

# Beads for Business

addition with carrying



Age  
Umri  
7+



Mzee Kigo is working in his cornfield.  
Tiny Tembo is helping him, and decides to ask  
his advice.

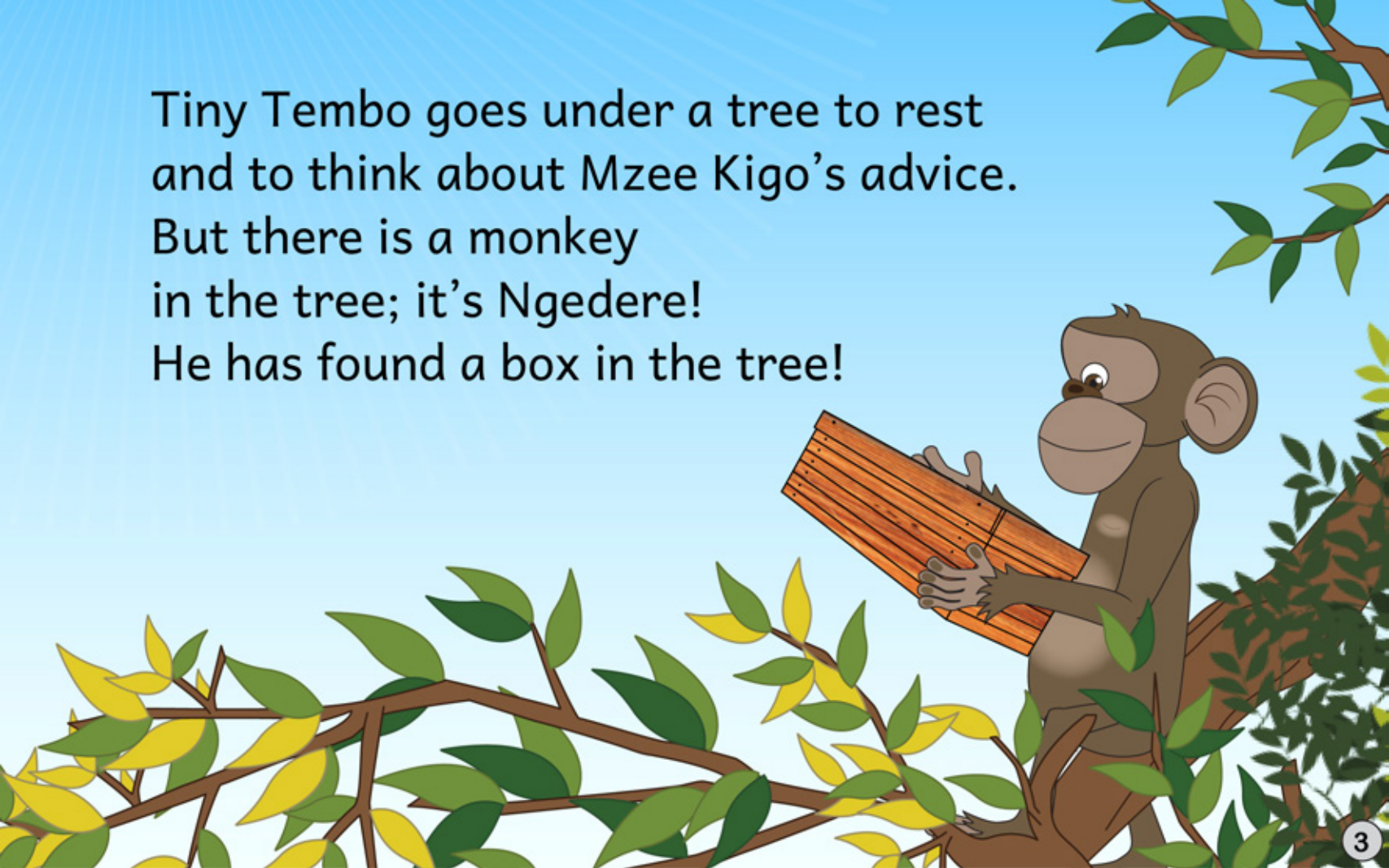




“I want to be successful and independent, and have a place all to myself,” Tiny Tembo says.  
“How can I do that?” Mzee Kigo tells Tiny Tembo he needs to get creative!

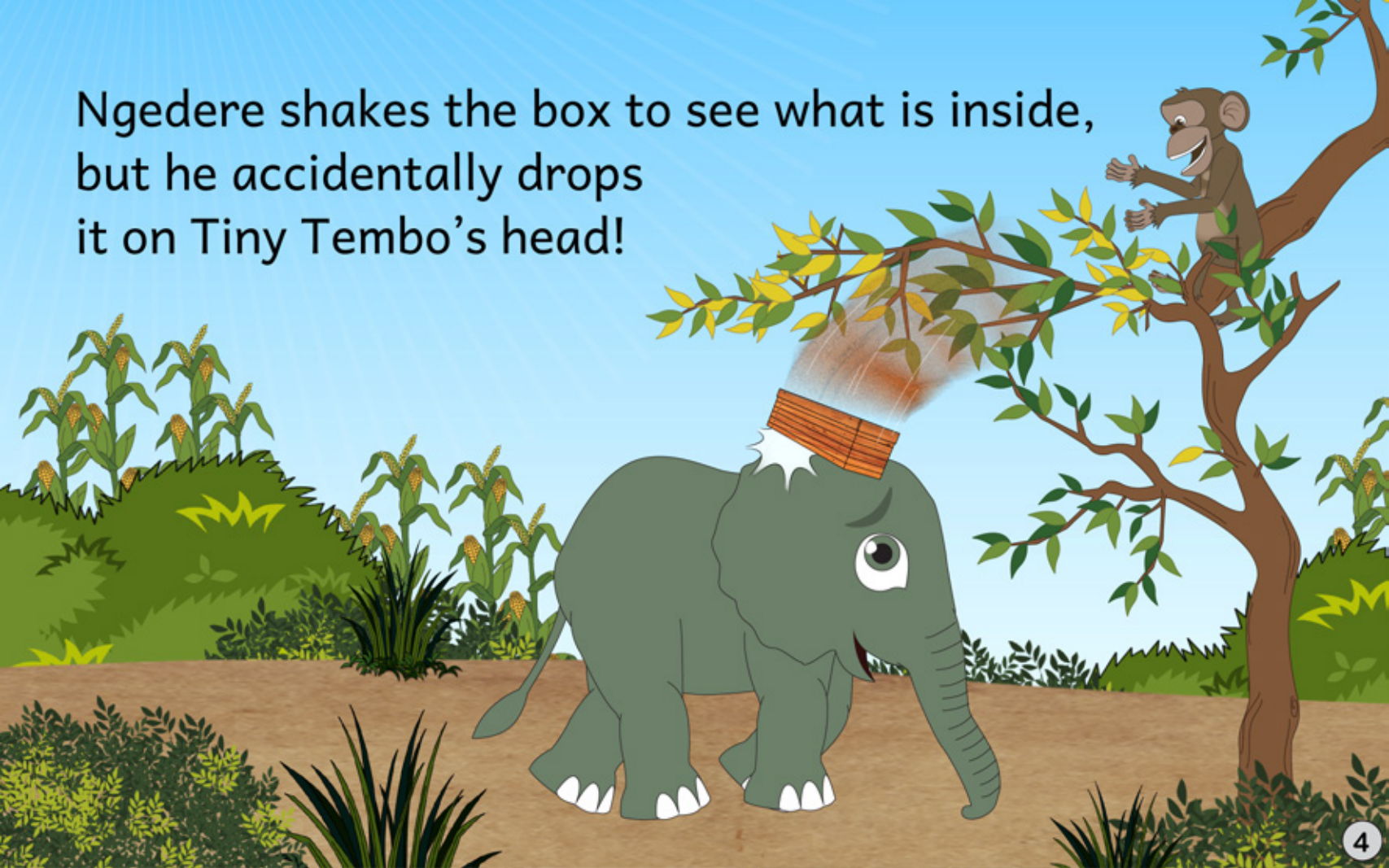


Tiny Tembo goes under a tree to rest  
and to think about Mzee Kigo's advice.  
But there is a monkey  
in the tree; it's Ngedere!  
He has found a box in the tree!





