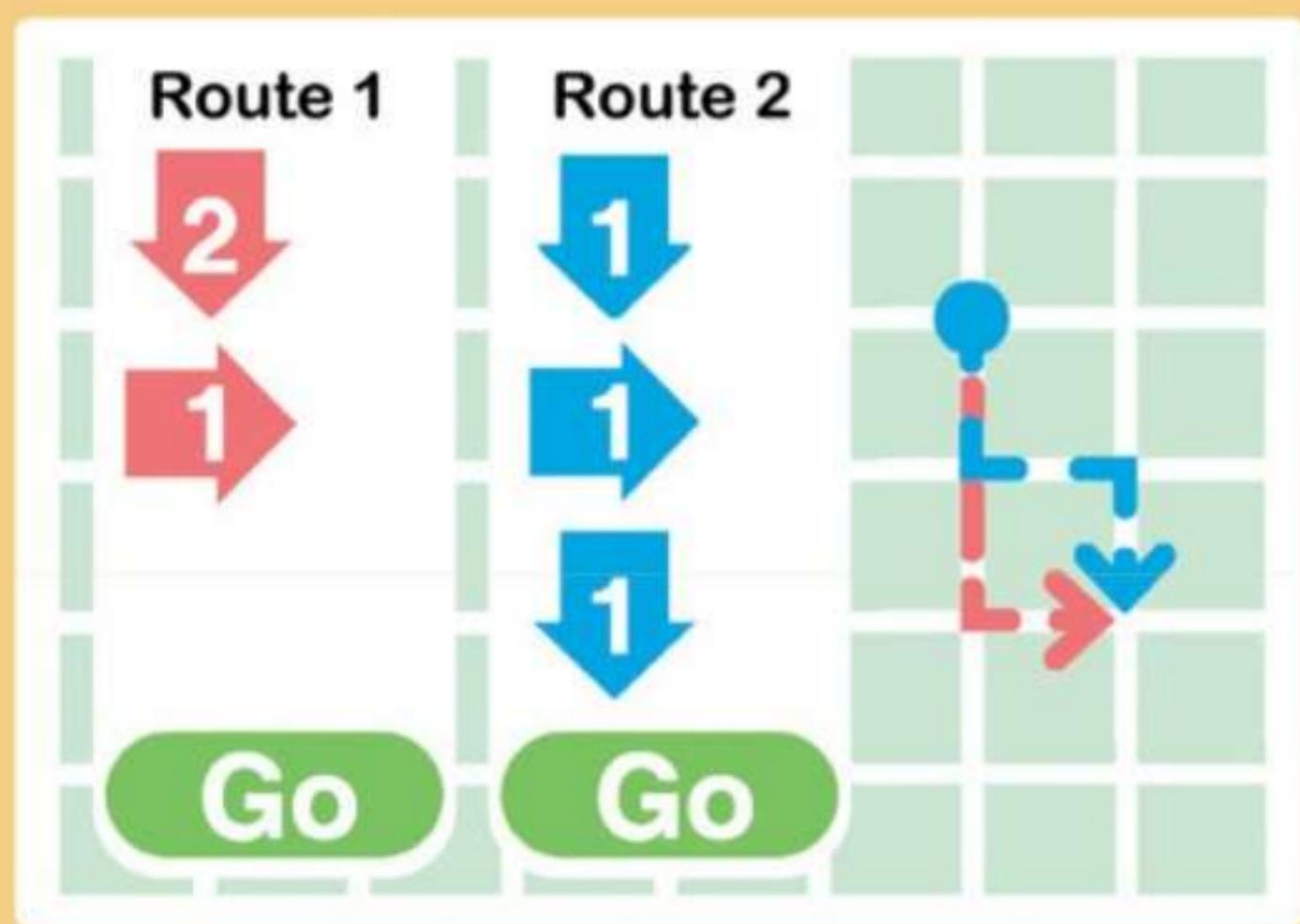
Choose a route  
5 min walk

Show on map

Go

Go

Will these go to the same place?

