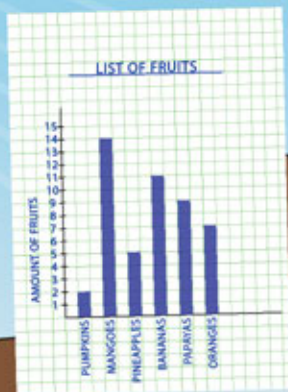


Animal Graphs

graphs



LIST OF ANIMALS

GIRAFFES	
MONKEYS	
RABBITS	
TORTOISES	
BIRDS	
ELEPHANTS	

Age
Umri
7+



One day Kibena came across Mzee Kigo in the forest.
He had harvested many different fruits.



He'd given away as many as he could to the villagers.
“But all the rest of them will rot,” he said,
pointing to a big pile of fruits left on the ground.



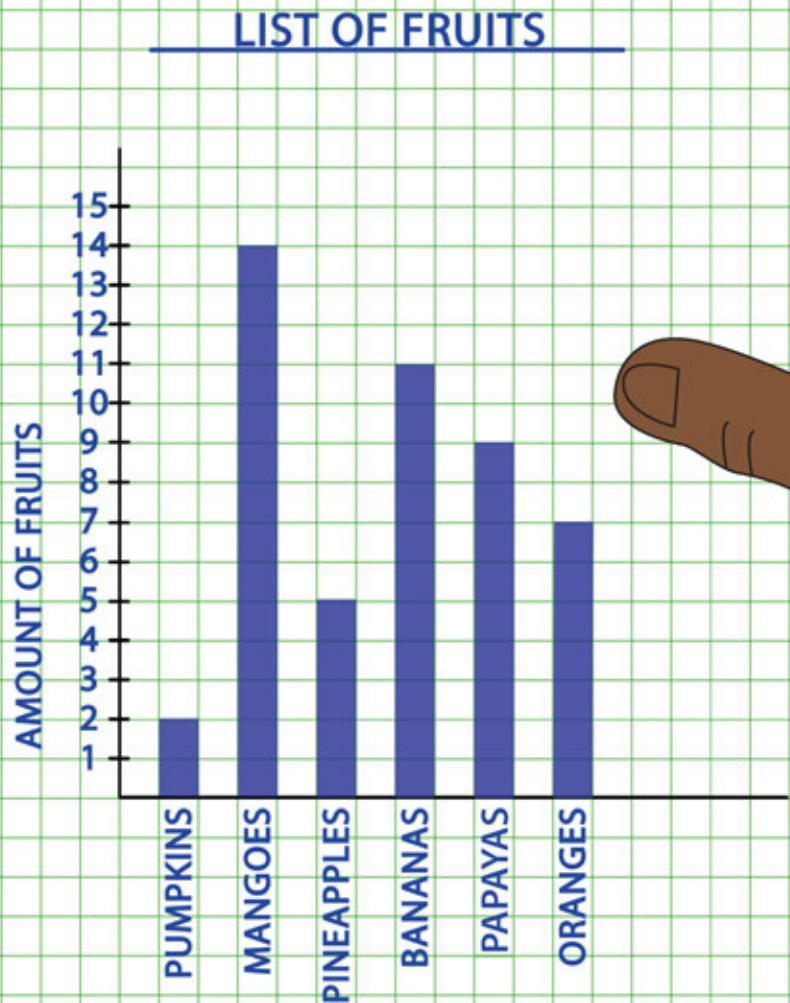
Kibena suggested he give them to the animals in the forest. “What a great idea!” said Mzee Kigo.



“But I want to make sure there’s enough for all. I don’t want the animals to fight over them!”
said Mzee Kigo.



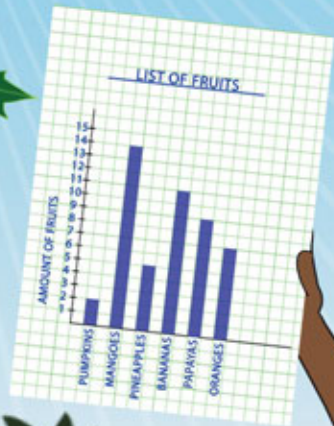
He had already counted the fruits and made a bar graph, showing the amount of fruits by type.



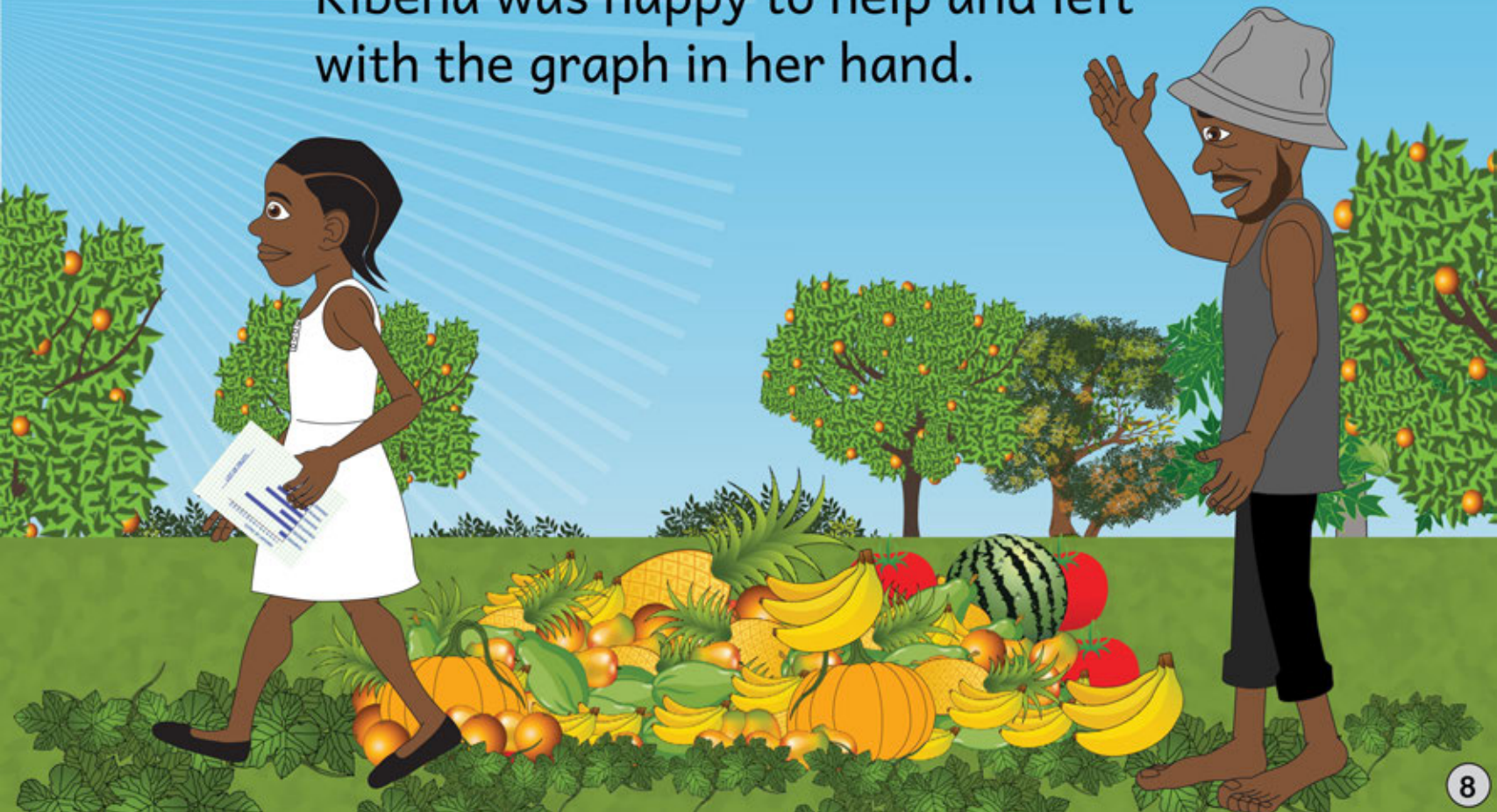
He gave the graph to Kibena and sent her to count the animals.



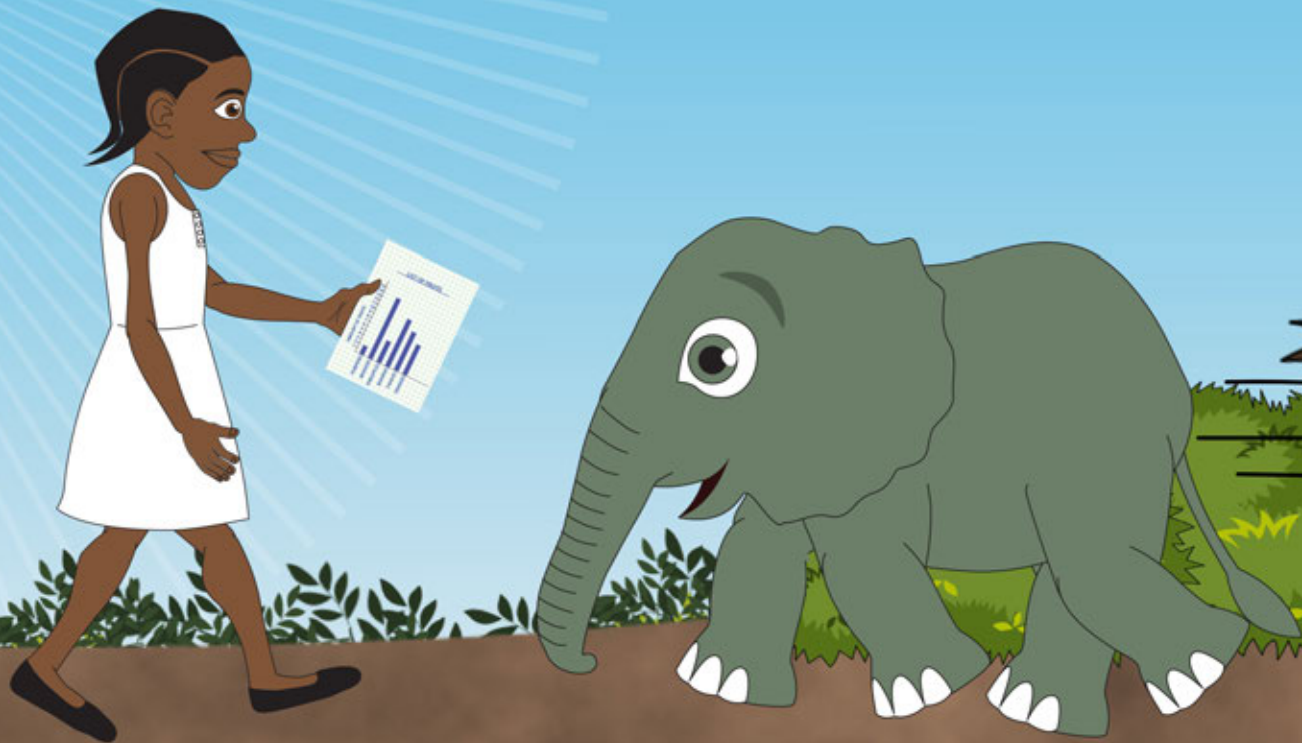
He told her to count them by type, so he could match them up with the different kinds of fruit!