Ngedere shakes the box to see what is inside,  
but he accidentally drops  
it on Tiny Tembo's head!



"Ouch!" Tiny Tembo cries out. Mzee Kigo hears him and comes to see what has happened.  
"This box just fell out of the tree!" exclaims Tiny Tembo.

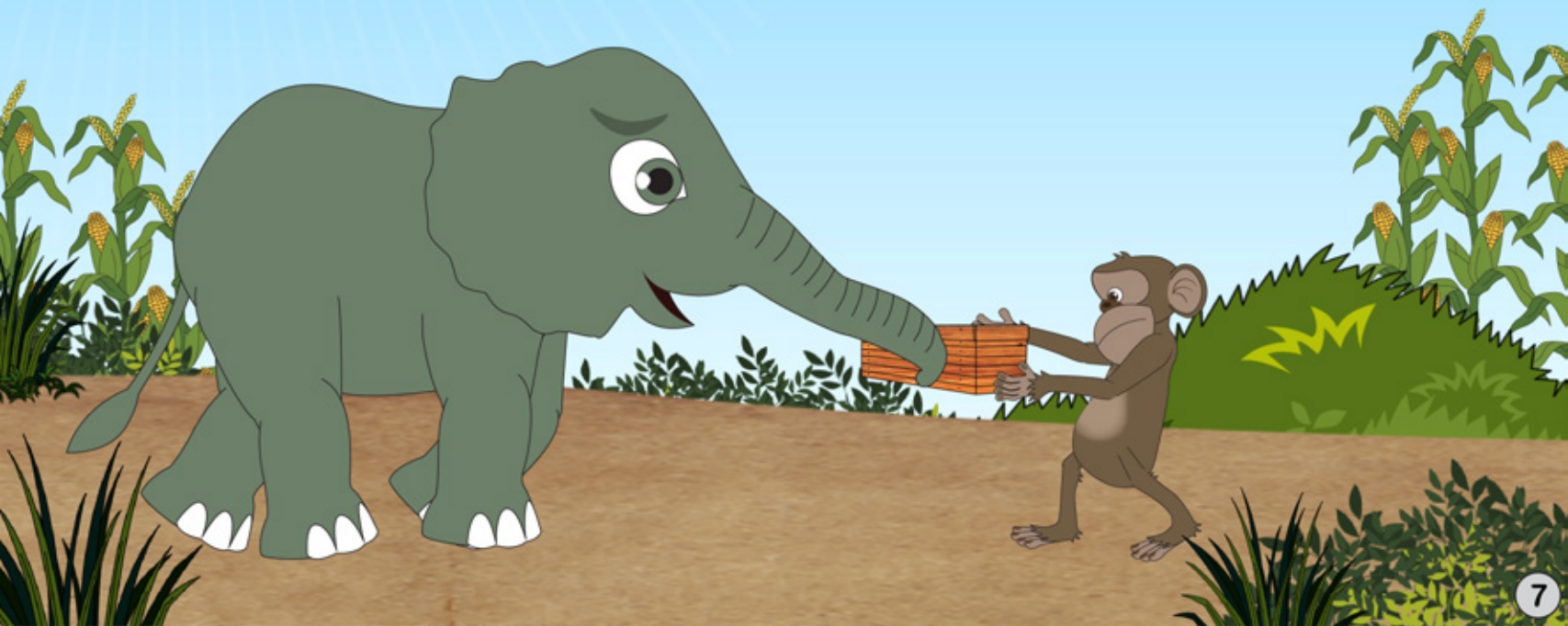




“Are you hurt?” asks Mzee Kigo. Ngedere joins them, jumping down from his perch in the tree.

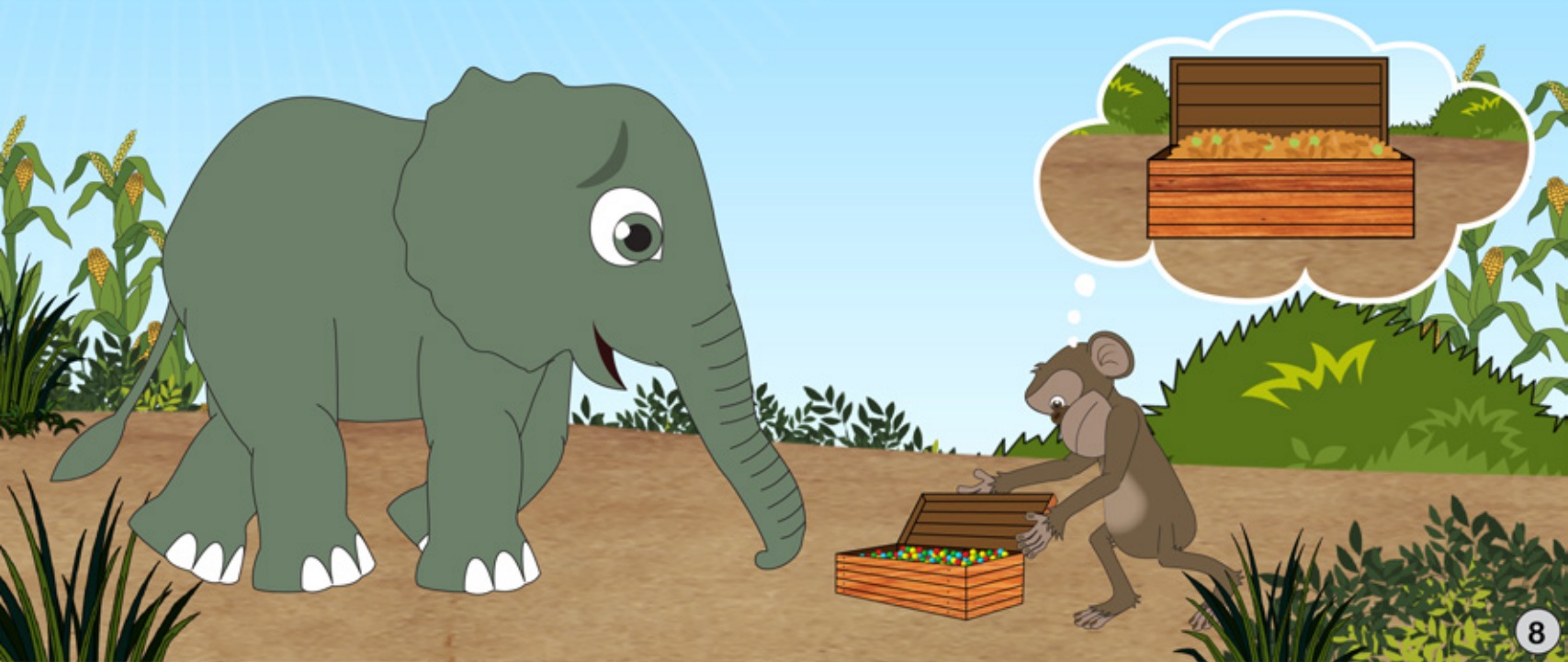


Ngedere and Tiny Tembo each want to keep the box.  
They start to argue over it.