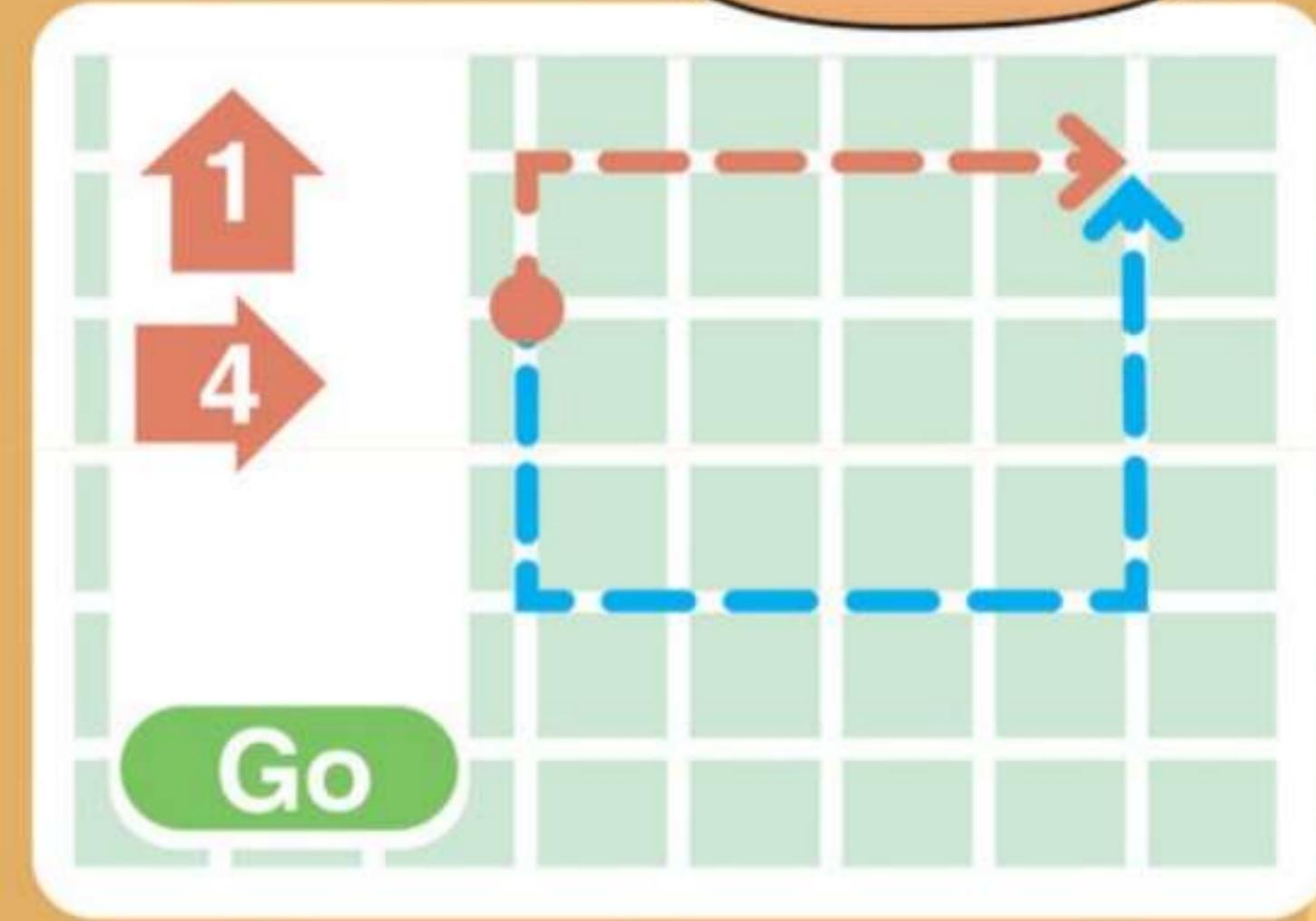
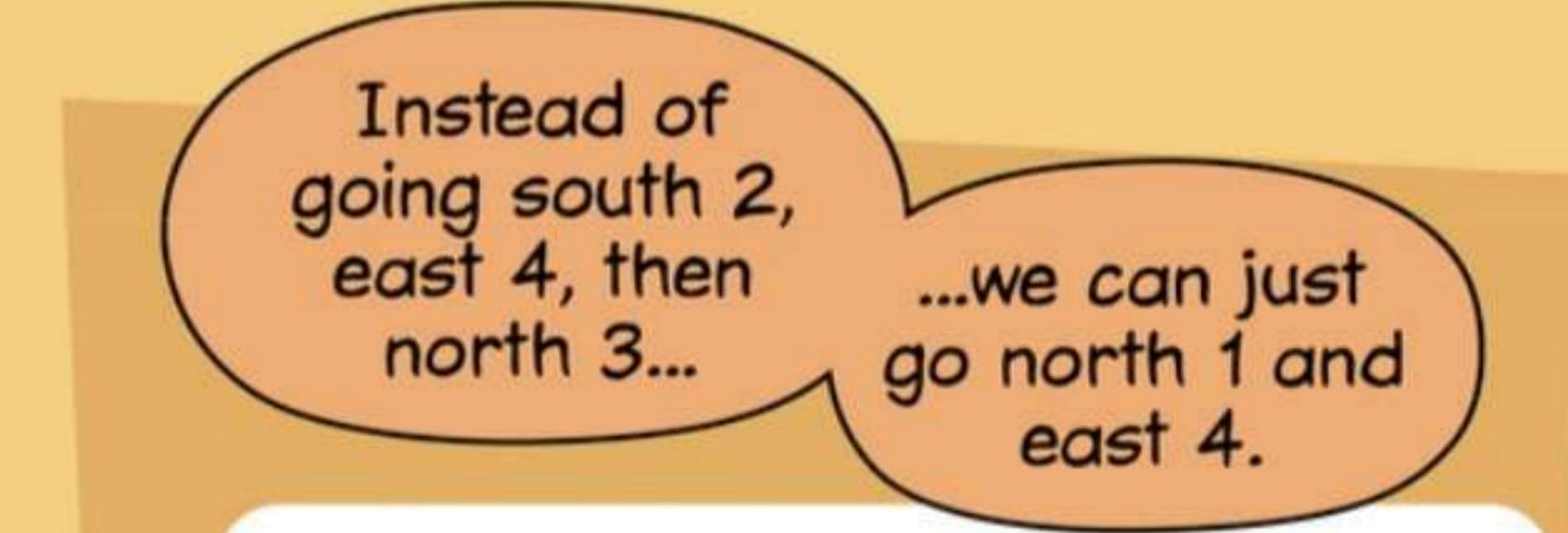
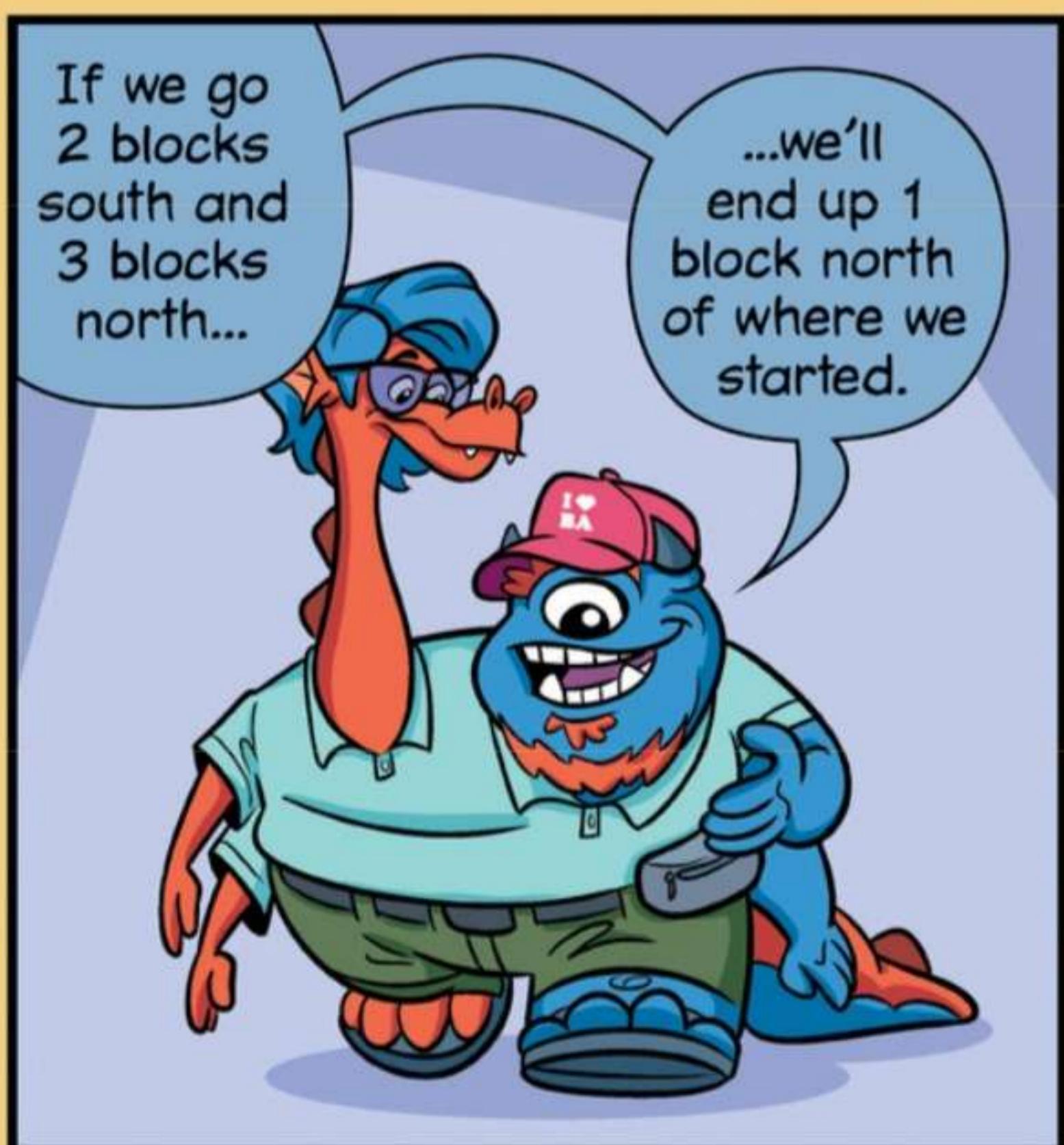


Can you find it?



- 2** South  
2 blocks
- 4** East  
4 blocks
- 3** North  
3 blocks