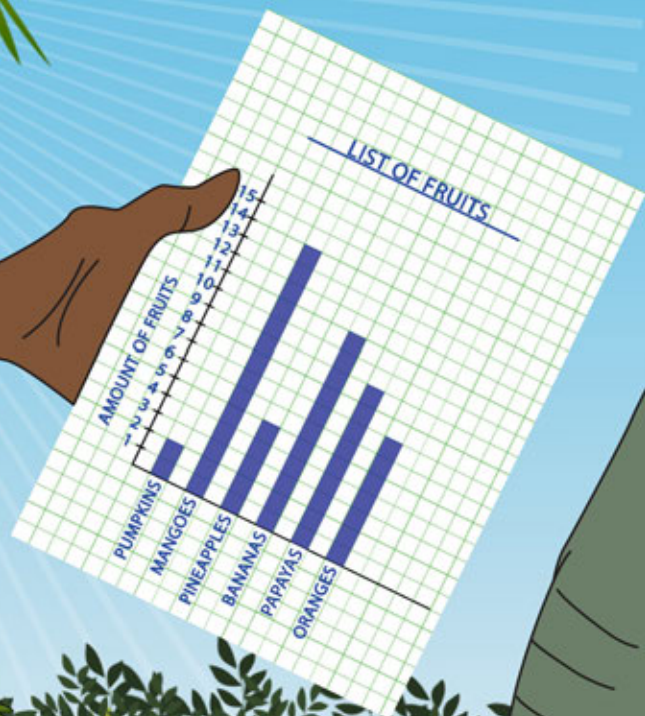
Kibena was happy to help and left with the graph in her hand.



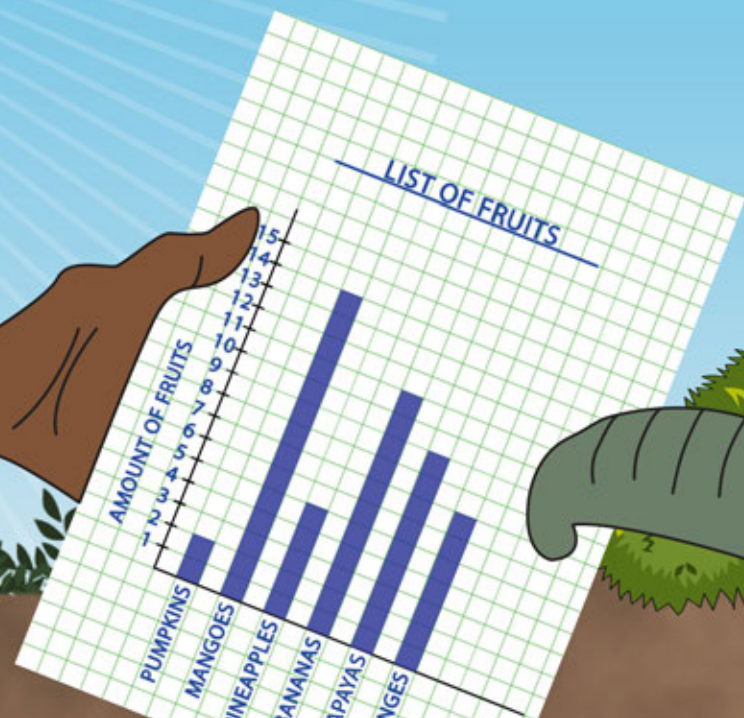
She called Tiny Tembo
who came at once, eager to help.



“What’s in your hand?” he asked Kibena.



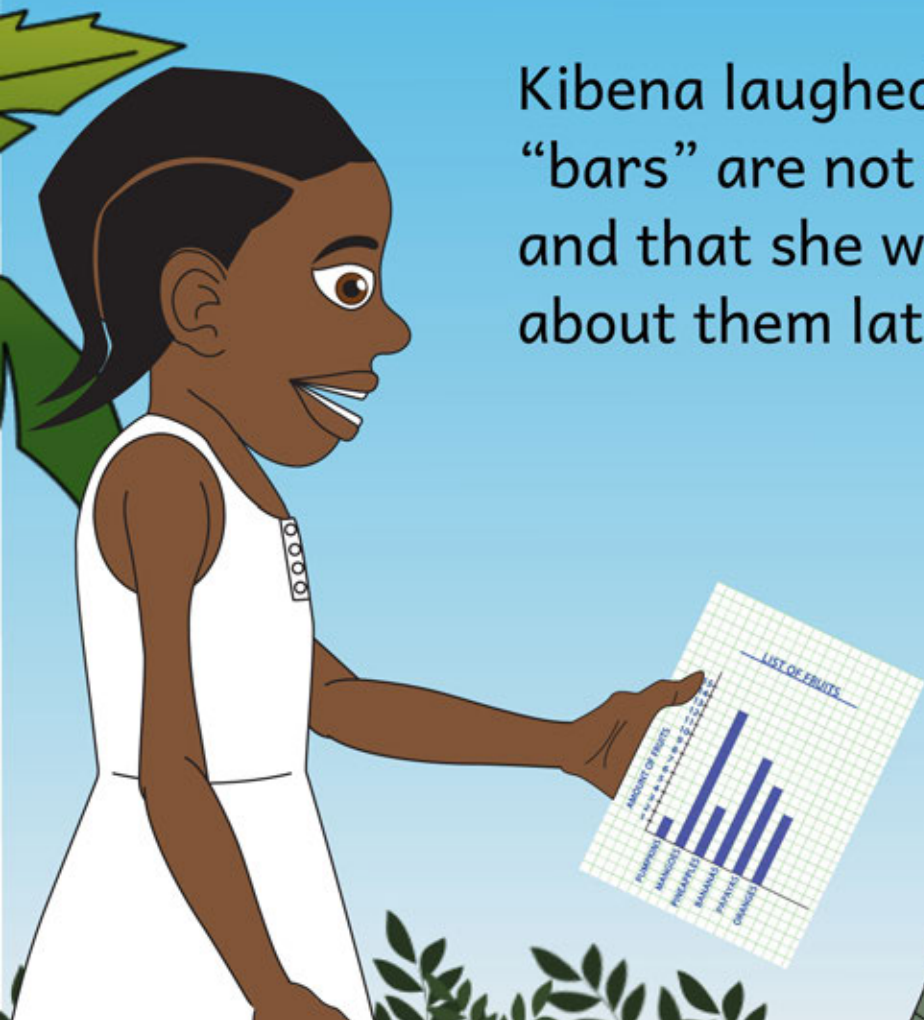
She replied, “It’s Mzee Kigo’s graph. The bars tell you how many fruits he has to give away, broken down by type.”



Tiny Tembo had never heard of “bars” before!
He thought they were a fruit similar to sugar cane!



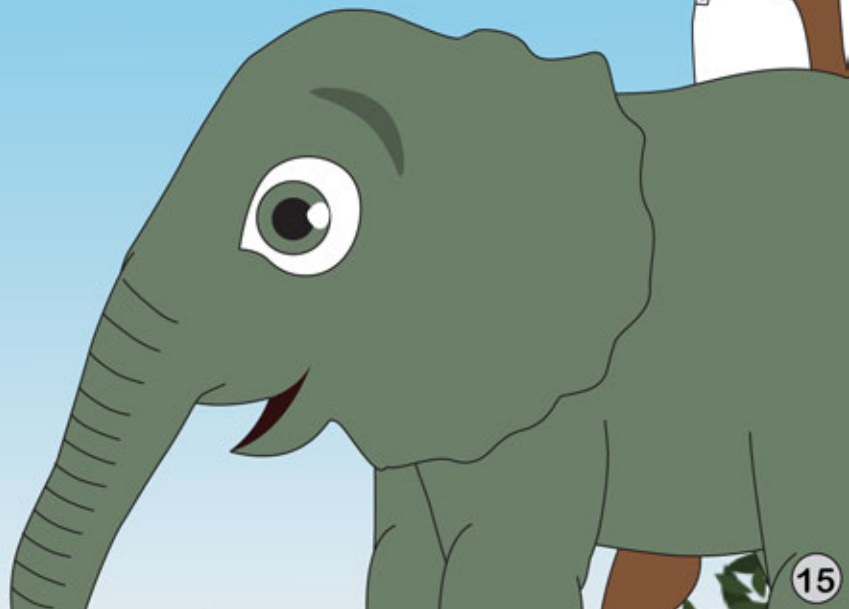
Kibena laughed and said that “bars” are not fruits at all, and that she would explain about them later.



She asked Tiny Tembo to blow
his trunk to call the animals.
At once Tiny Tembo blew loudly.

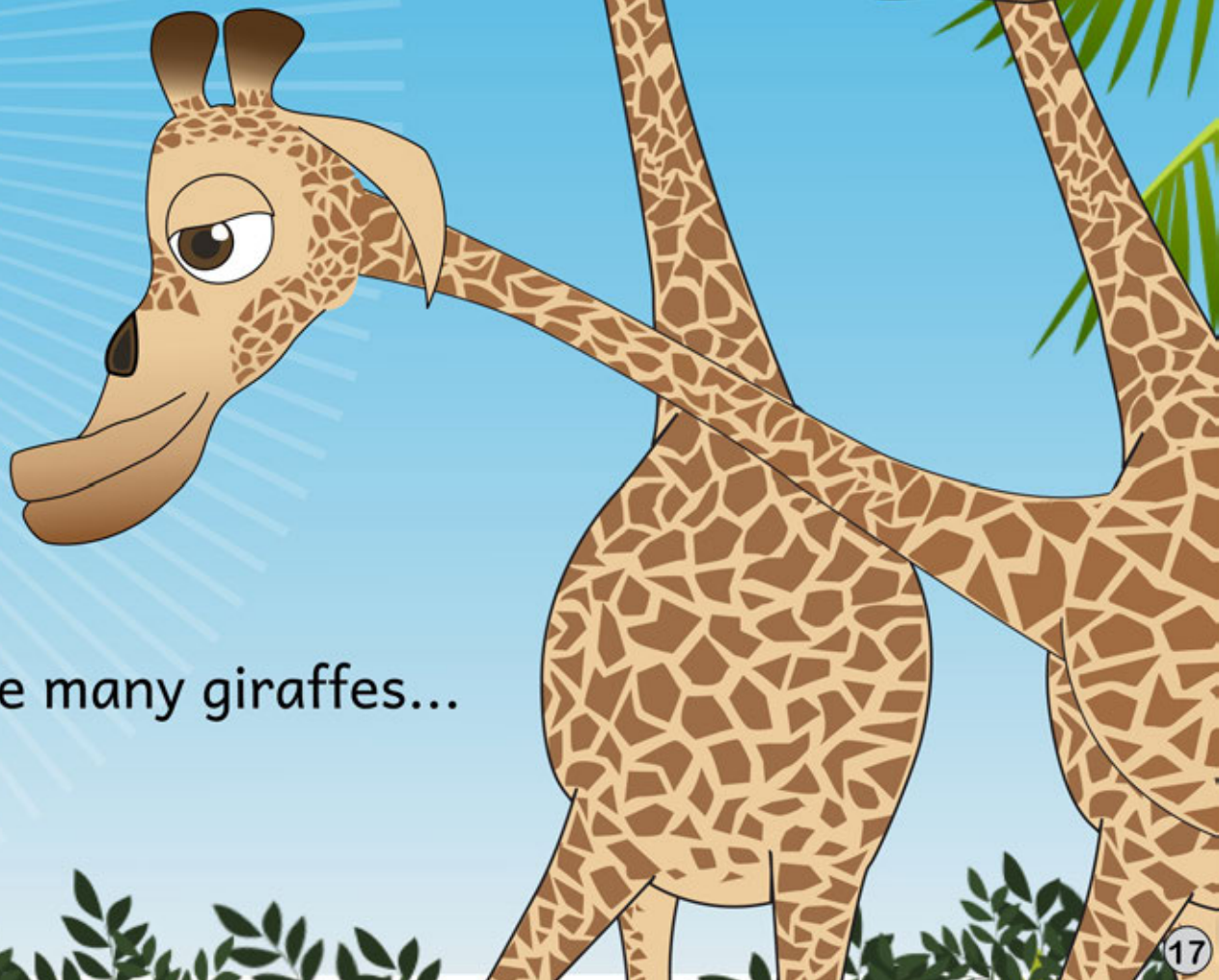


In a flash, Mama Ndege and many birds swooped down. Tiny Tembo teased her, “I was calling for animals, not for birds!”