But when they open the box and see that it is full of beads, Ngedere loses interest.  
He thought that the box was full of pilau!

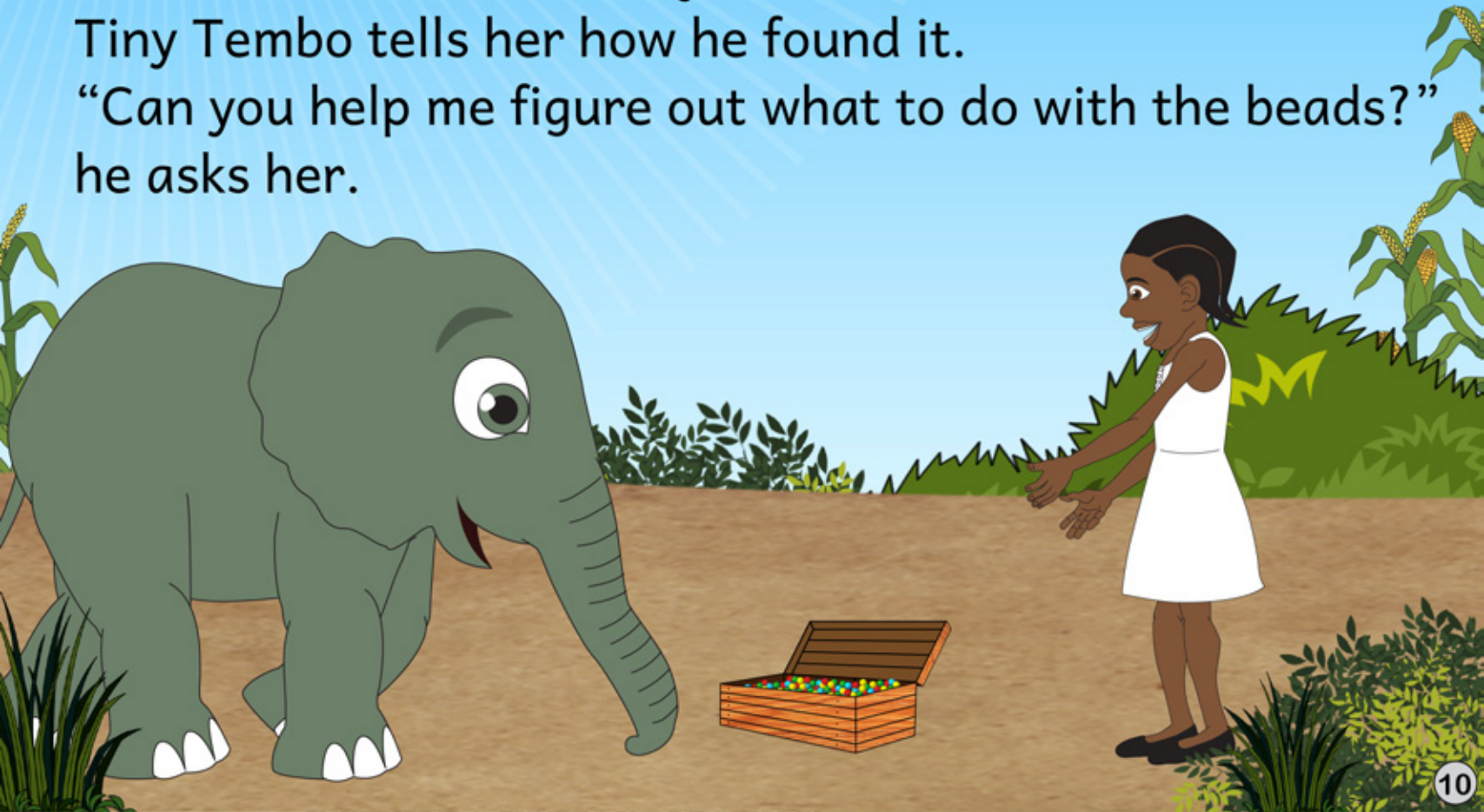


Mzee Kigo heads home and  
Tiny Tembo wonders what he  
can do with the box of beads.





His friend Kibena walks by, and asks him about the box.  
Tiny Tembo tells her how he found it.  
“Can you help me figure out what to do with the beads?”  
he asks her.

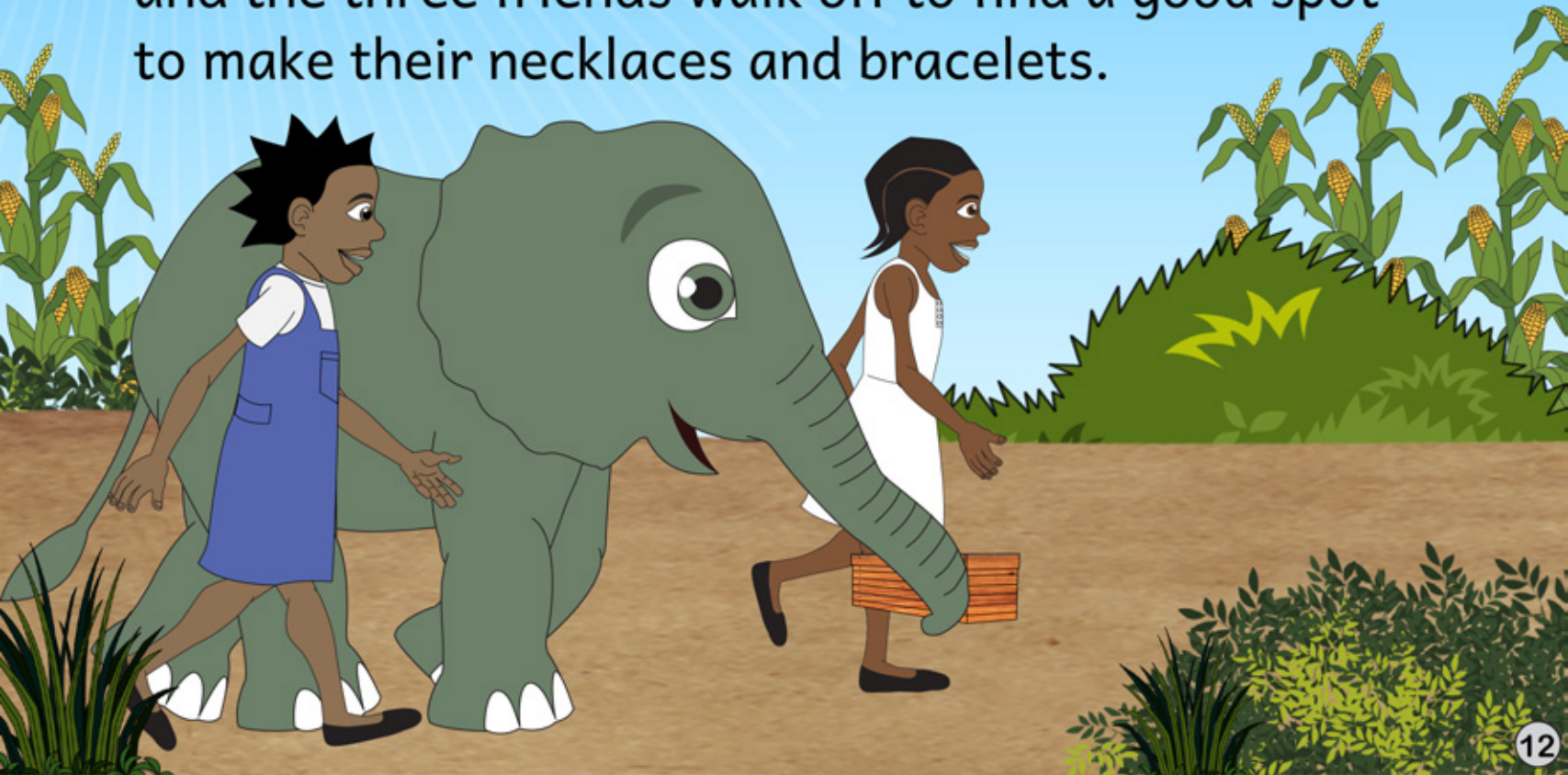


Kibena has lots of ideas. When Kiduchu joins them, Kibena explains to her about their plan to use the beads to make necklaces and bracelets to sell.