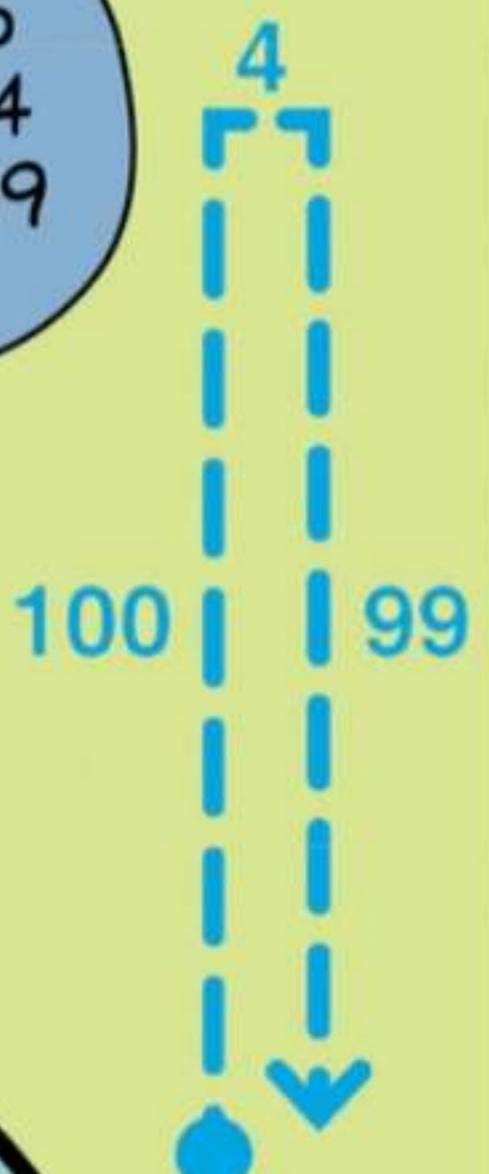
Go



Or, we could go east 4 then north 1.

Yep. Any route that takes us a total of 1 block north and 4 blocks east will get us there.

We could even go 100 blocks north, 4 blocks east, and 99 blocks south.