Mama Ndege was
annoyed and said,
“Birds are animals too!”





Next came many giraffes...

...followed by monkeys and rabbits.



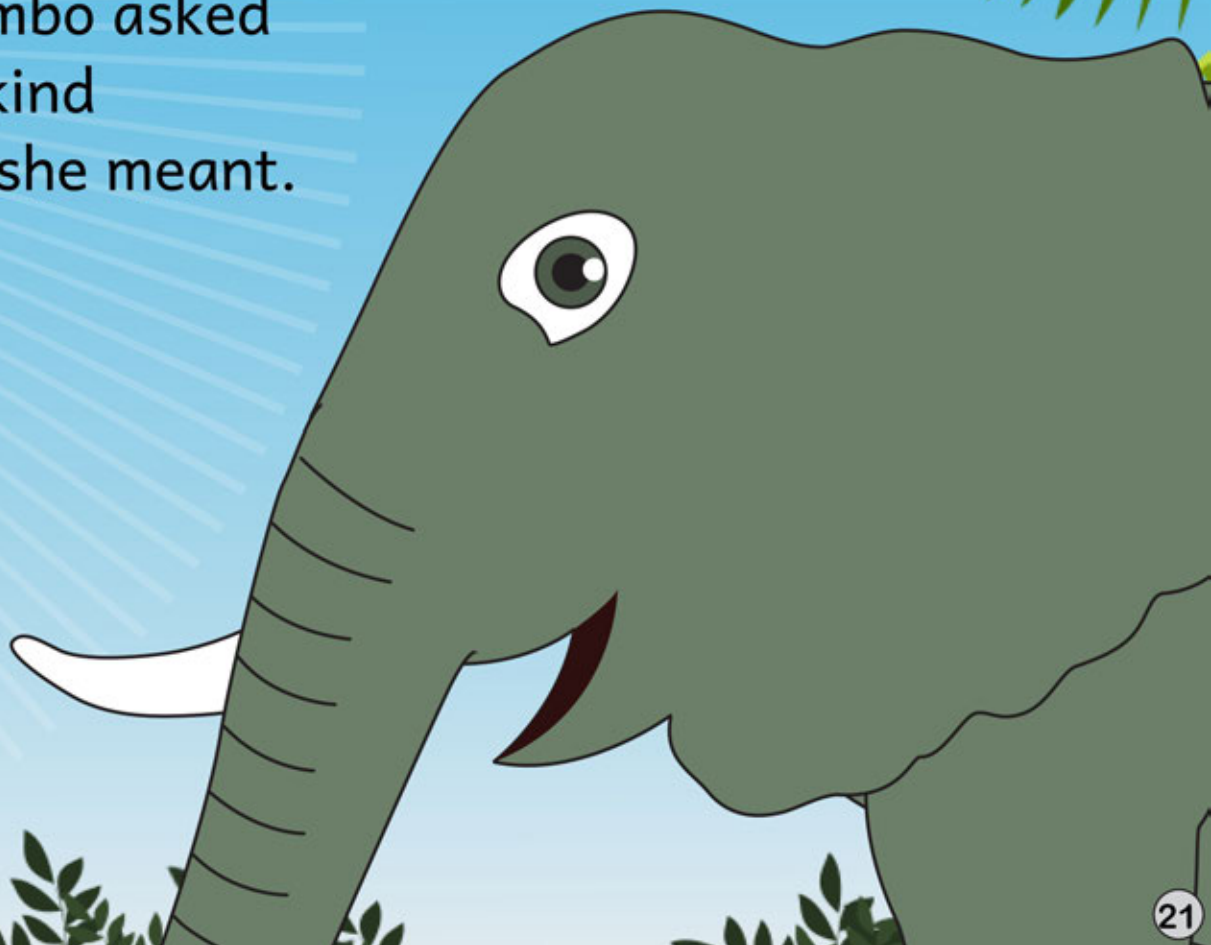
Kibena told them that Mzee Kigo had fruits for them, but he needed a head count of the animals first.




She told them to gather into groups
and stand in a line for easy counting.



Senior Tembo asked
her what kind
of groups she meant.



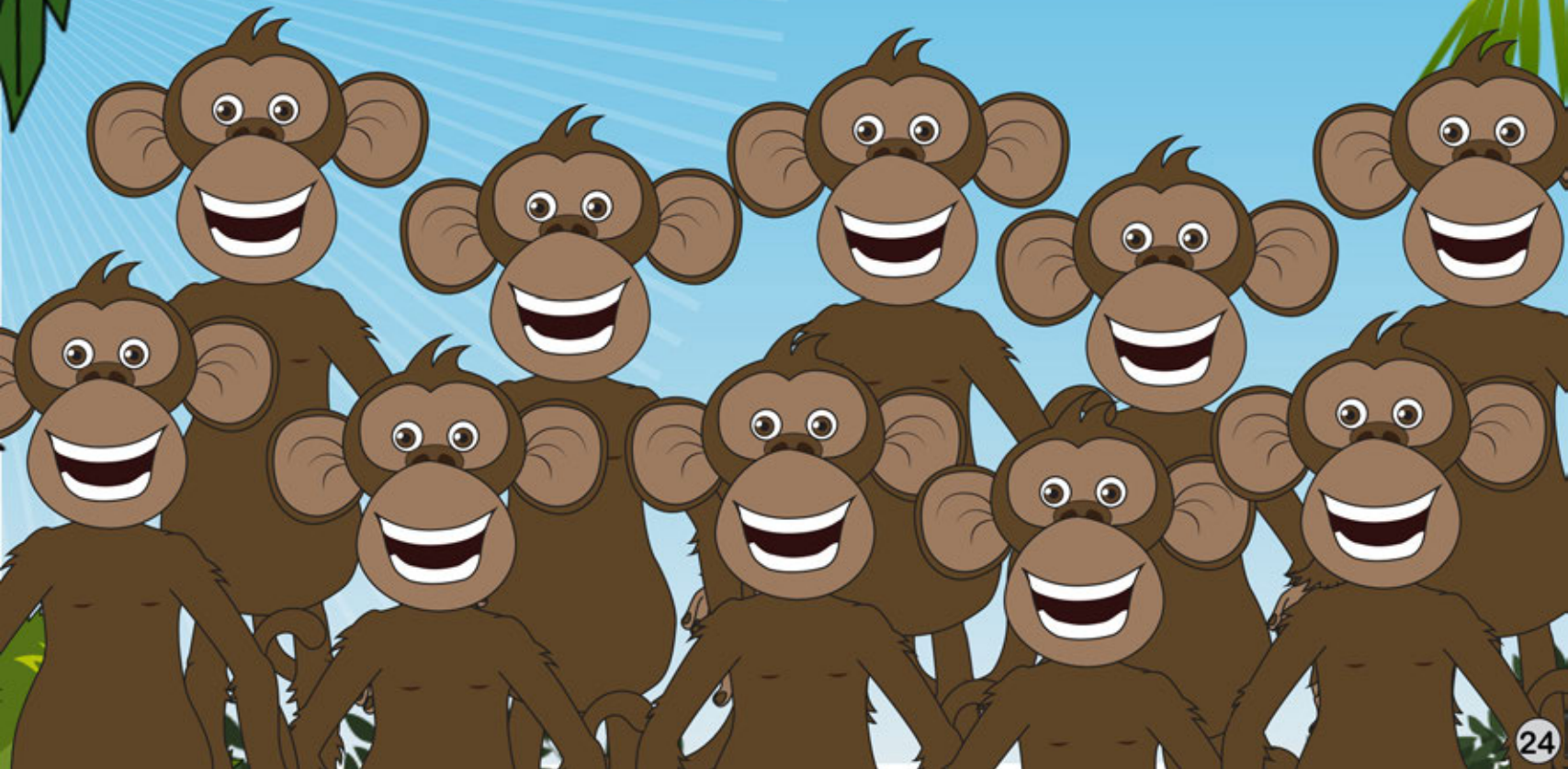


Kibena replied, "Group yourselves
by species of animal.
Put monkeys together,
birds together...and so on."

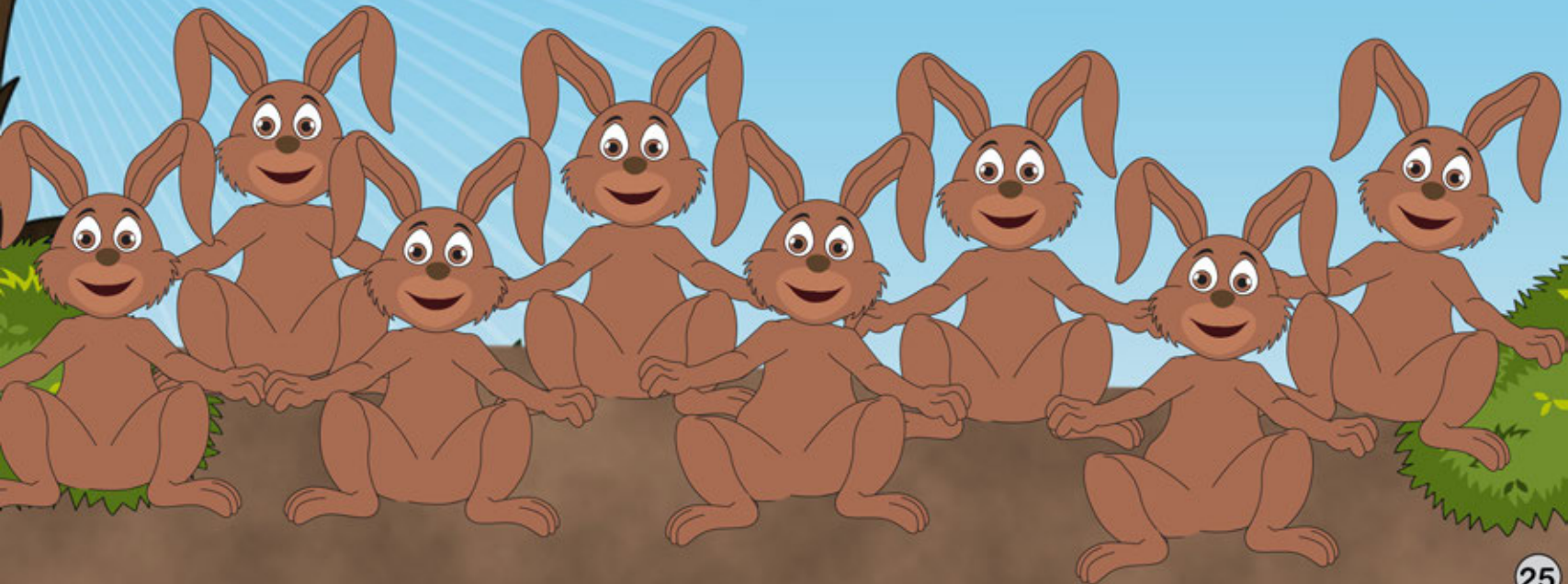
She counted seven giraffes,






ten monkeys,



and eight rabbits.



She drew pictures of them on a piece of paper.