Tiny Tembo thinks that is a great idea,  
and the three friends walk off to find a good spot  
to make their necklaces and bracelets.



The three friends find a nice spot to sit.  
But they soon realise they don't know how to make  
necklaces or bracelets!





Kibena runs off to her grandma's house to borrow some necklaces and bracelets to use as samples.



“These are so pretty!” says Tiny Tembo.  
“How much do you think we can charge for each one?”





They decide to charge one shilling for each bead.



bead

=



1 shilling

They start to count the beads in a necklace,  
but it takes a very long time!





When Mzee Kigo walks by,  
they ask him to help them count the beads.



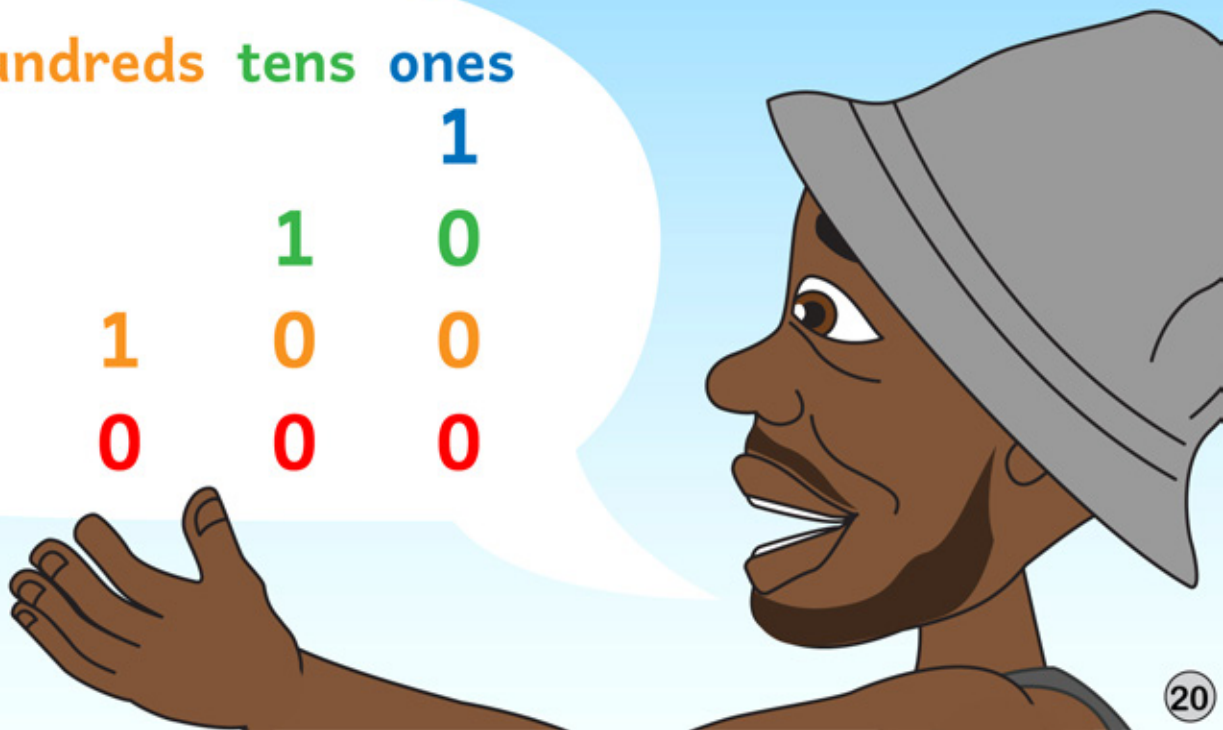
“I can show you an easier way to add up large numbers by using these boxes,” says Mzee Kigo.



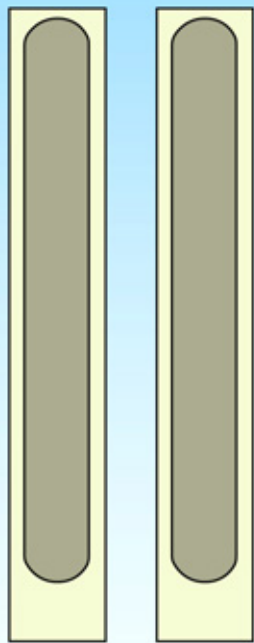


“Using the boxes to count is the same as arranging the beads into their place values,” Mzee Kigo tells them.

thousands	hundreds	tens	ones
			1
		1	0
	1	0	0
1	0	0	0

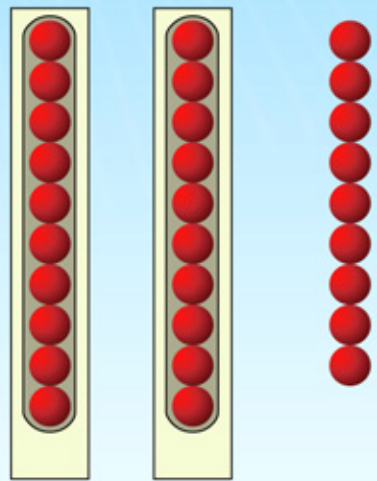


"This bracelet has 29 red beads, and 9 blue beads," Mzee Kigo explains. "Each of these boxes holds ten beads, so by filling the boxes you can count the beads quickly."





They put **10 red beads**  
each in two of the boxes  
and line up the remaining  
**9 red beads**...