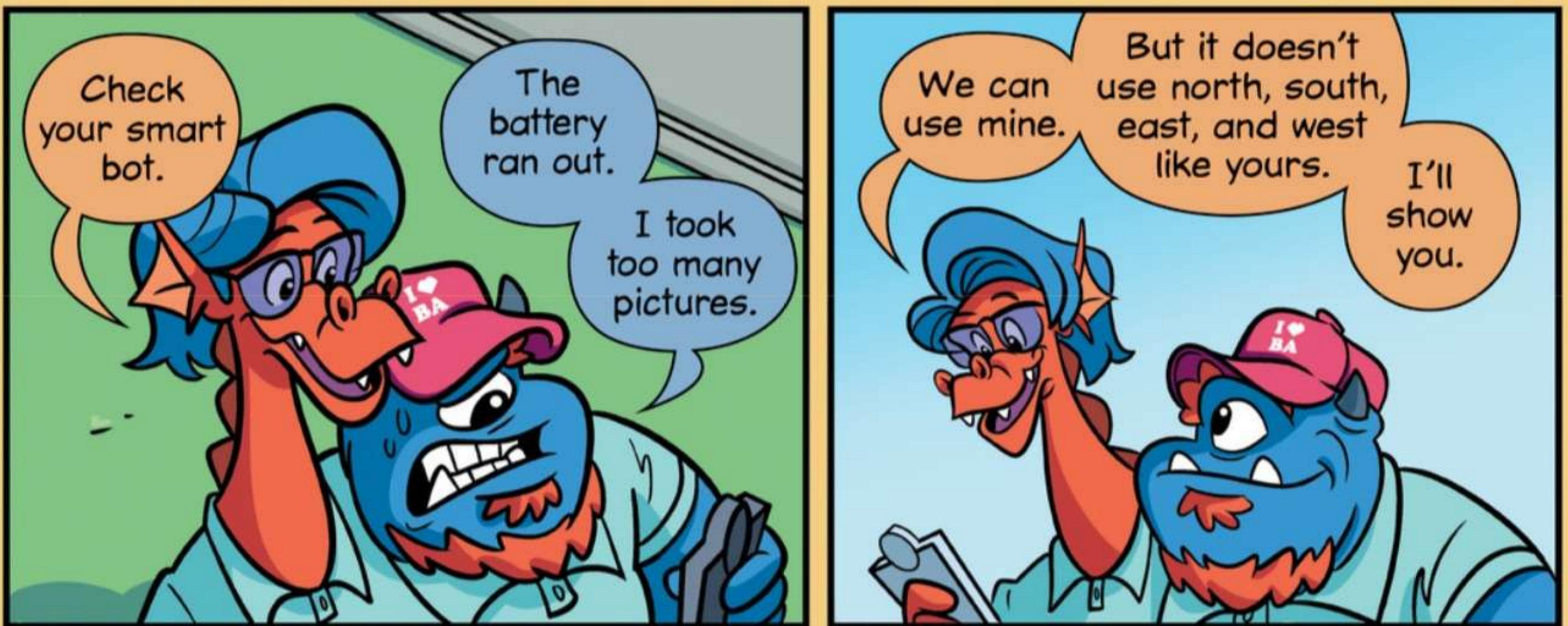
I guess so.

But I don't think these streets go that far.

Here it is!

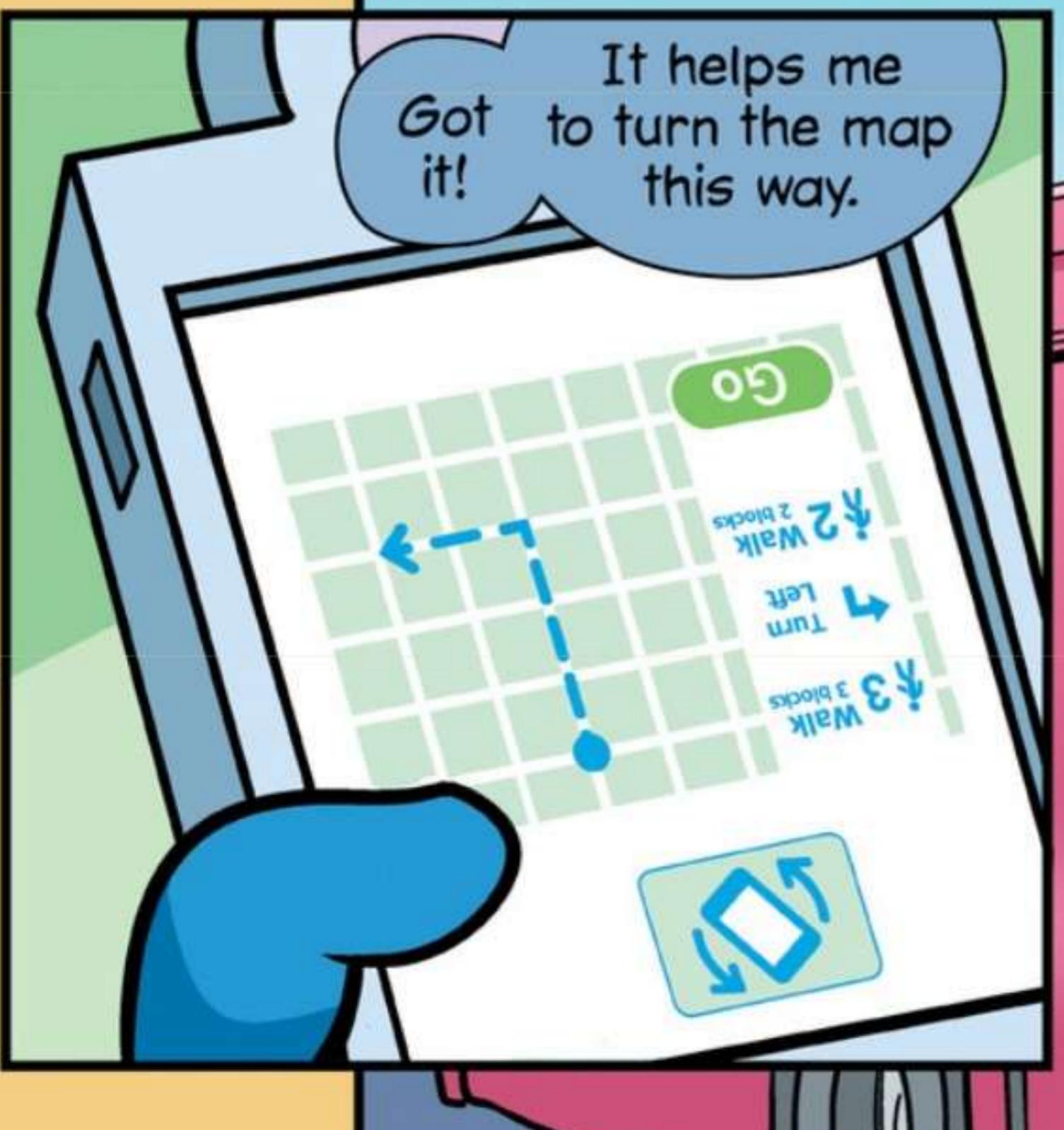
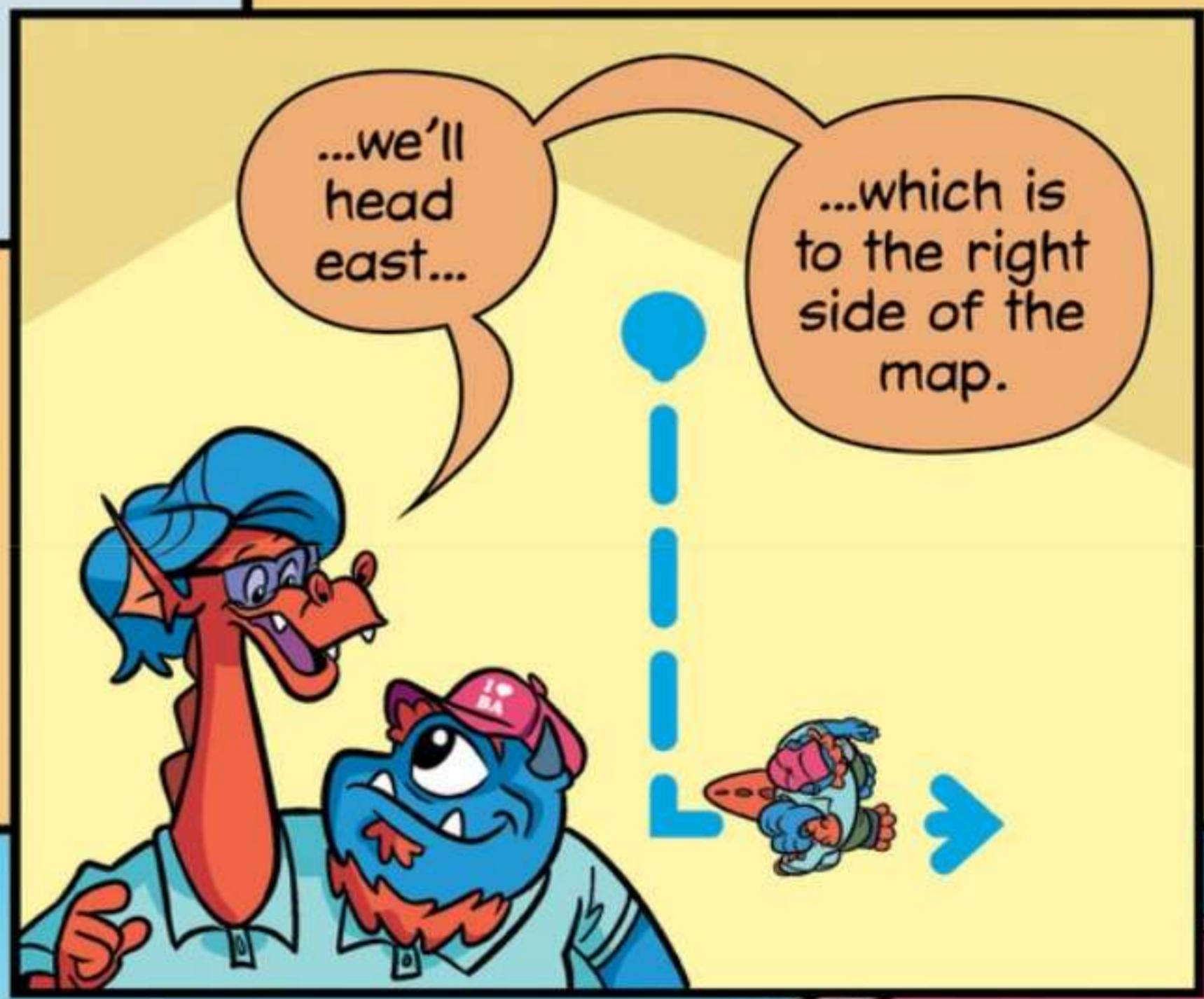
The Yeti Fountain!