<u>LIST OF ANIMALS</u>	
GIRAFFES	
MONKEYS	
RABBITS	
TORTOISES	

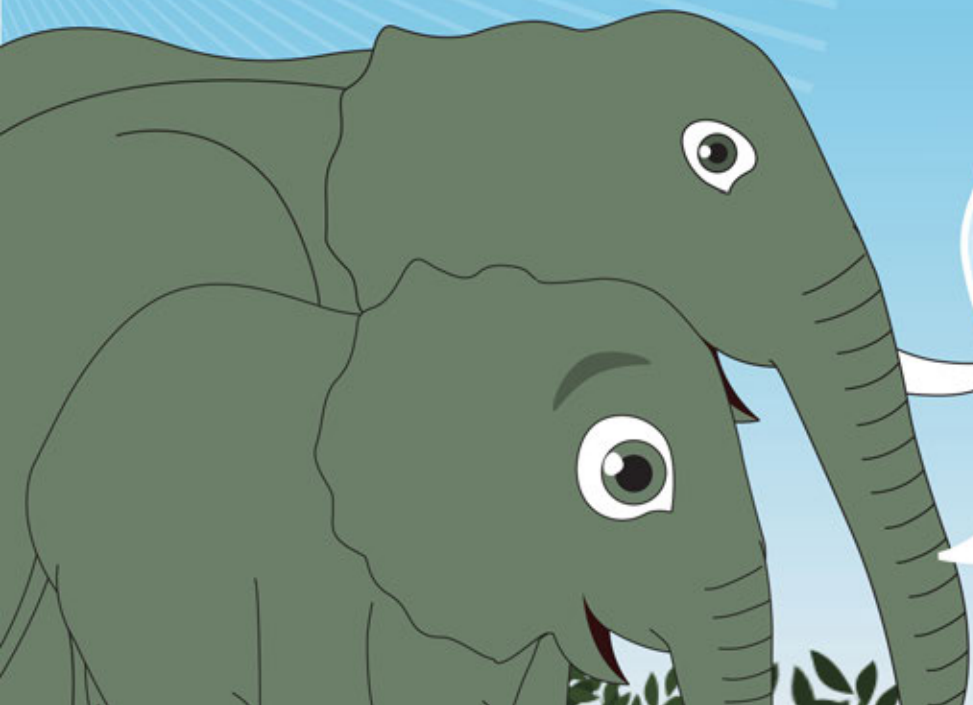


Finally a group of tortoises arrived. Kaka Kobe told her that there were many more to come, but they were rather slow.




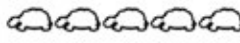

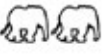
Then Mama Ndege said,
“We are twelve birds.
We’d like mangoes
and not pumpkins please!”



“We’ll take all the pumpkins,” said Tiny Tembo.
“There are only two of us. The other elephants
won't come close to humans.”




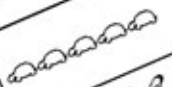
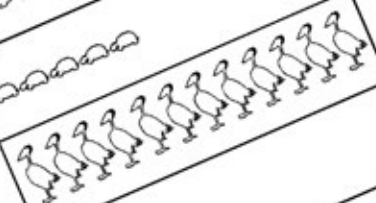



LIST OF ANIMALS

GIRAFFES	
MONKEYS	
RABBITS	
TORTOISES	
BIRDS	
ELEPHANTS	

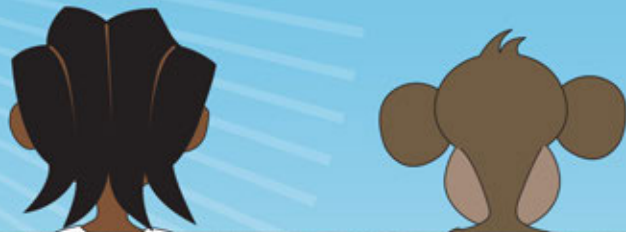
Kibena finished her graph and asked everyone to make sure she had counted correctly.

Uncle T looked at it and said it looked right.

<u>LIST OF ANIMALS</u>	
GIRAFFES	
MONKEYS	
RABBITS	
TORTOISES	
BIRDS	
ELEPHANTS	



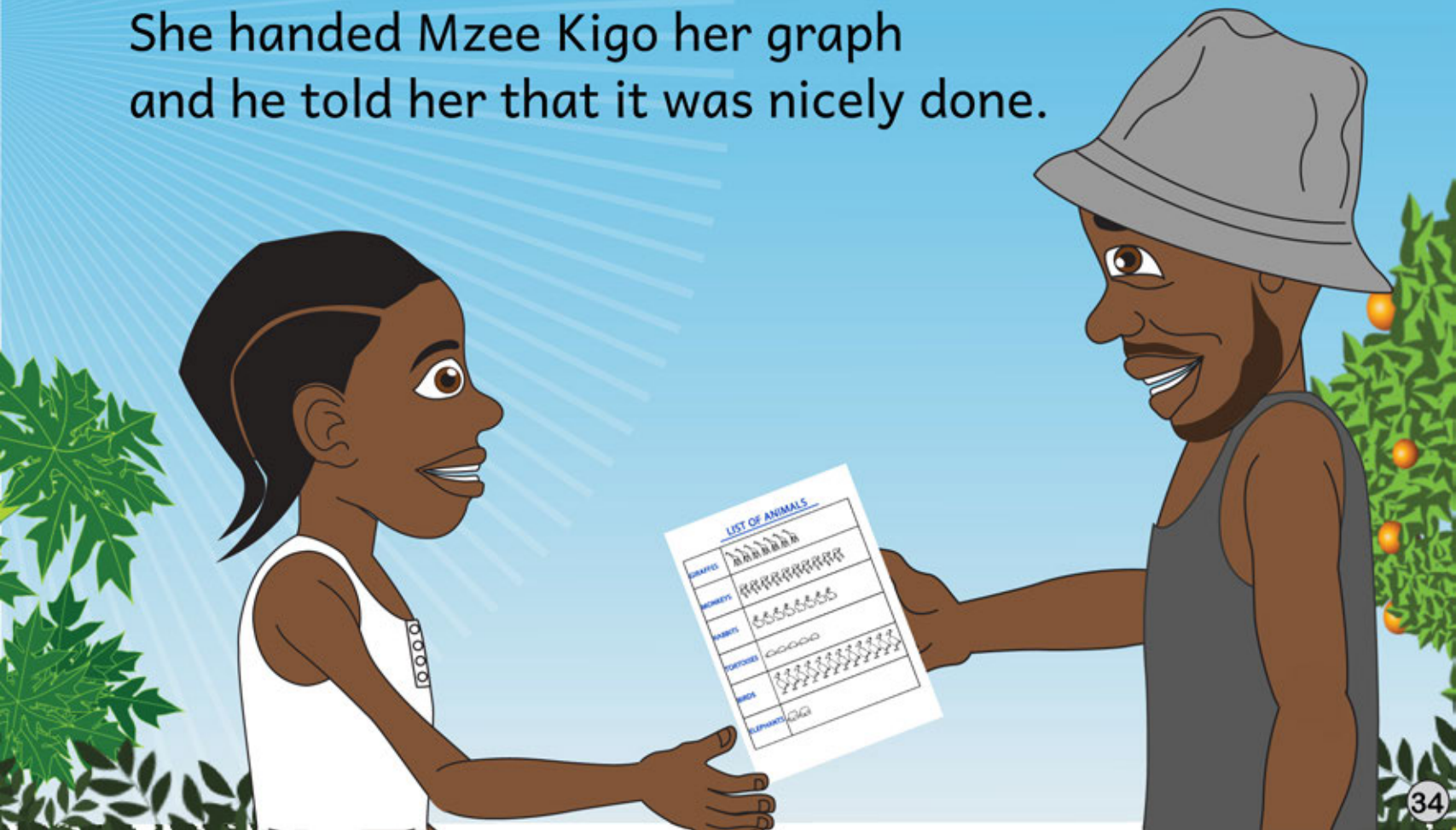
Kibena then hopped into
Ngedere's truck to go pick up the fruits.



When Kibena arrived back to see Mzee Kigo, her friends were waiting to help load the fruits.


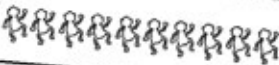






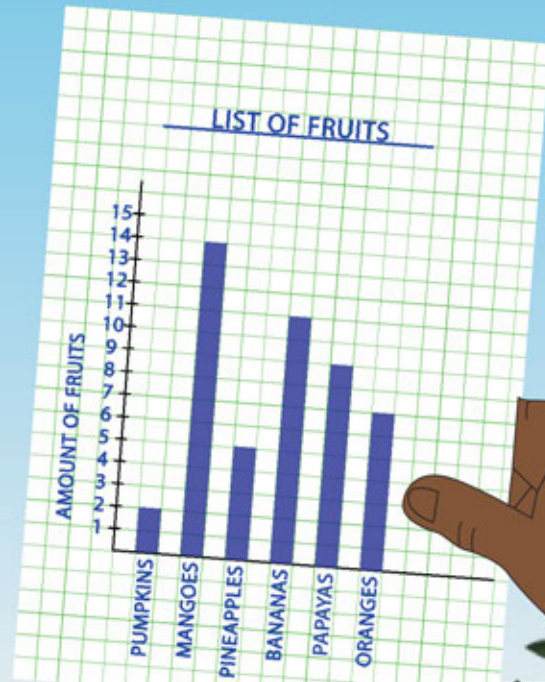
She handed Mzee Kigo her graph and he told her that it was nicely done.



Kibena said, "I didn't know how to draw it like yours. I just drew the animals that I counted so I wouldn't forget their numbers."


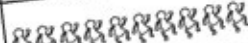




LIST OF ANIMALS

GIRAFFES	
MONKEYS	
RABBITS	
TORTOISES	
BIRDS	
ELEPHANTS	

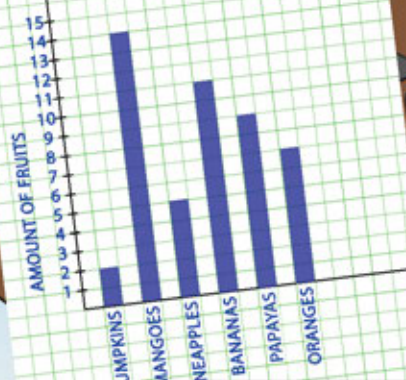


“Your graph works just as well, Kibena. You’ll find out that both graphs are useful!” replied Mzee Kigo.

LIST OF ANIMALS

GIRAFFES	
MONKEYS	
RABBITS	
TORTOISES	
BIRDS	
ELEPHANTS	







LIST OF FRUITS


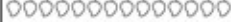






Kibena asked her friends to count the fruits as they loaded them into the truck.

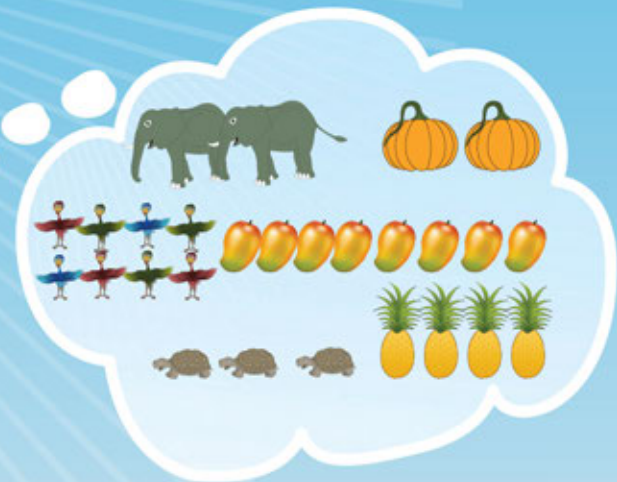
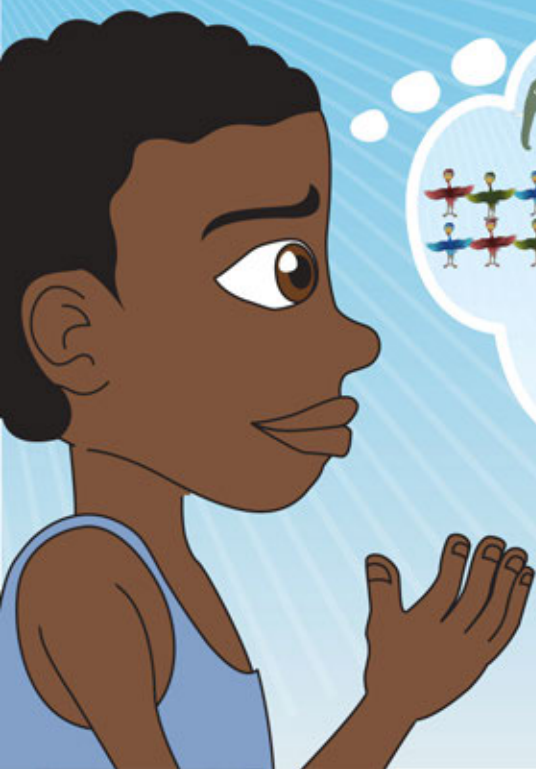


Koba asked Kibena to draw pictures of the fruits the same way that she did with the animals.