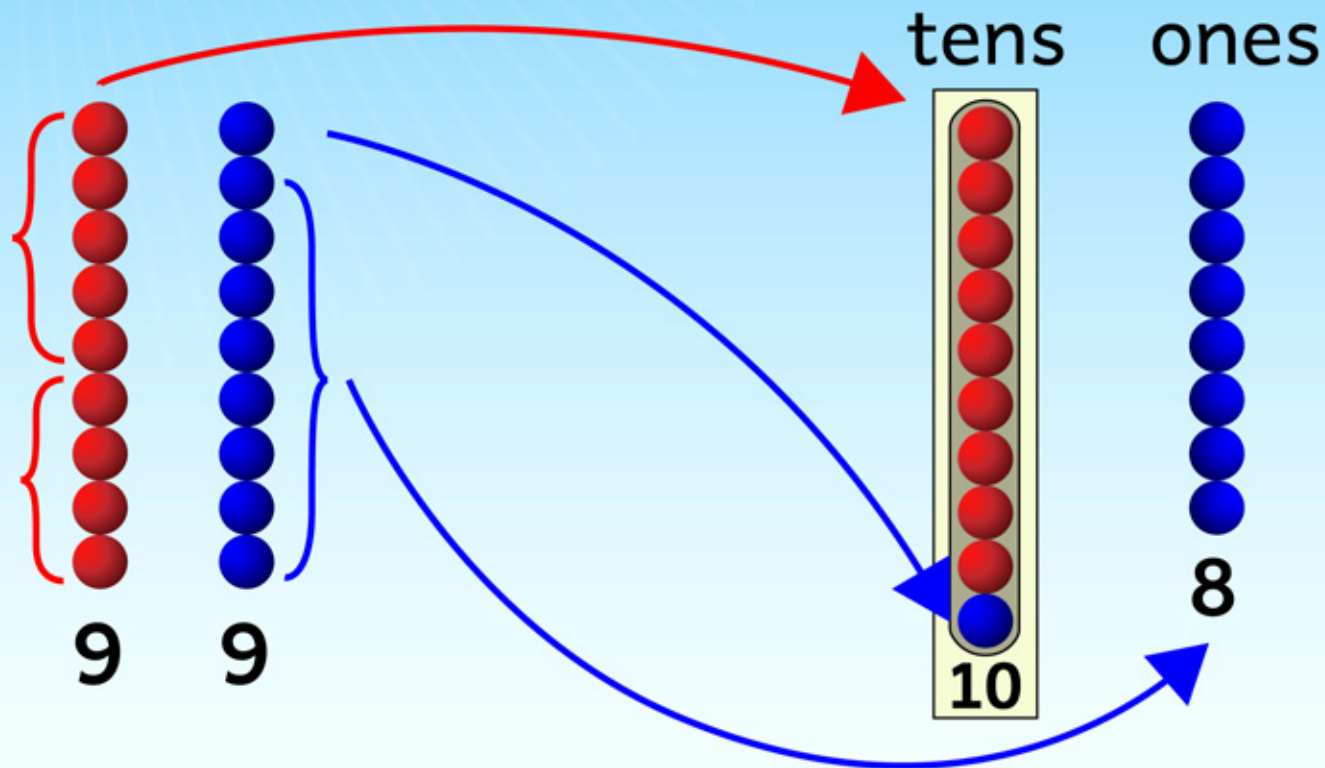
**10 10 9**

and the **9 blue beads**.

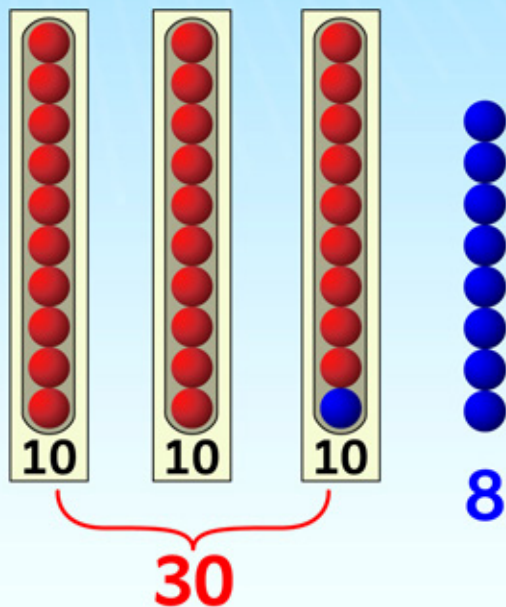


**9**

They take the 9 red beads and the 9 blue beads and use them to fill another box of ten, leaving eight beads remaining.



So now there are three boxes of ten. Kiduchu counts the boxes, “**Ten, twenty, thirty.**”



She then counts the remaining beads, “**One, two, three, four, five, six, seven, eight:**

There are **thirty-eight** beads in total!”

$$30 + 8 = 38$$



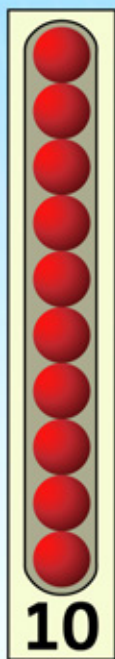
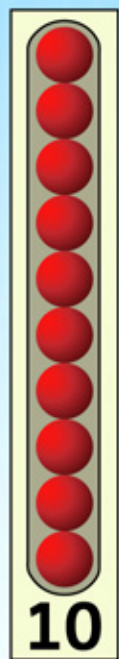
“Now I understand,” says Kibena, “we use the boxes to count the beads in tens and ones. I remember learning about **ones**, **tens**, **hundreds** and **thousands** in school.”

**thousands** **hundreds** **tens** **ones**

			1
		1	0
	1	0	0
1	0	0	0



Mzee Kigo tells them that there is an even quicker way to count the beads without arranging the beads in boxes or counting the beads one by one.



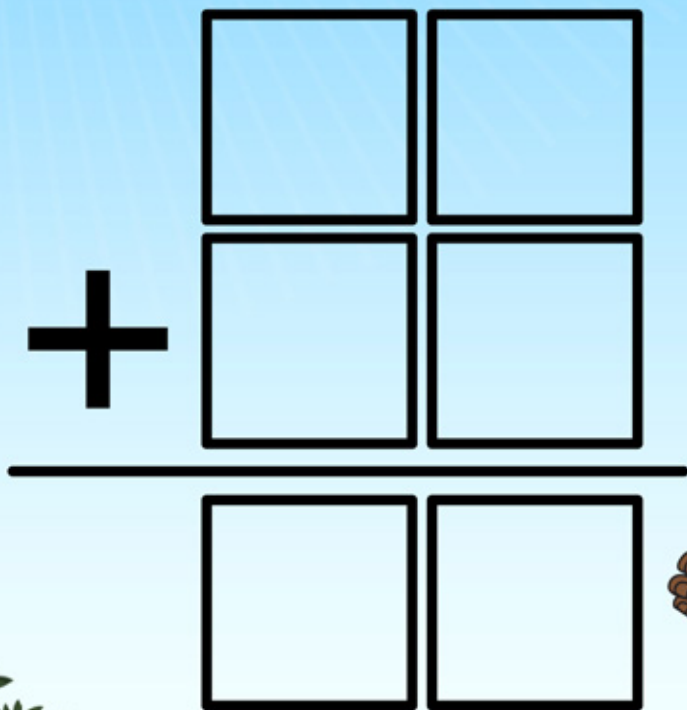
9



9



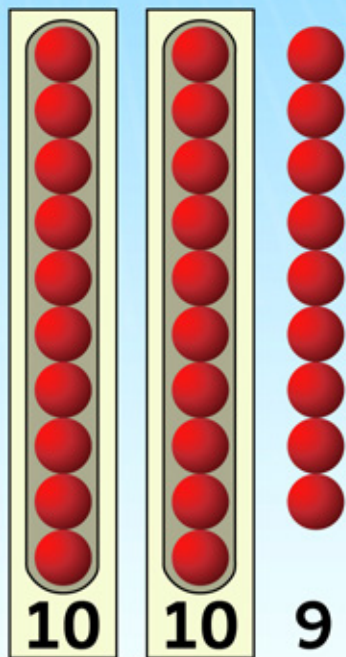
“Let’s set it up as a sum and learn **grouping and carrying**,” suggests Mzee Kigo.





Kiduchu fills in the boxes.