The elefinches here will eat right out of your hands.





FACE A FRIEND. YOUR RIGHT IS THEIR LEFT!



# MATH CLUB

## ORDER

Sometimes,  
order matters.



### GERTRUDE LEVANS

For example,  
if you write the  
letters of my name,  
Gertrude Levans,  
in a different  
order...

...you can  
get some **very**  
interesting  
results.



GERTRUDE LEVANS  
ADVENTURER LEGS



GERTRUDE LEVANS  
GRAVEL DENTURES



GERTRUDE LEVANS  
STRUDEL AVENGER

WORDS THAT USE THE SAME LETTERS BUT IN A DIFFERENT ORDER ARE CALLED ANAGRAMS.  
CAN YOU MAKE ANY FUN WORDS OR PHRASES FROM THE LETTERS IN YOUR NAME?

Order matters  
for lots of the  
things we do  
every day.

Like bagging  
groceries.

Heavy stuff  
goes in first, on  
the bottom.

Chips go  
in last.



Or using  
an electric  
toothbrush.

I learned  
that the  
hard way!



Other times,  
order doesn't  
matter.

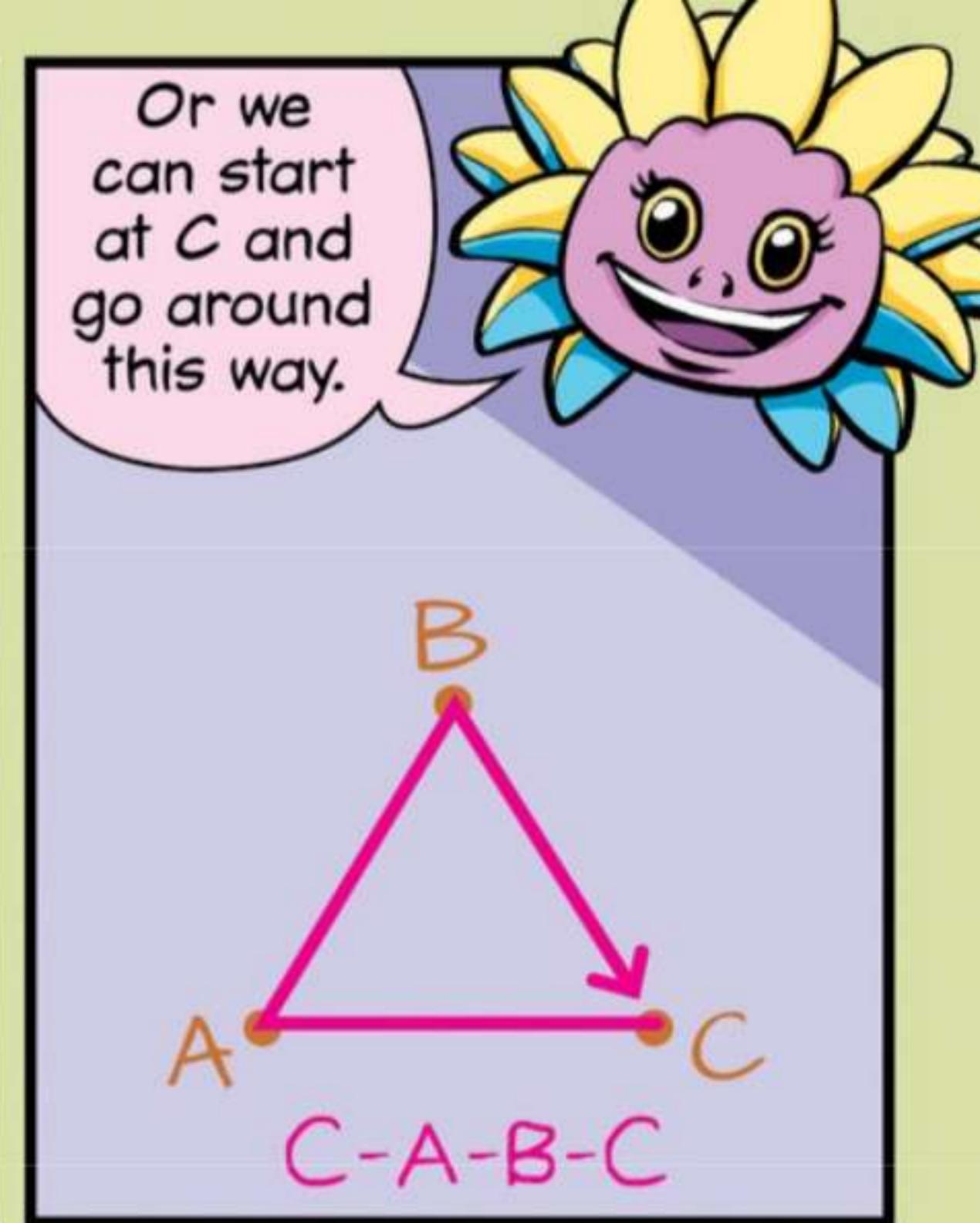
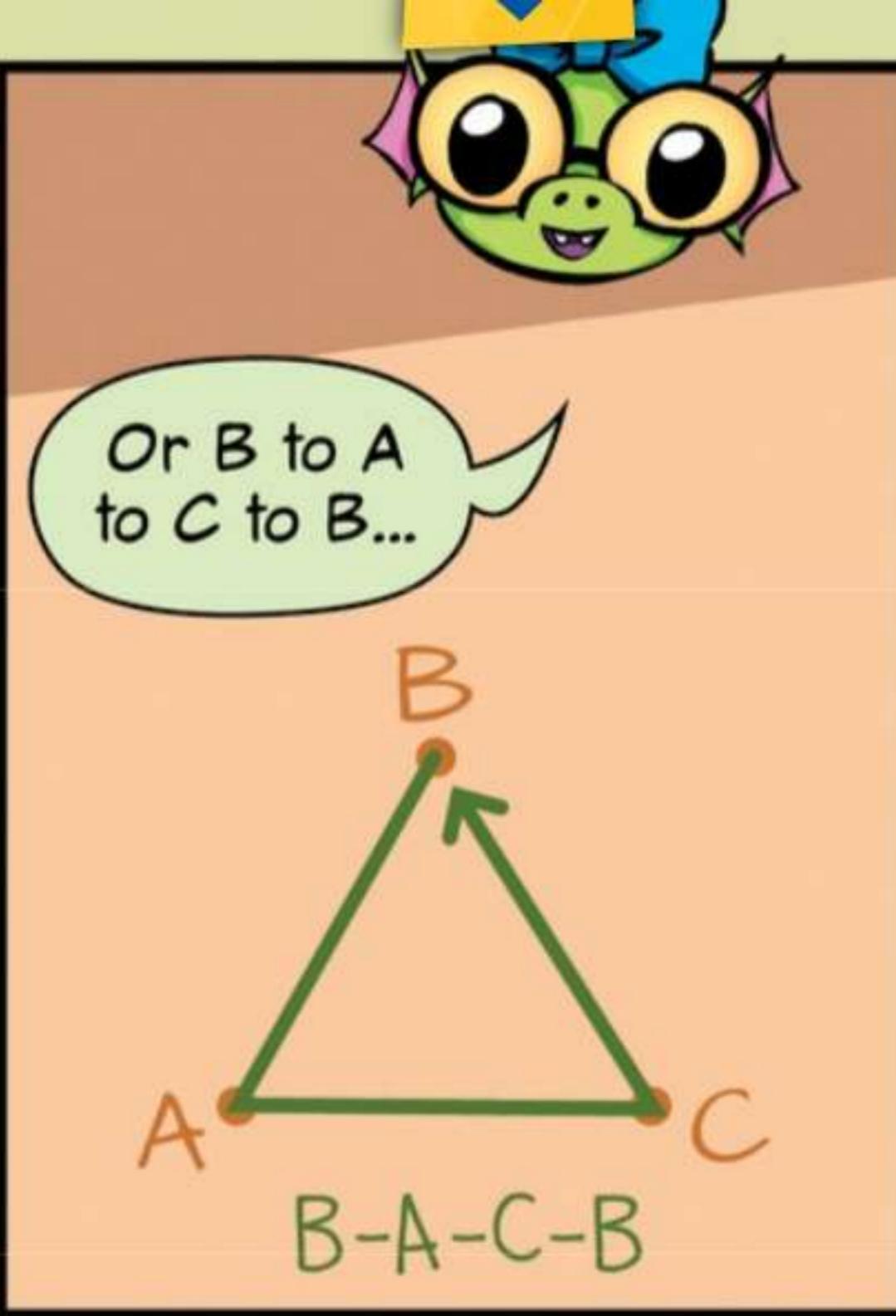
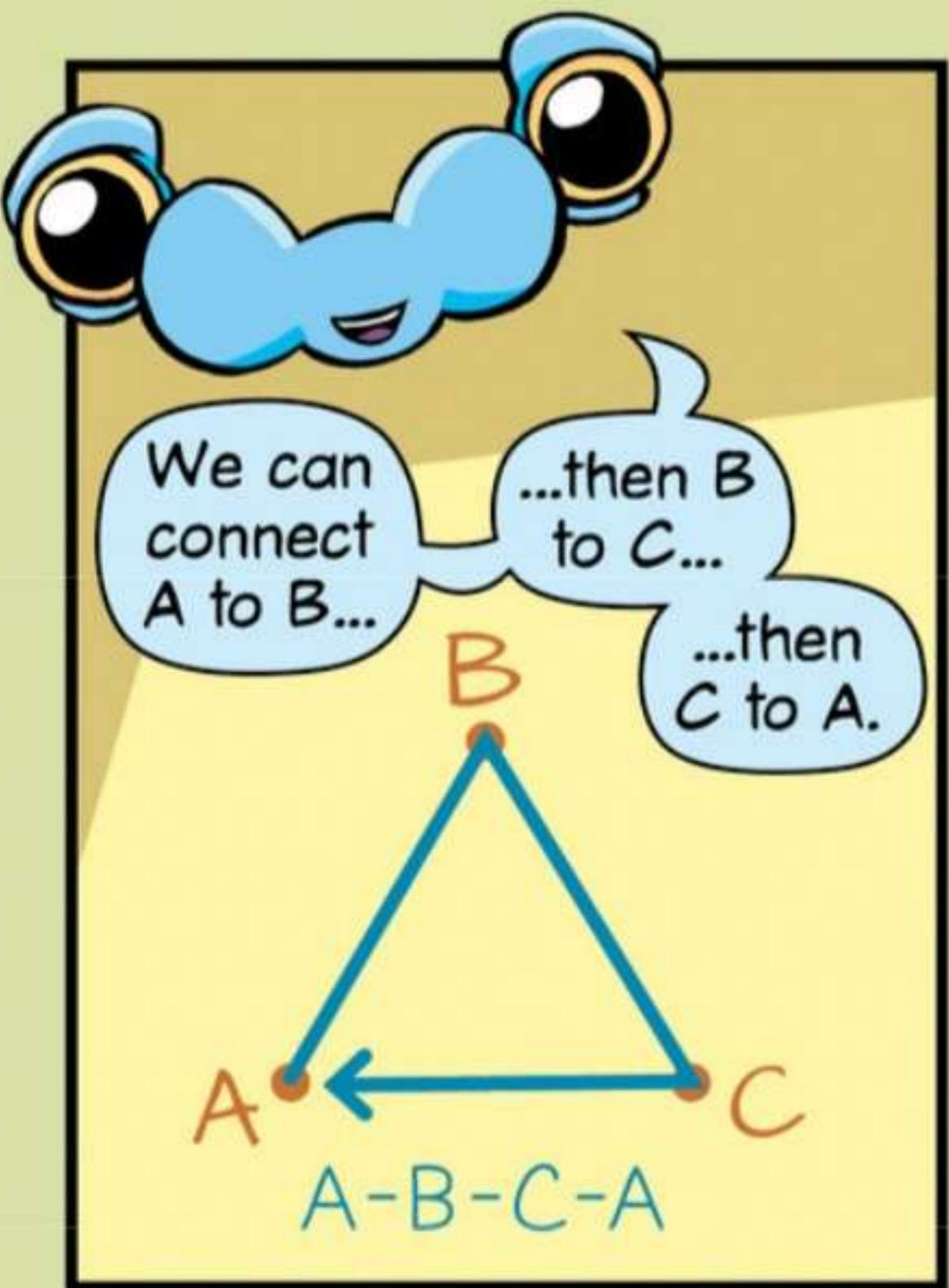
Let's  
try some  
examples.