GIRAFFES	
MONKEYS	
RABBITS	
TORTOISES	
BIRDS	
	

PUMPKINS	
MANGOES	
PINEAPPLES	
BANANAS	
PAPAYAS	
ORANGES	

He thought it would make it easier to match the number of animals with the right number of fruits.







LIST OF ANIMALS	
GIRAFFES	
MONKEYS	
HABITS	
TORTOISES	
BIRDS	



LIST OF FRUITS	
PUMPKINS	
MANGOES	
PINEAPPLES	
BANANAS	
PAPAYAS	
ORANGES	





“Two pumpkins, fourteen mangoes, five pineapples, eleven bananas,” Koba counted, while Kibena drew the pictures of the fruits.

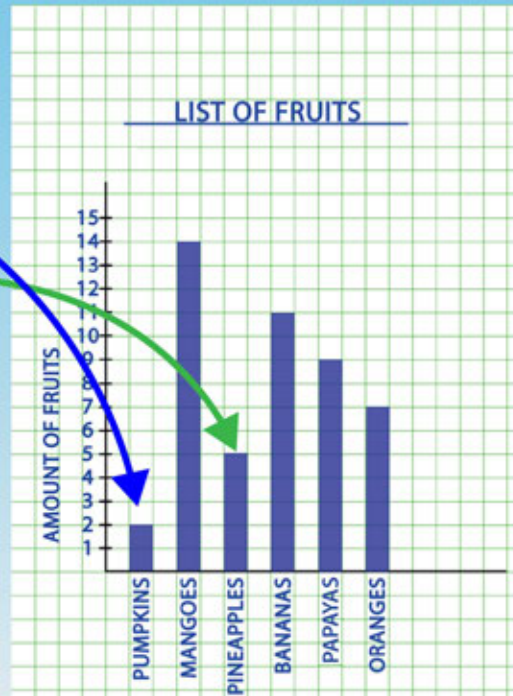
PUMPKINS	
MANGOES	
PINEAPPLES	
BANANAS	
PAPAYAS	

“Stop, Kibena. Just take a look at the two graphs,” said Baraka.



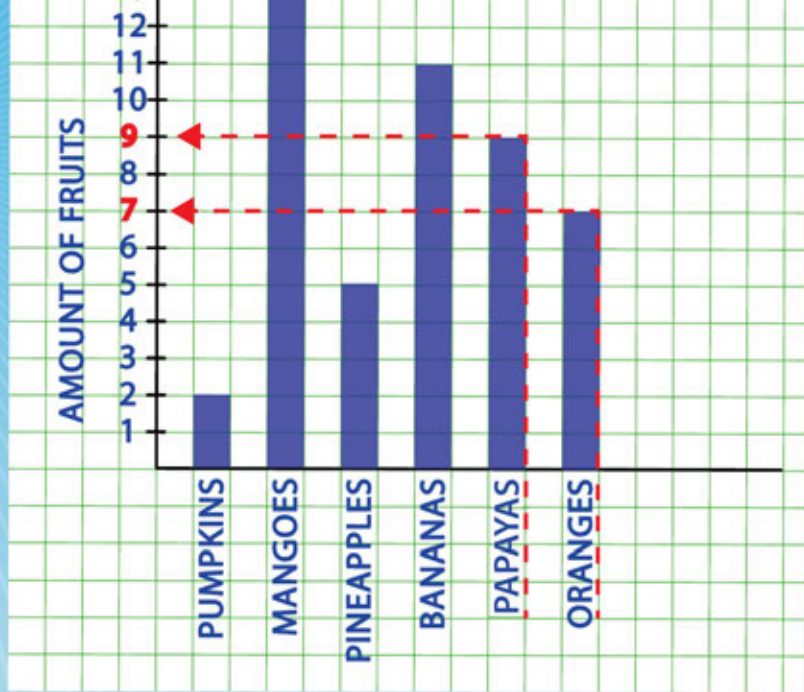
He had noticed that the height of the bars of each fruit on Mzee Kigo's graph was the same as the length of the fruits that Kibena was drawing.





PUMPKINS	
MANGOES	
PINEAPPLES	
BANANAS	
PAPAYAS	
ORANGES	



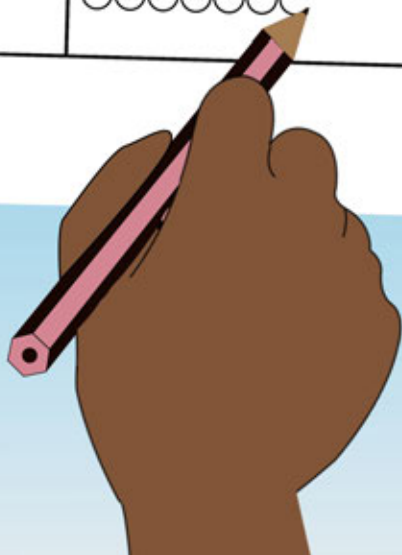
“You’re right, Baraka, you’re smart! We don’t need to waste time counting. We should learn to read Mzee Kigo’s graph. It’ll be quicker.”



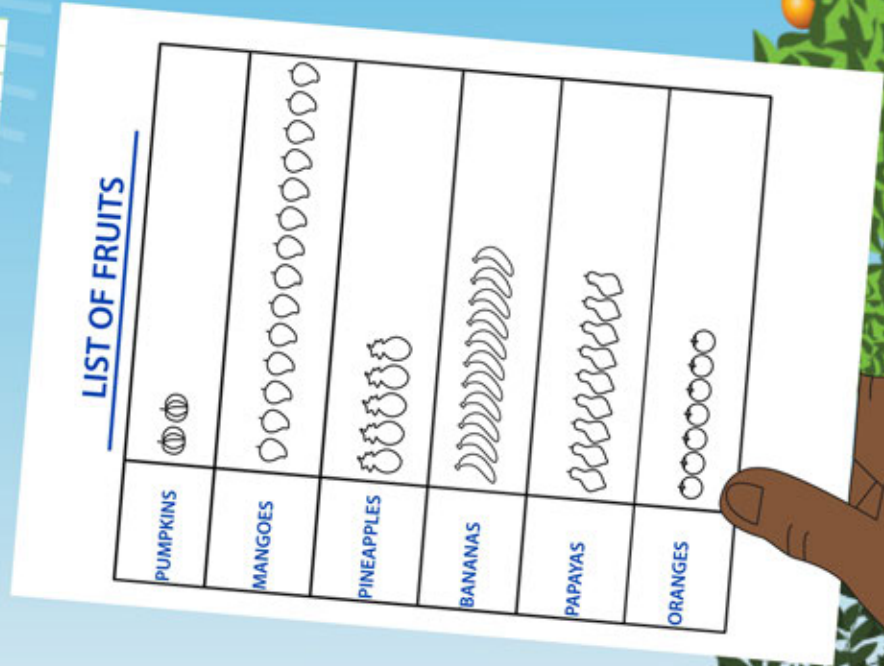
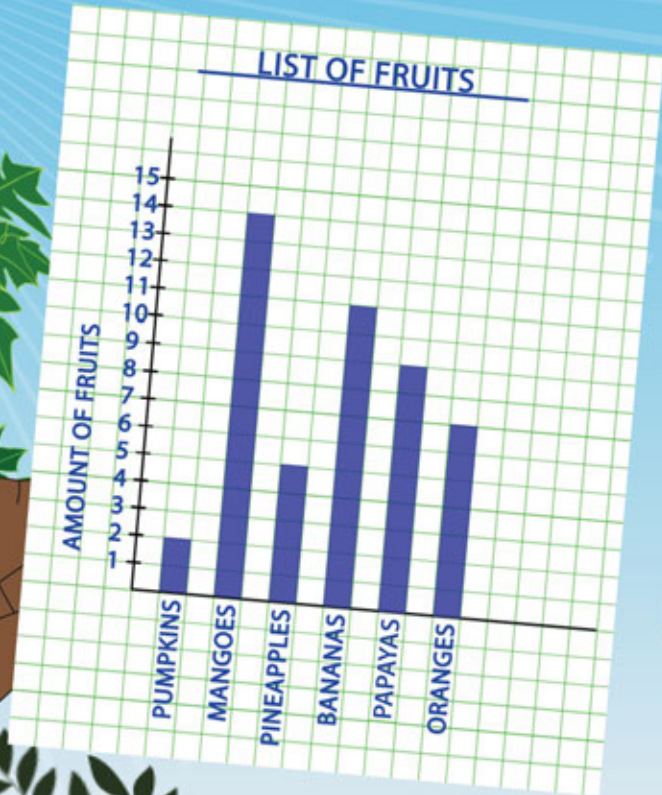


PINEAPPLES	
BANANAS	
PAPAYAS	
ORANGES	

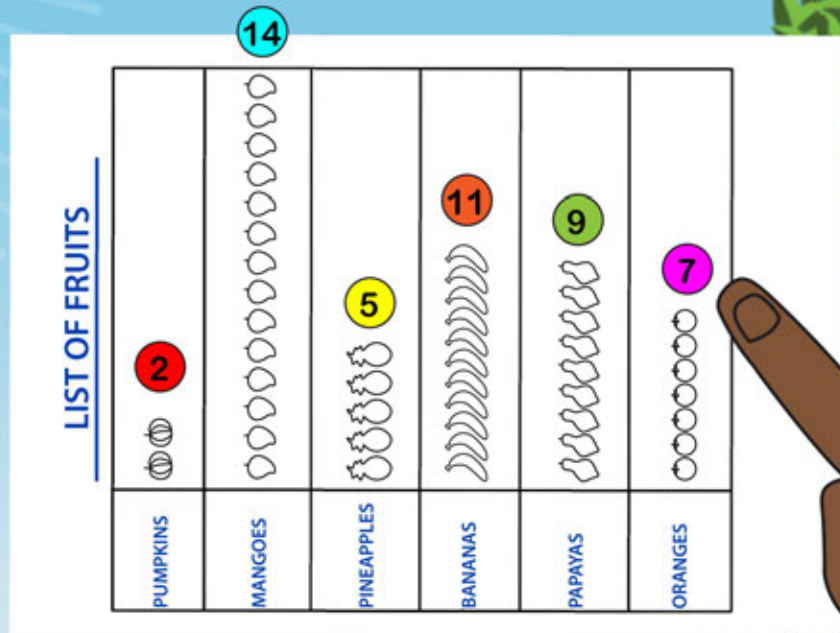
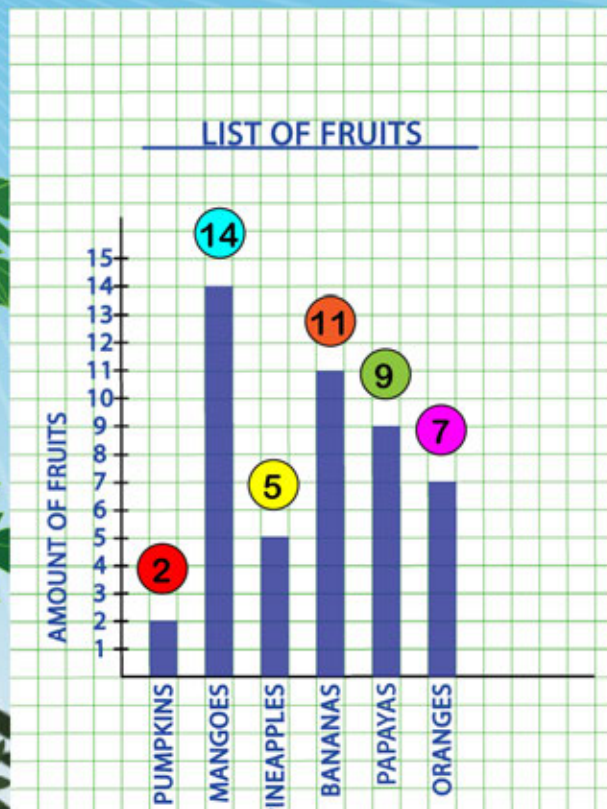
She studied Mzee Kigo's graph, then drew nine papayas and seven oranges on hers.