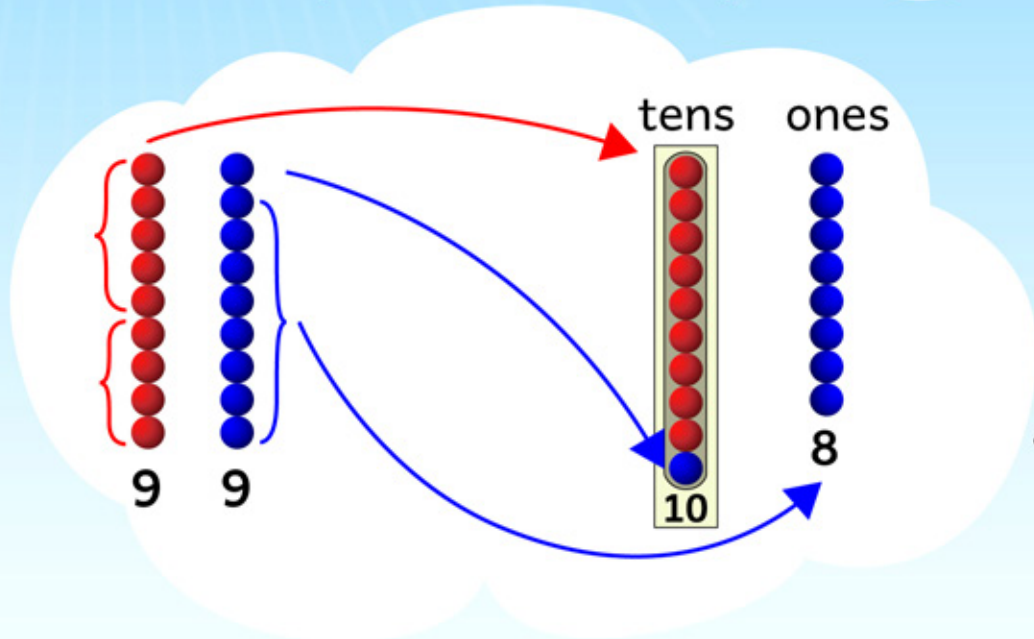
“We have 29 red beads, plus 9 blue beads.



$$\begin{array}{|c|c|} \hline 2 & 9 \\ \hline + & \square & 9 \\ \hline \square & \square \\ \hline \end{array}$$

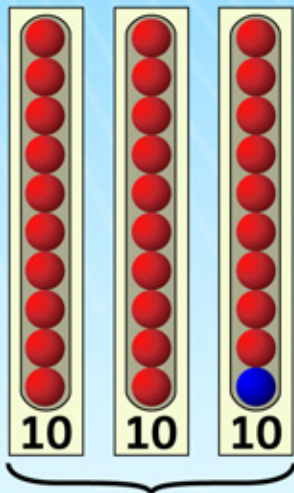
Nine plus nine equals 18.”

“That’s right,” says Mzee Kigo. “And 18 is eight ones, and one ten. The eight goes in the ones place. We carry the ten over.”

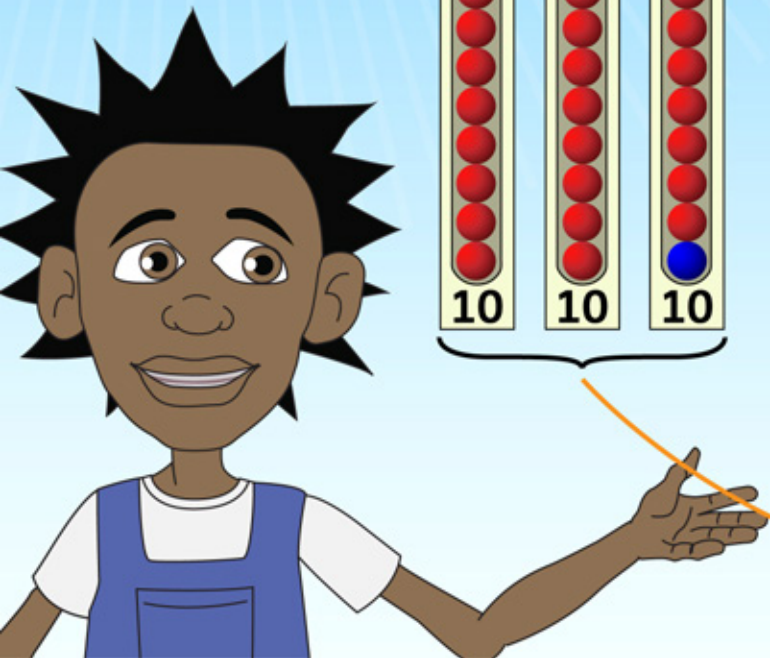


$$\begin{array}{r} 1 \\ \boxed{2} \boxed{9} \\ + \boxed{\phantom{0}} \boxed{9} \\ \hline \boxed{\phantom{0}} \boxed{8} \end{array}$$

“Ah, and **one** plus **two** is **three**!” Kiduchu shouts.  
“So, twenty-nine plus nine equals **thirty-eight**!”



$$\begin{array}{r} \text{1} \\ \begin{array}{|c|c|} \hline 2 & 9 \\ \hline \square & 9 \\ \hline \hline \end{array} \\ + \\ \begin{array}{|c|c|} \hline \square & 9 \\ \hline \hline \end{array} \\ \hline \begin{array}{|c|c|} \hline 3 & 8 \\ \hline \hline \end{array} \end{array}$$