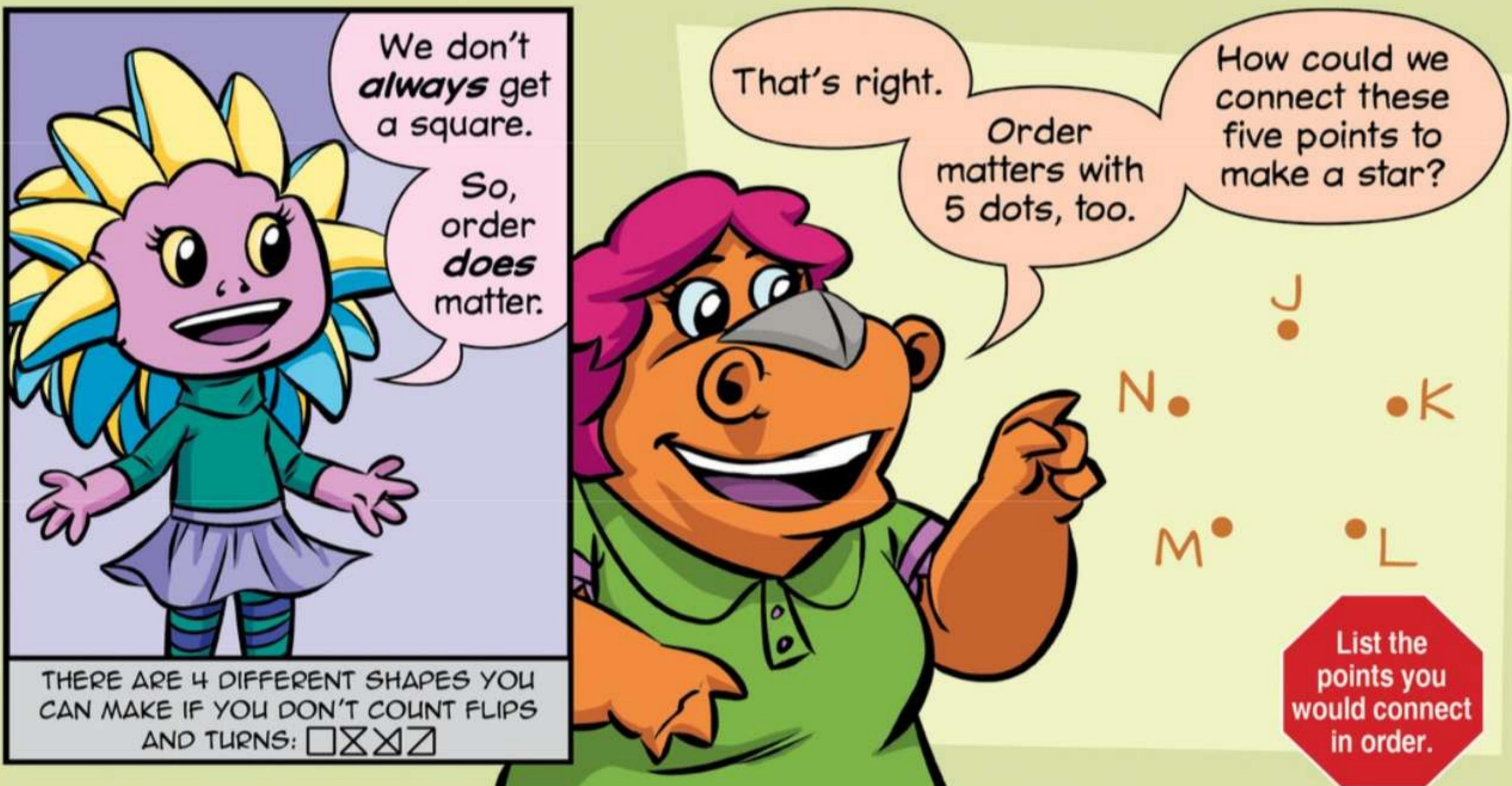
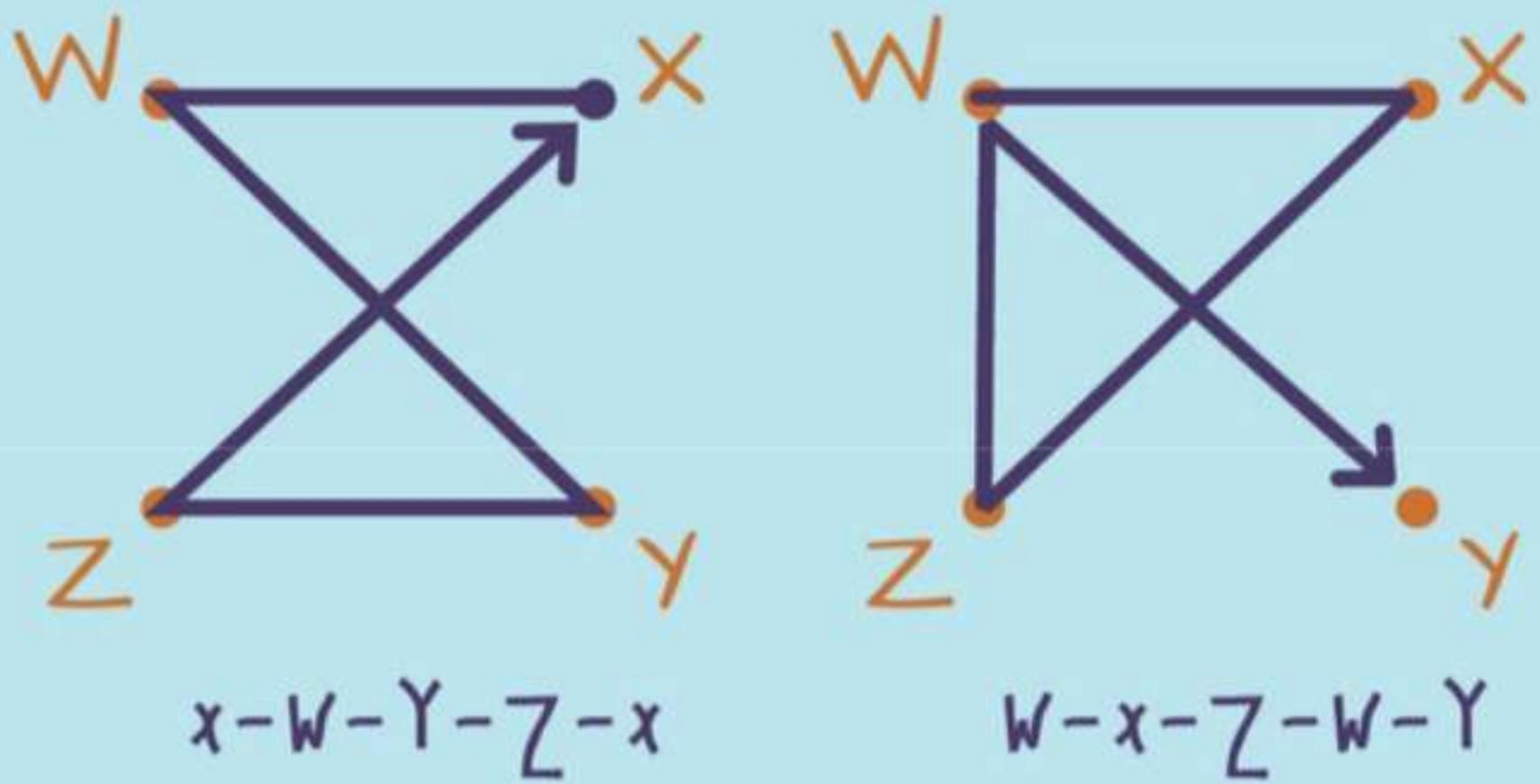
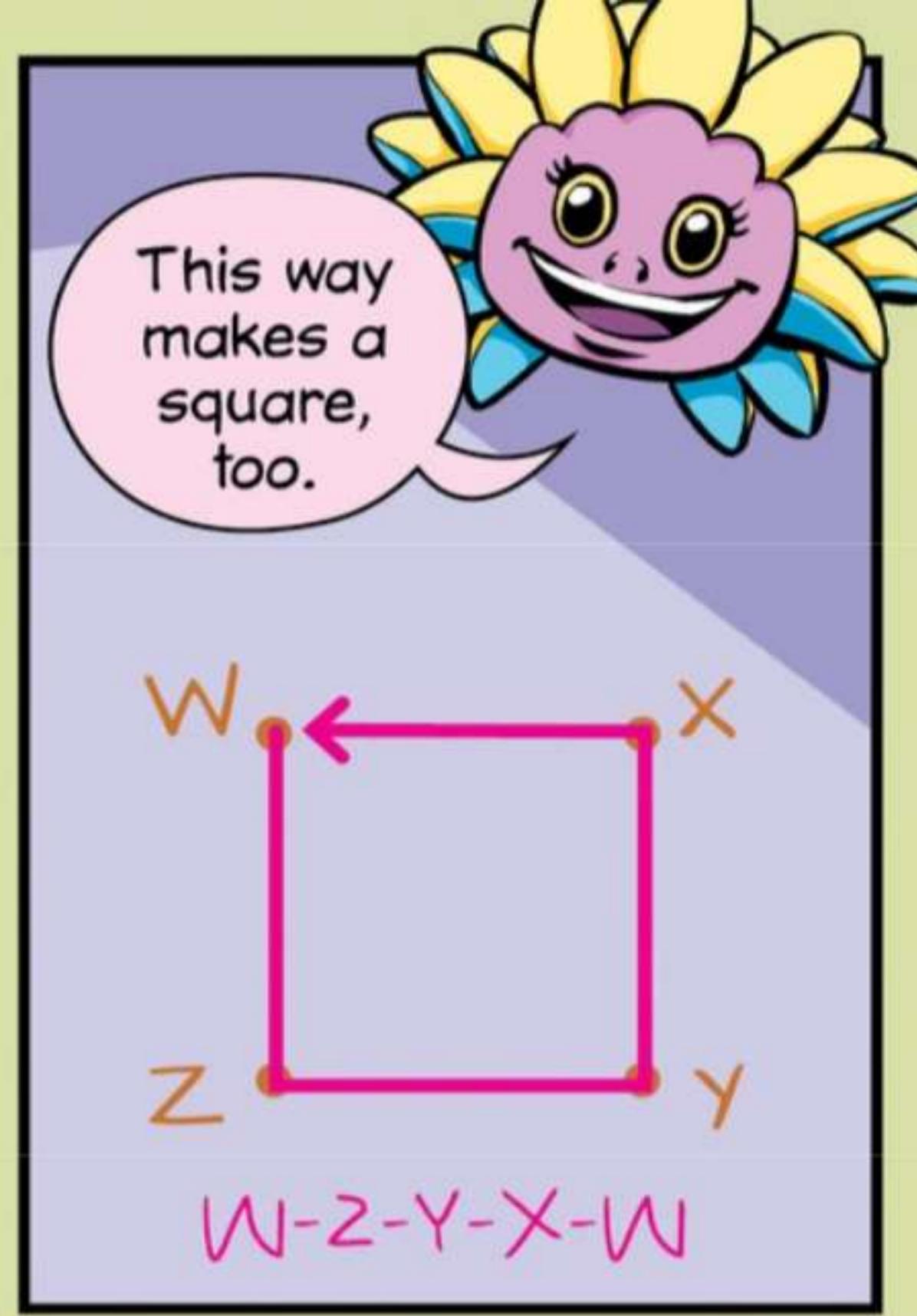
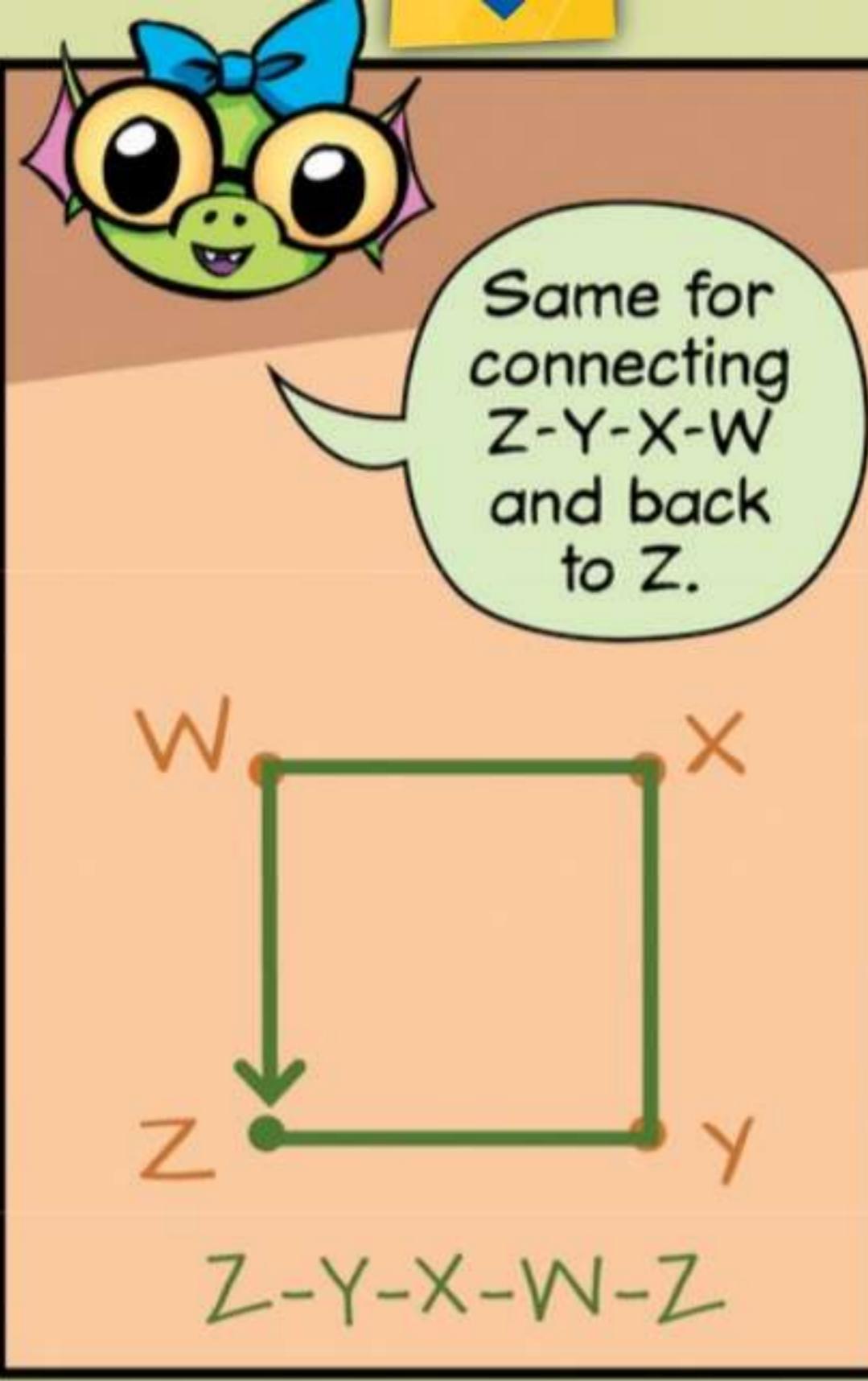