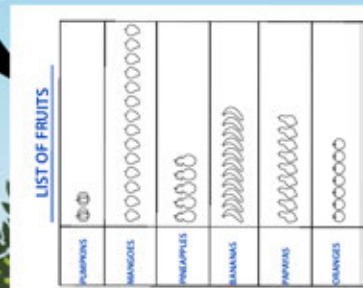
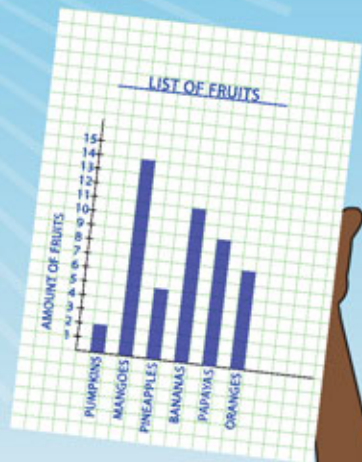
She then turned her graph sideways.



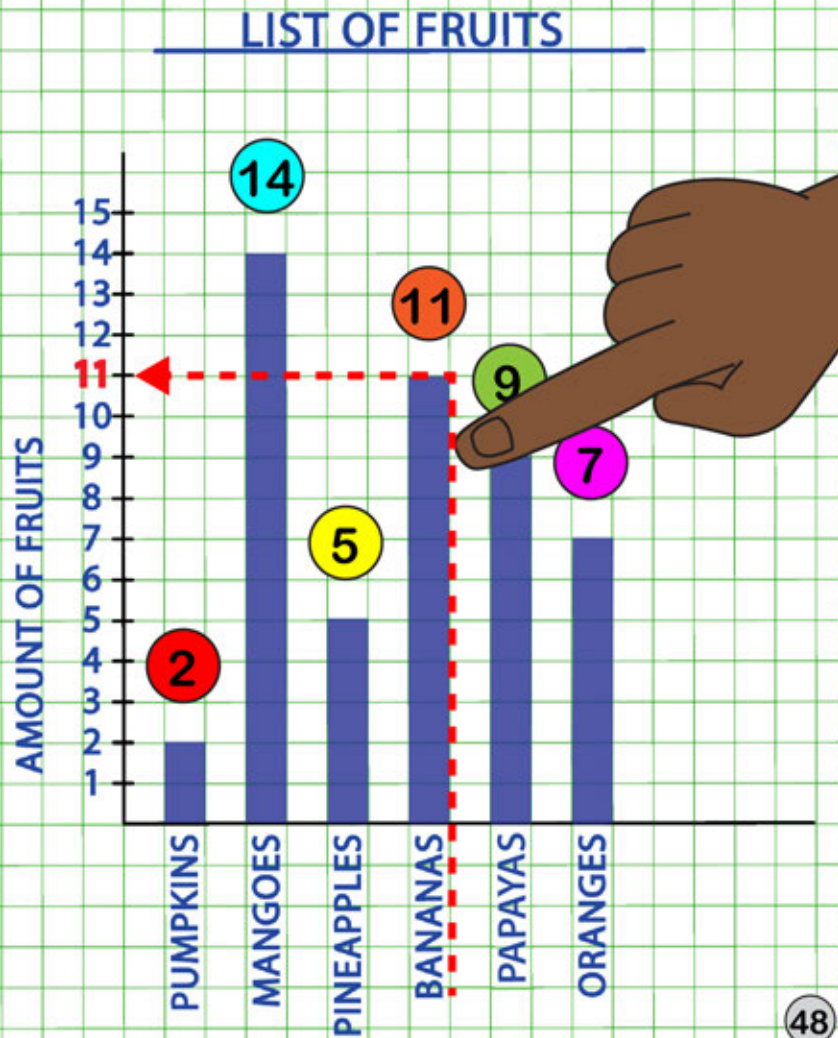
She compared her pictures of the fruits to the bars on Mzee Kigo's graph.



“Do you get it? These two graphs tell us the same thing. With my graph, we count each fruit one by one.”



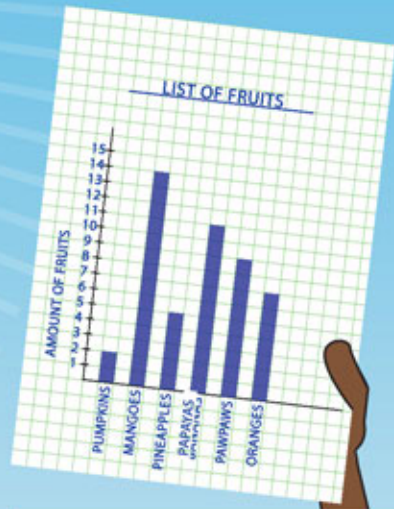
With the bar graph, we read the name of the fruit at the bottom, follow the bar as high as it goes, then move our finger to the left and read the number.



That's why Mzee Kigo said that both graphs are useful! Baraka, thanks for pointing it out!”



Then she said, "Now let's check each fruit."



PLUMPKINS	MANGOES	PINEAPPLES	PAPAYAS	PAINPAWS	ORANGES
••	○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○	~~~~~	~~~~~	○ ○ ○ ○ ○ ○

My graph shows two pumpkins, and Mzee Kigo's graph has a pumpkin bar that is as tall as the number two.

AMOUNT OF FRUITS

13
12
11
10
9
8
7
6
5
4
3
2
1

PUMPKINS

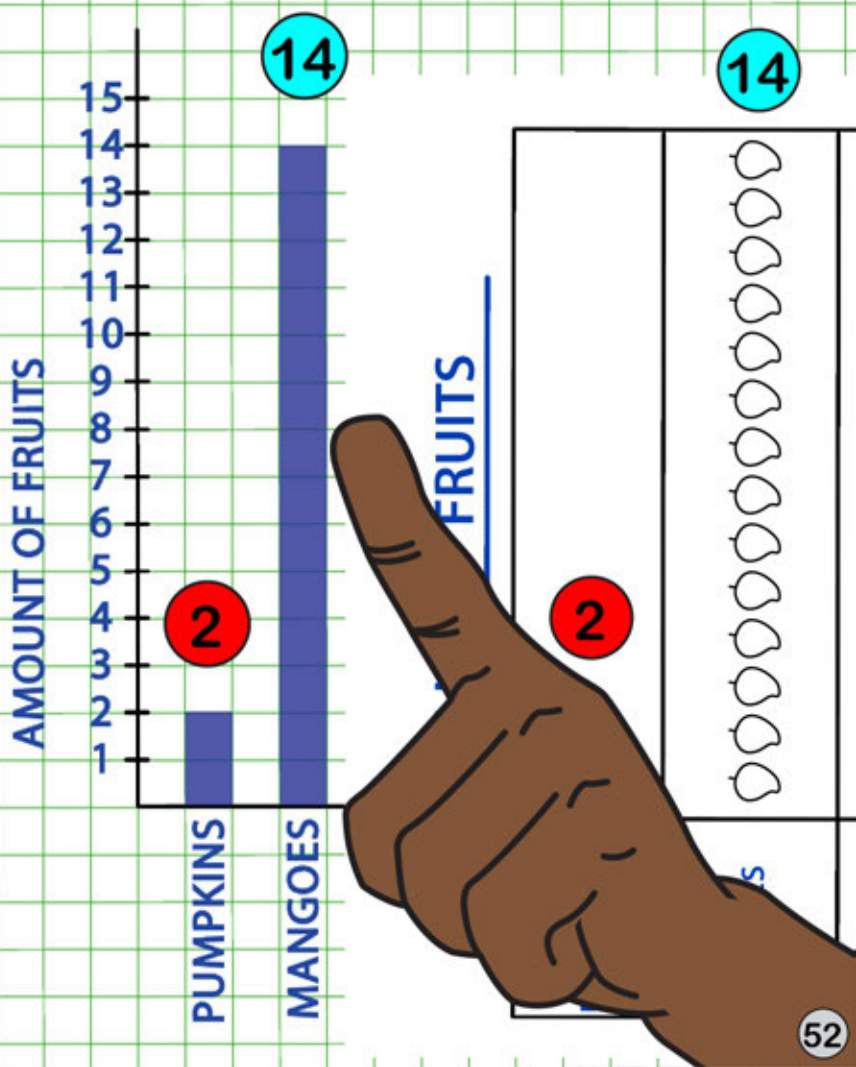
2

LIST OF FRUITS



2

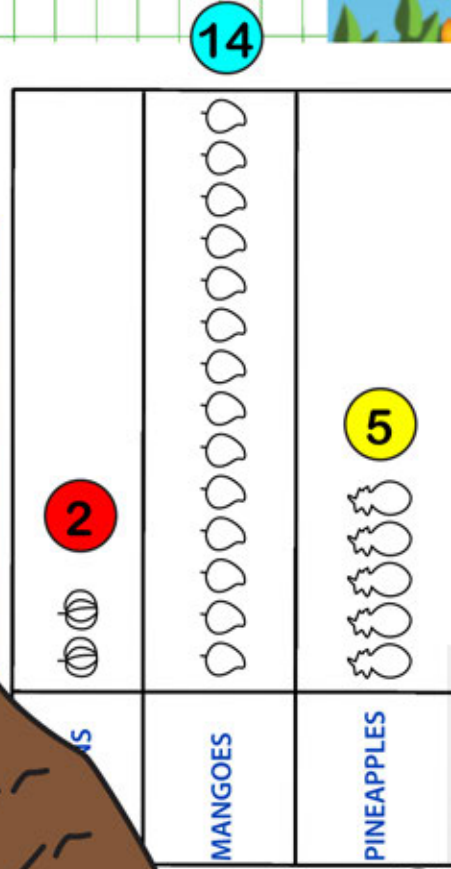
My graph shows fourteen mangoes, and his graph has a mango bar that is as tall as the number fourteen.