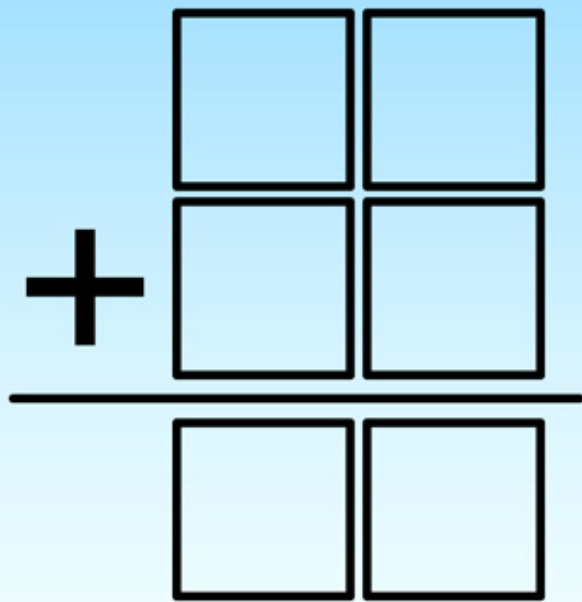




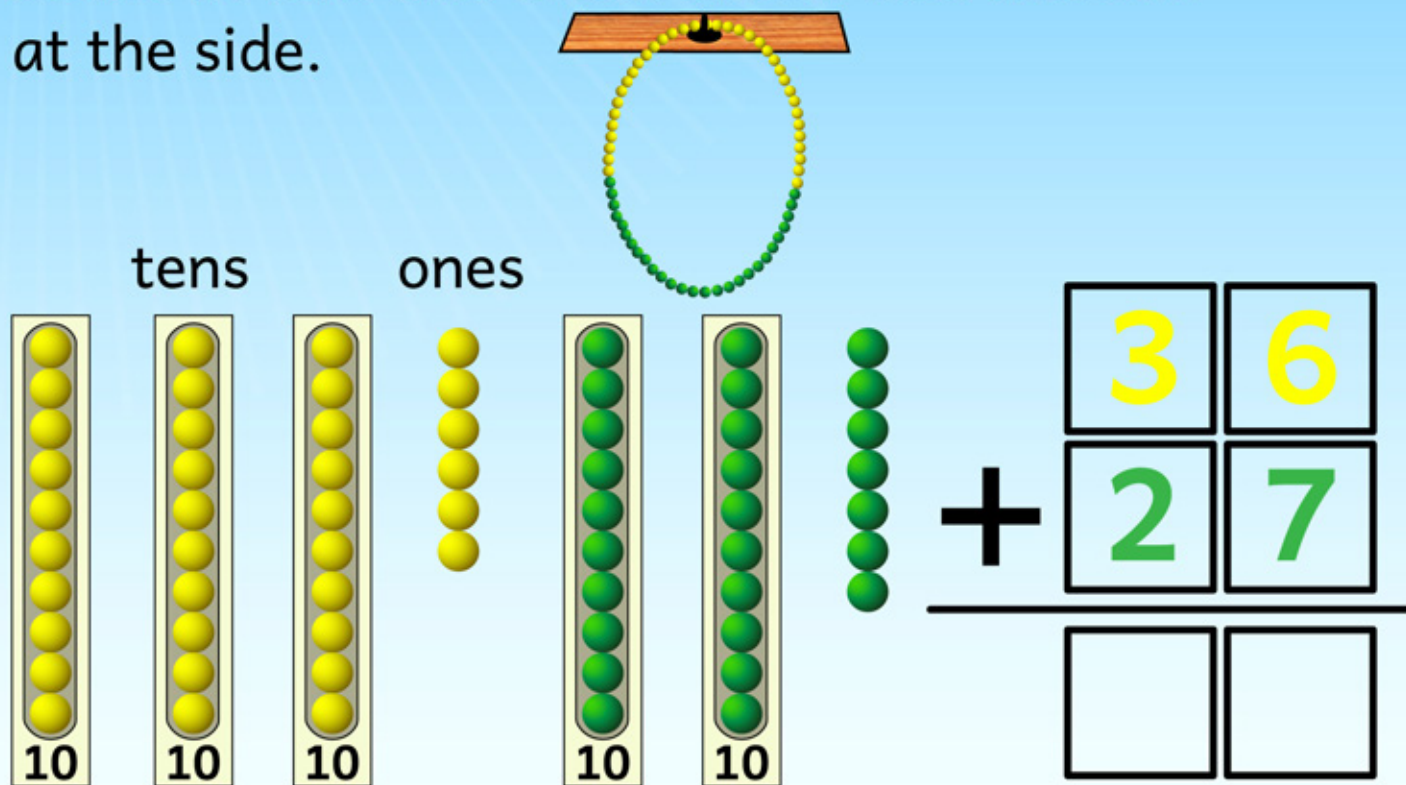
Mzee Kigo explains that this method of **grouping and carrying** is quicker than counting the beads one by one. “It’s much clearer now!” exclaims Kibena. But Tiny Tembo complains that he will only make 38 shillings.



Kibena offers to calculate the number of beads in a necklace, using the **grouping and carrying** method that Mzee Kigo just taught them.

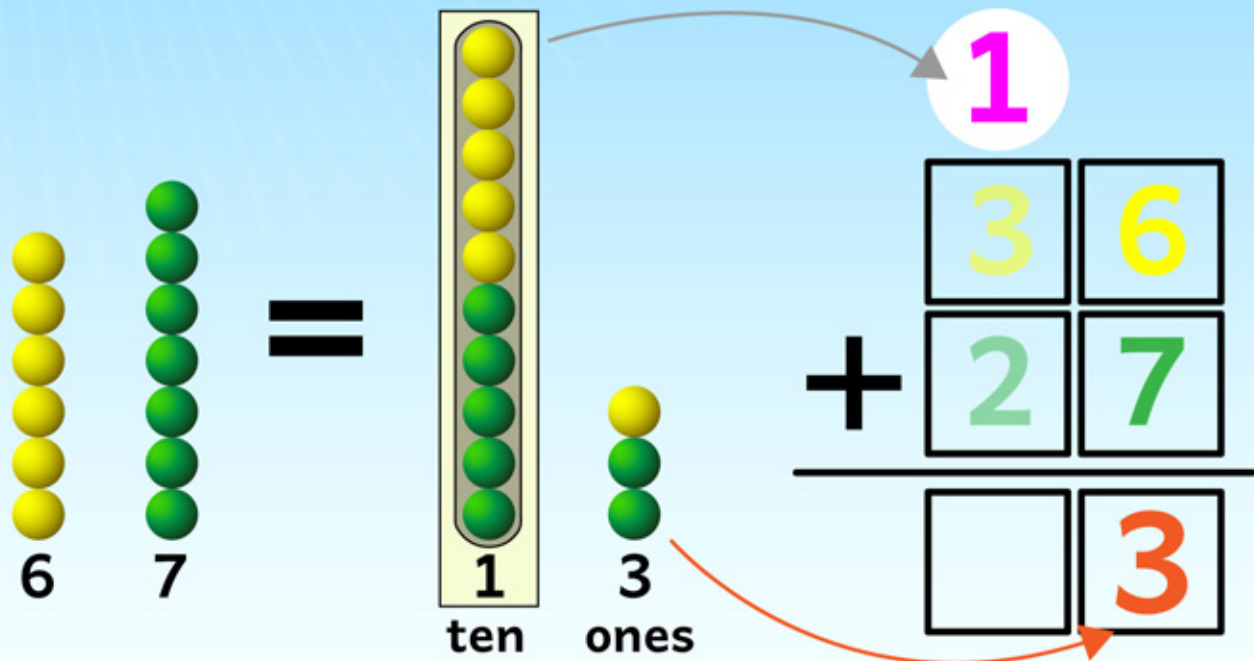


She lays out the 36 yellow beads and the 27 green beads in tens and ones. She writes the sum at the side.