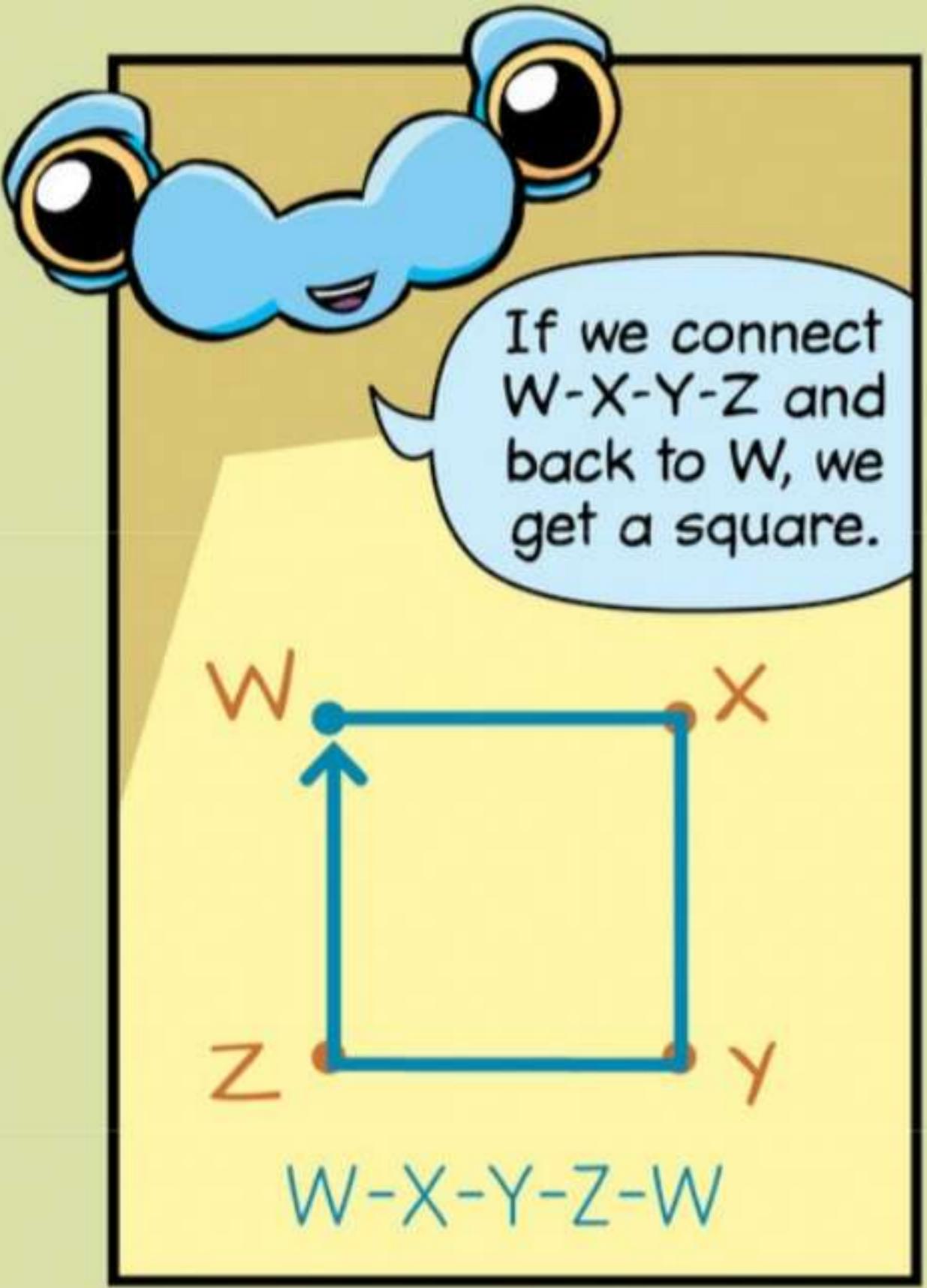
Connect **three**  
dots with **three**  
straight lines  
without lifting  
your pencil.