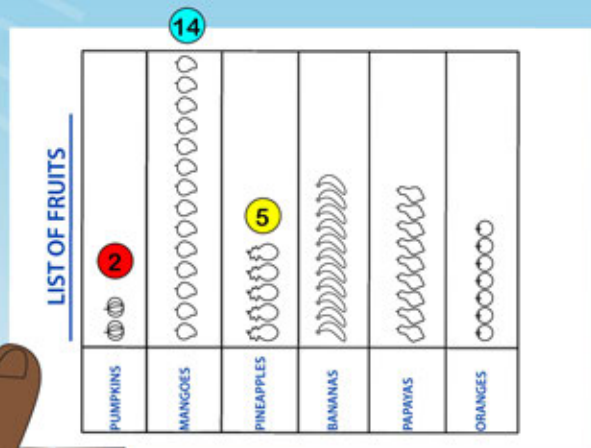
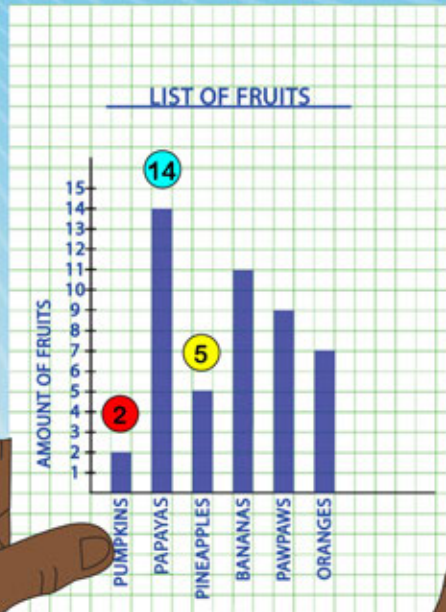
My graph shows five pineapples and his graph has a pineapple bar that is as tall as number five.”

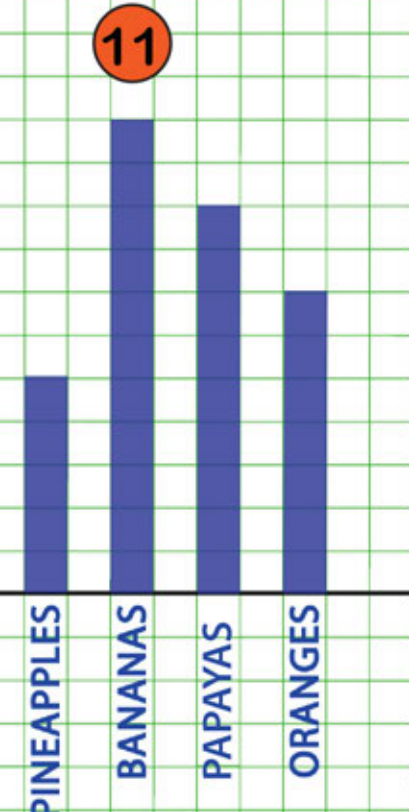





LIST OF FRUITS



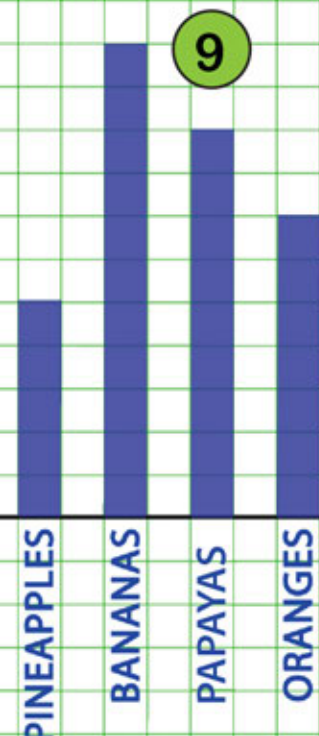
“Kibena, that looks fun and easy. Let me read the graphs,” asked Baraka.








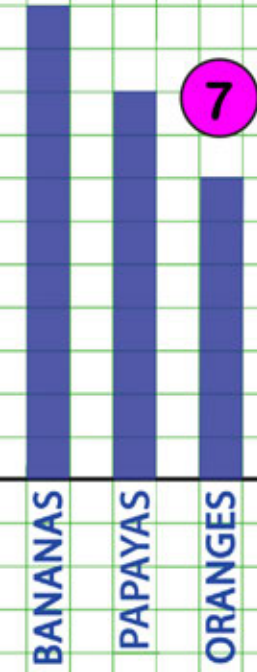
BANANAS	
PAPAYAS	
ORANGES	


“Over here we have eleven bananas and over there the banana bar is eleven.”



BANANAS	
PAPAYAS	 9
ORANGES	

Over here we have nine papayas and over there the papaya bar is nine.



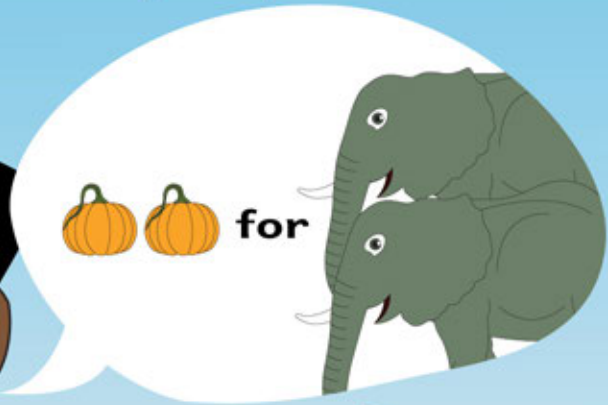
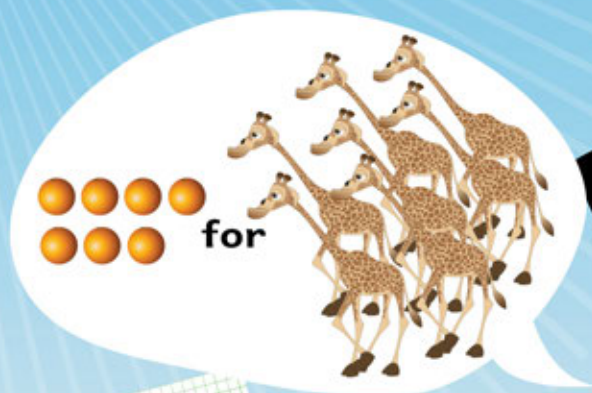
BANANAS	
PAPAYAS	
ORANGES	 7

Over here we have seven oranges and over there the orange bar is seven.

Am I right, Kibena?"



Kibena decided that the giraffes should get the oranges, because there are a similar number of giraffes and oranges, and that the two elephants should get the two pumpkins.

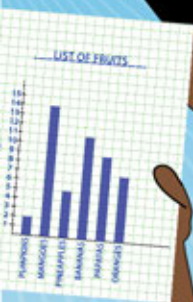


LIST OF FRUITS	
Pumpkins	2
Oranges	8
Pumpkins	2
Oranges	8

“Hey, don’t forget
about us monkeys!”
said Ngedere.



“Don’t worry. Let’s see how many monkeys there are,” Kibena replied.





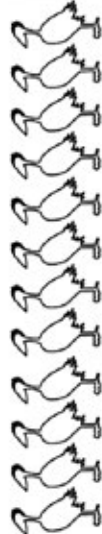



A table titled "LIST OF ANIMALS" with rows for different animals and their counts represented by symbols.

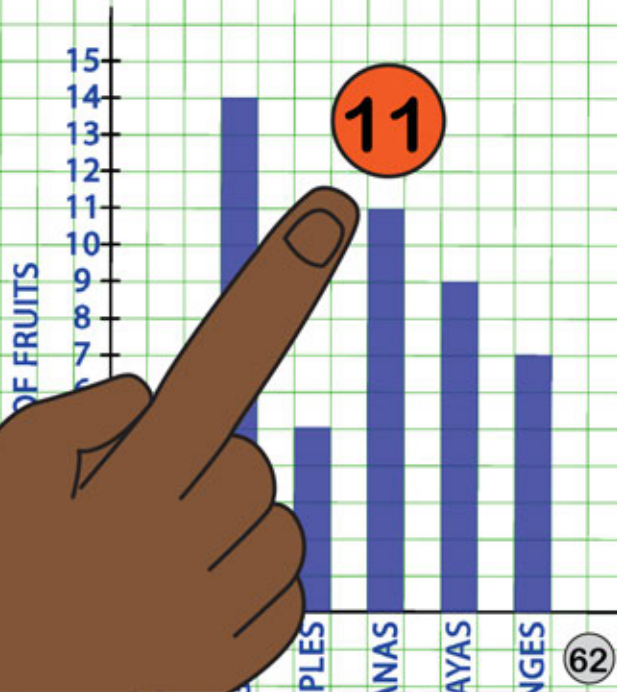
Animal	Count
ORANGE	10
MONKEYS	100
PARrots	100
COWS	100
WILD	100
Elephants	10

“There are ten monkeys, so they should get the eleven bananas.”

10

DEERS	
MONKEYS	
RABBITS	
GOATS	
BIRDS	
BANANAS	

LIST OF FRUITS









“Yay! Give me mine now,
as payment for driving you,”
said Ngedere.

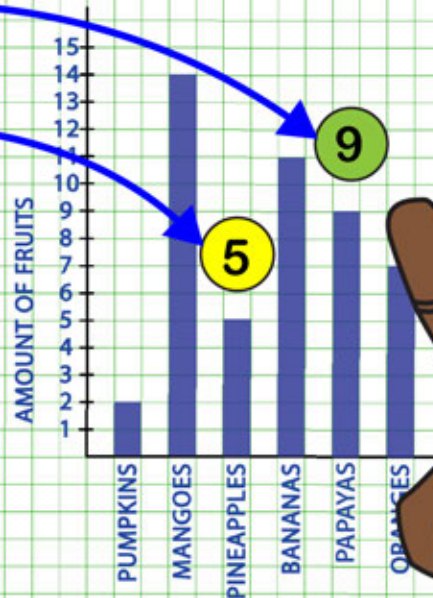


Next Koba matched
the five tortoises to the five pineapples,
and the eight rabbits to the nine papayas.

LIST OF ANIMALS







GIRAFFES		
MONKEYS		
RABBITS		8
TORTOISES		5
BIRDS		
ELEPHANTS		

LIST OF FRUITS



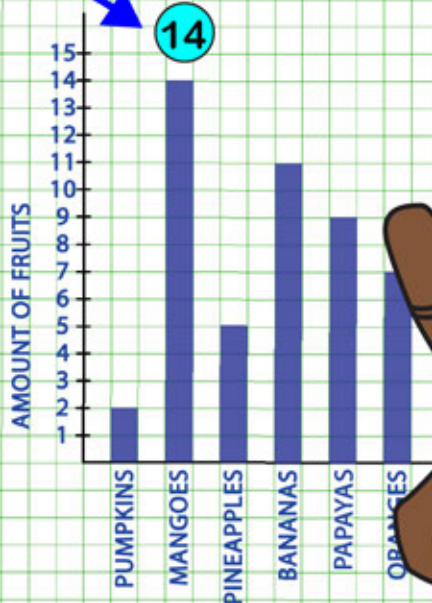
“Don’t forget the birds!” reminded Ngedere. Koba said that the twelve birds should get twelve of the fourteen mangoes.