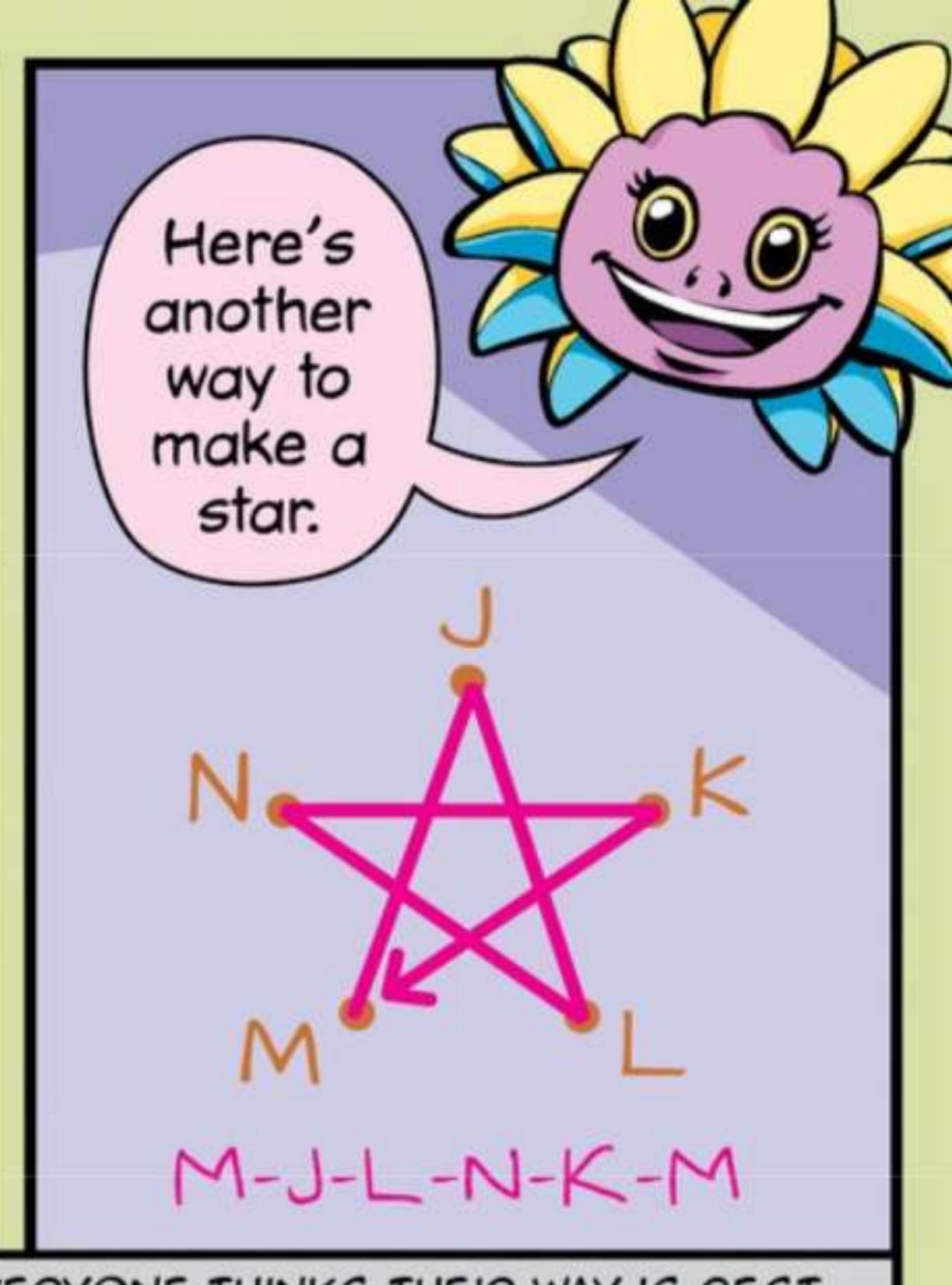
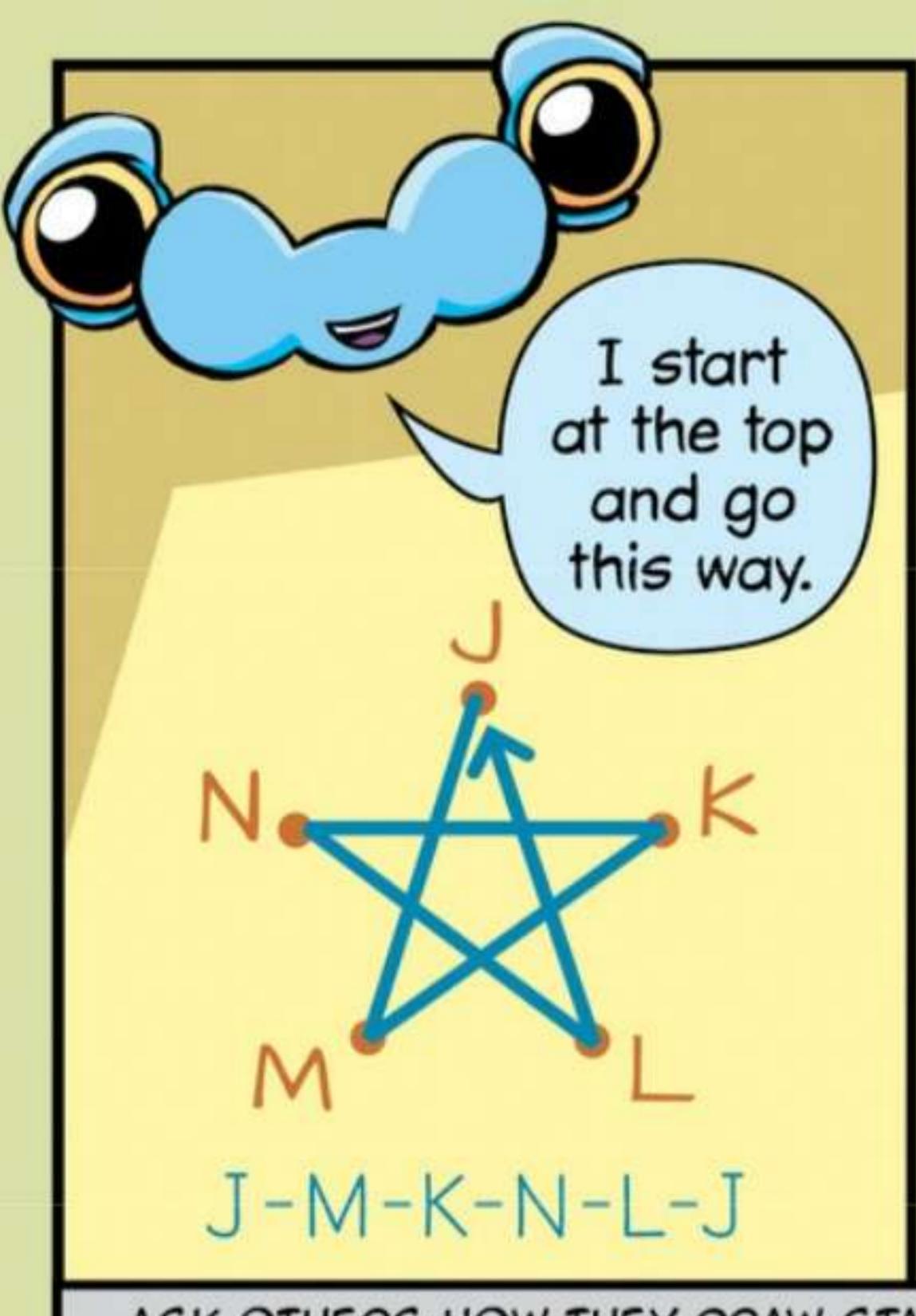
Does the order  
we use to connect  
the dots change the  
shape we make?

B  
A  
C









ASK OTHERS HOW THEY DRAW STARS. THERE ARE LOTS OF WAYS, AND EVERYONE THINKS THEIR WAY IS BEST.