LIST OF ANIMALS

GIRAFFES	
MONKEYS	
RABBITS	
TORTOISES	
BIRDS	
ELEPHANTS	

12

LIST OF FRUITS

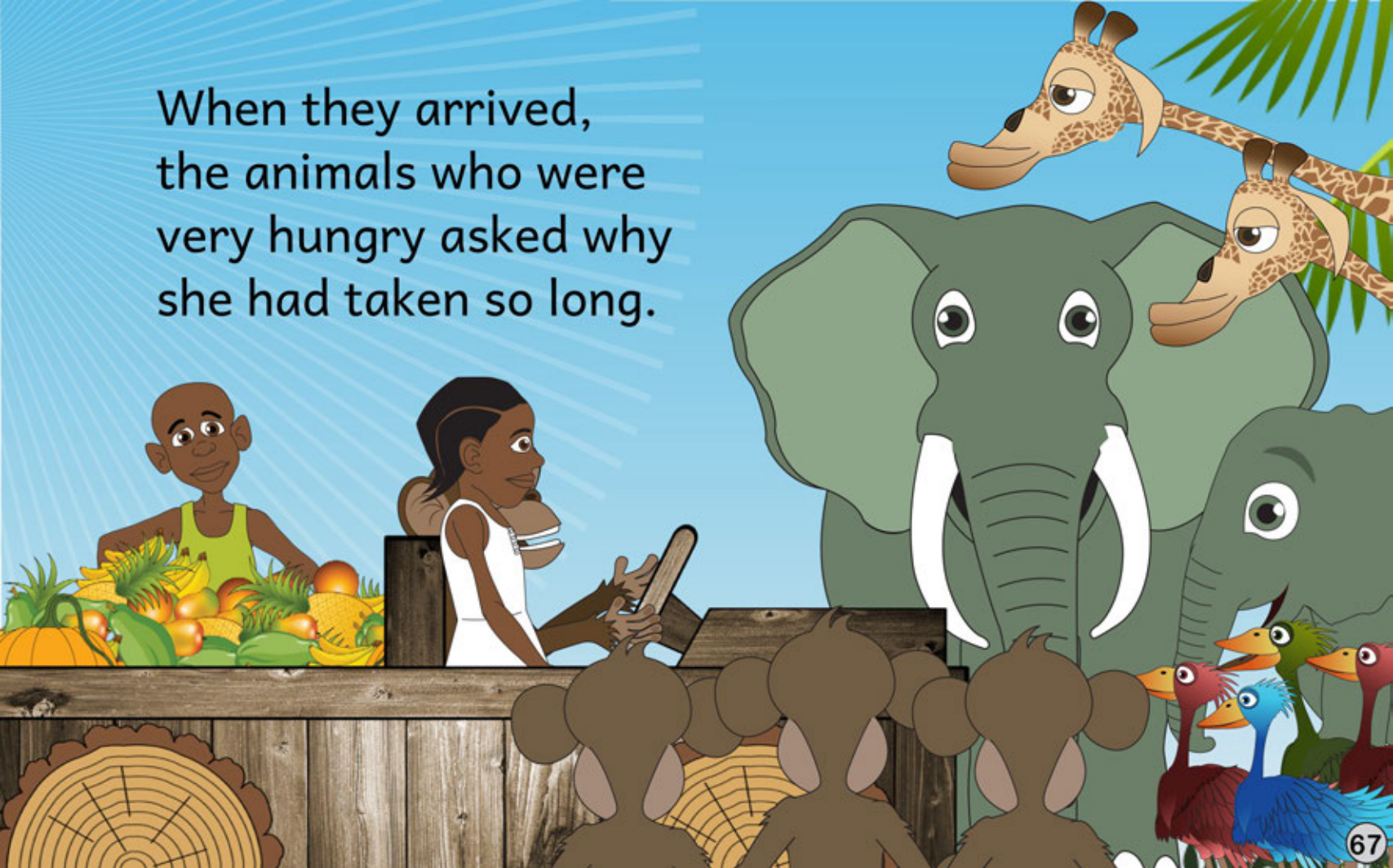


14

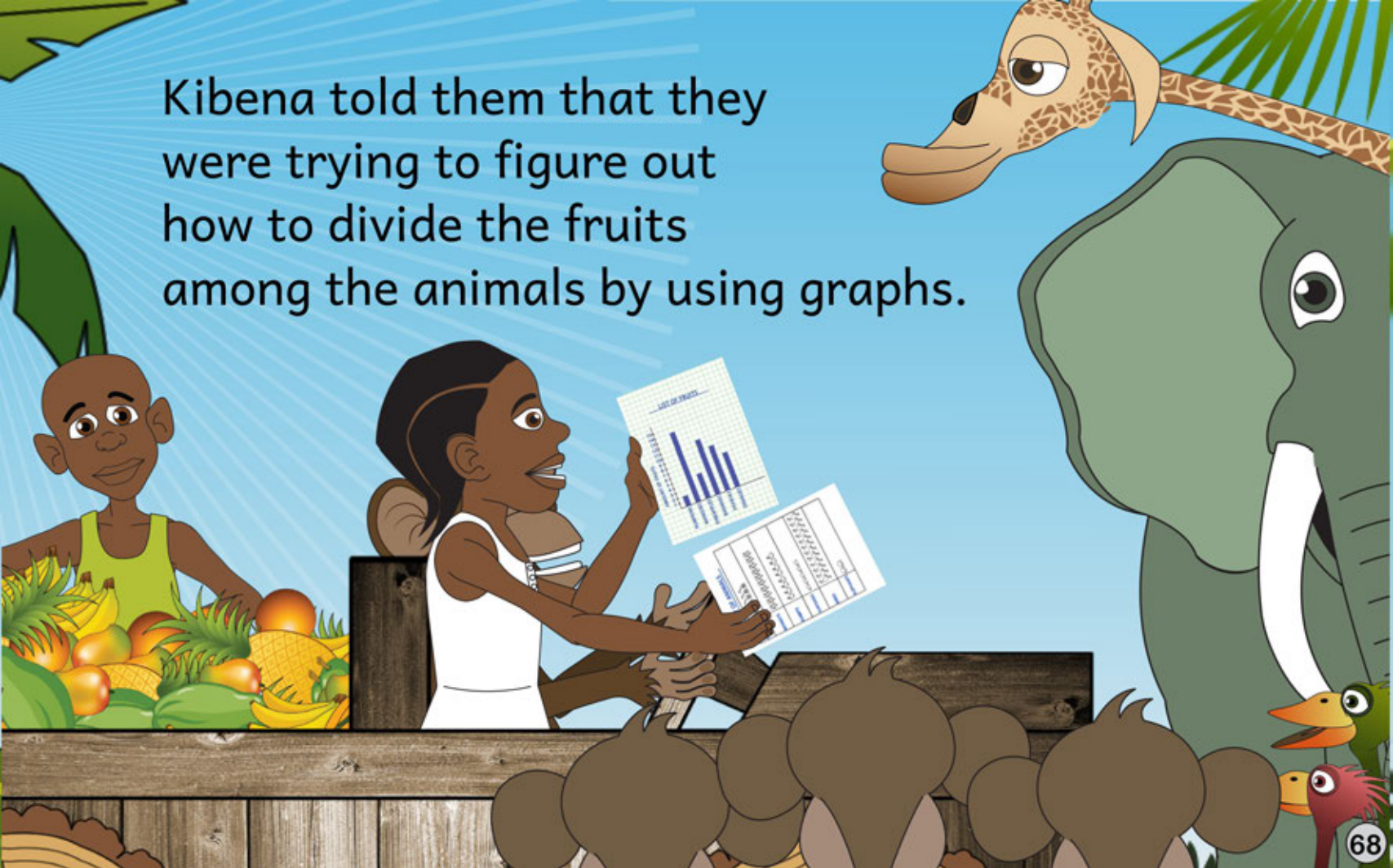
Quickly the kids finished loading up the fruits and Ngedere drove them back to the animals.



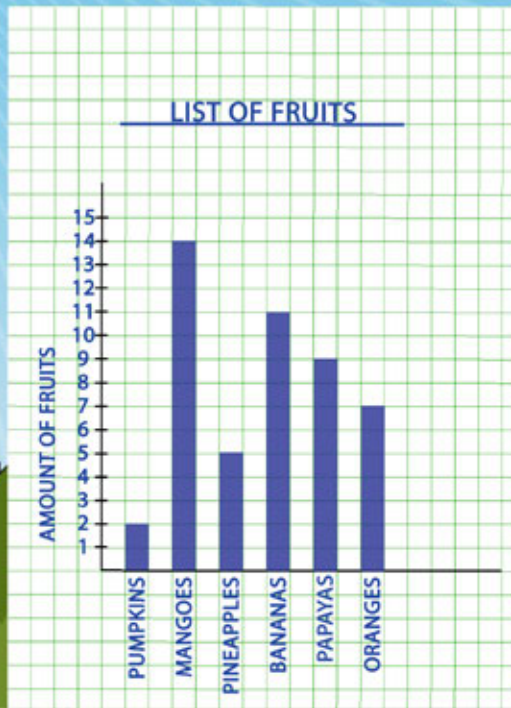
When they arrived,
the animals who were
very hungry asked why
she had taken so long.



Kibena told them that they were trying to figure out how to divide the fruits among the animals by using graphs.



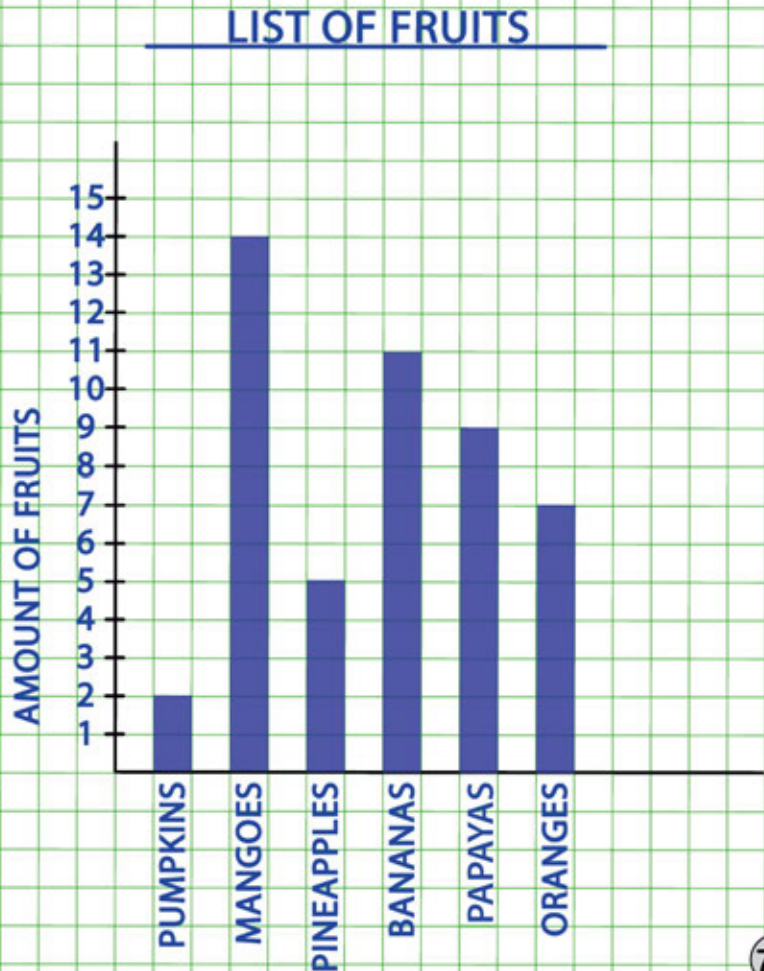
Mama Ndege was so excited at the mention of graphs. She grabbed them and said, “Graphs are simple, visual ways of showing amounts!”



LIST OF ANIMALS

GIRAFFES	
MONKEYS	
RABBITS	
TORTOISES	
BIRDS	
ELEPHANTS	






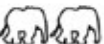
This one is a bar graph.
It shows how many
of each fruits
Mzee Kigo has.



This one is a pictograph.
It shows how many
animals there are,
broken down by species.”



LIST OF ANIMALS

GIRAFFES	
MONKEYS	
RABBITS	
TORTOISES	
BIRDS	
ELEPHANTS	

Kibena said, “That’s right. By comparing the number of animals with the number of fruits from both graphs, it was easy to decide who gets what!”



“Man, if you’d taken Mama Ndege with you, you’d have figured all this out and gotten back here much sooner!” said Uncle T.



Kibena smiled and said, “We’re better off to have learned on our own! Come and get your fruits, everyone. And no fighting please!”





The End

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