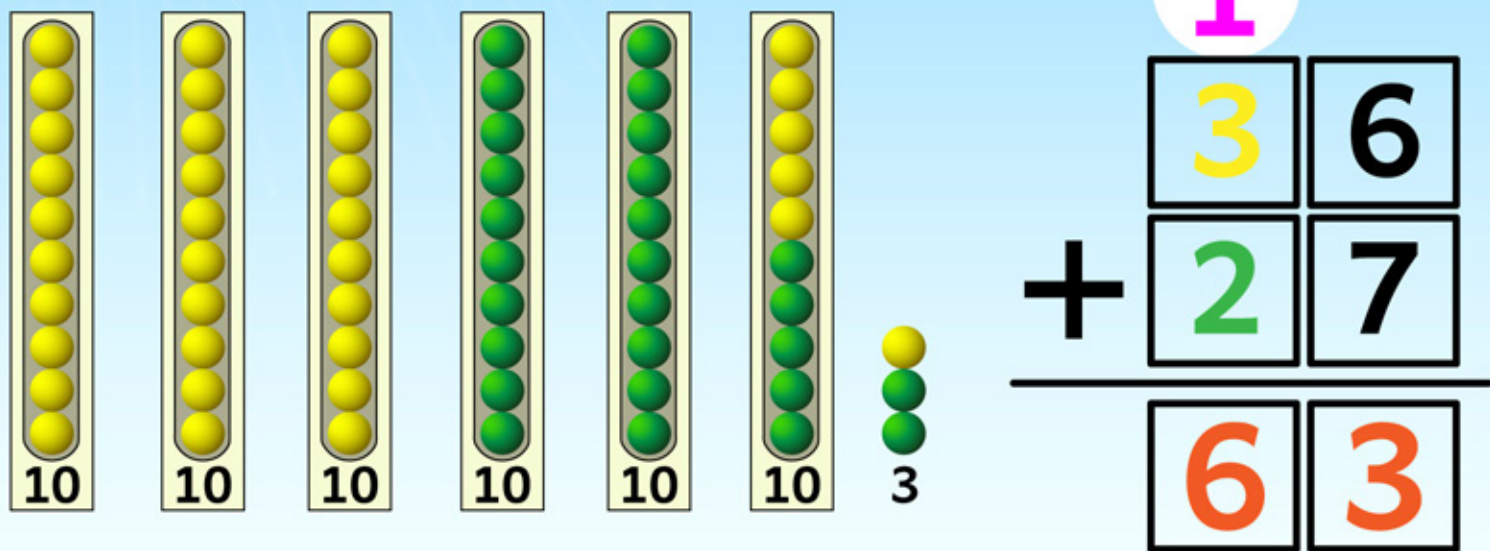




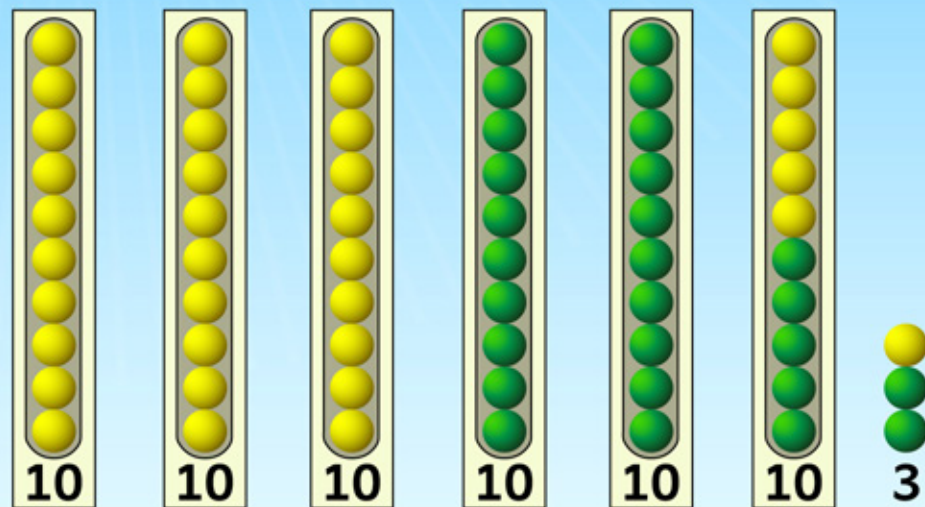
Kibena continues to calculate the total by using grouping and carrying. “Six plus seven equals thirteen, which is three ones and one ten. The ten carries over into the tens place.



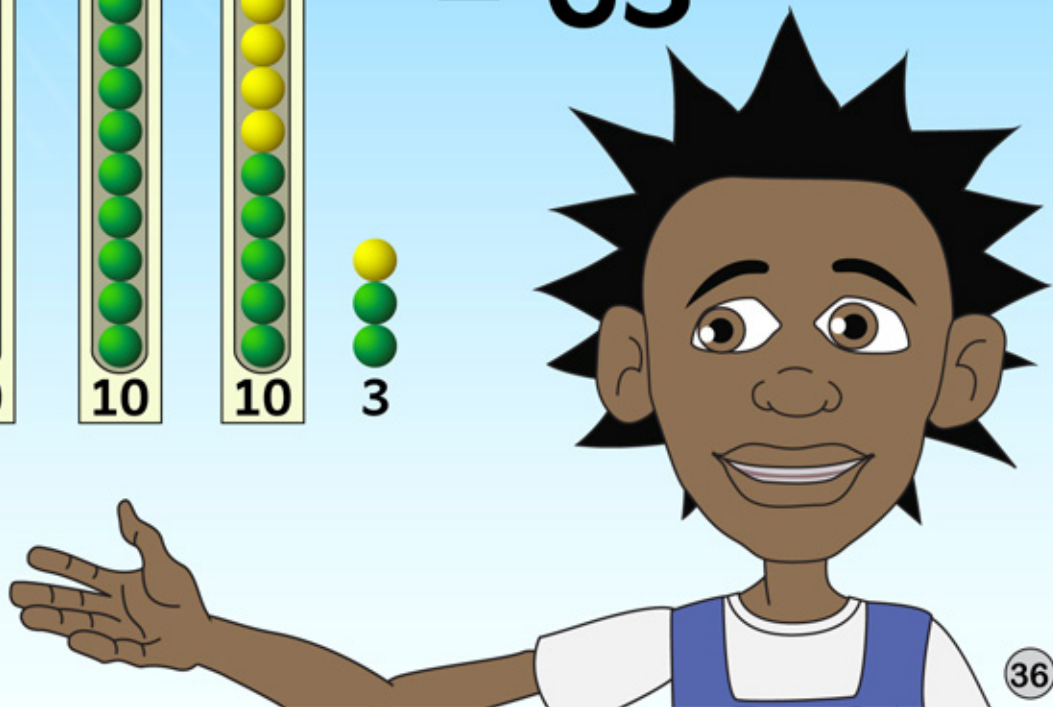
Now we have **three tens**, plus **two tens**,  
plus the **one** we carried over: that makes six tens!  
This is so easy!” concludes Kibena.  
“So the answer is **sixty-three**!”



Kiduchu adds by using the sorting boxes instead and gets 63.

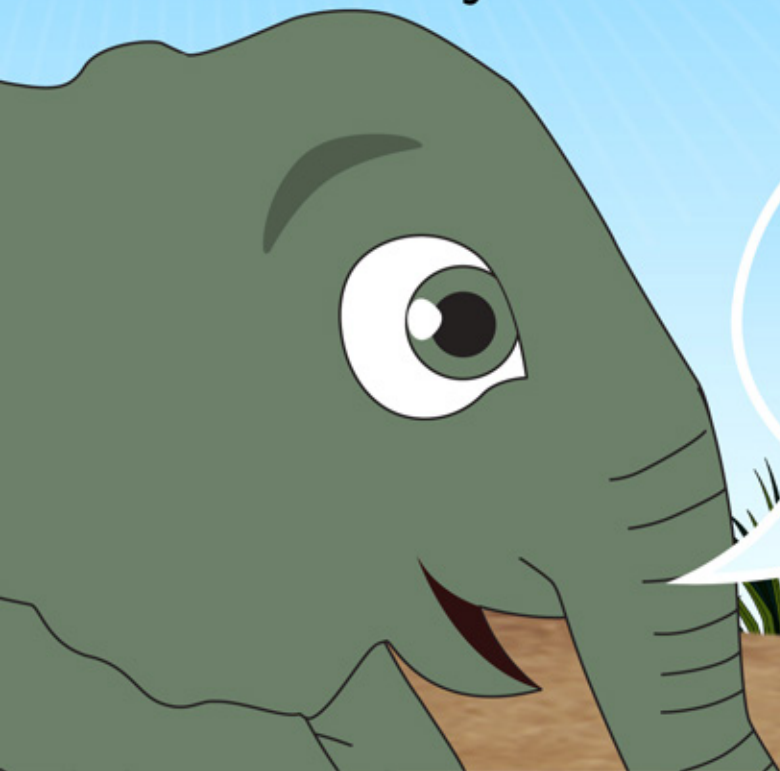


= 63

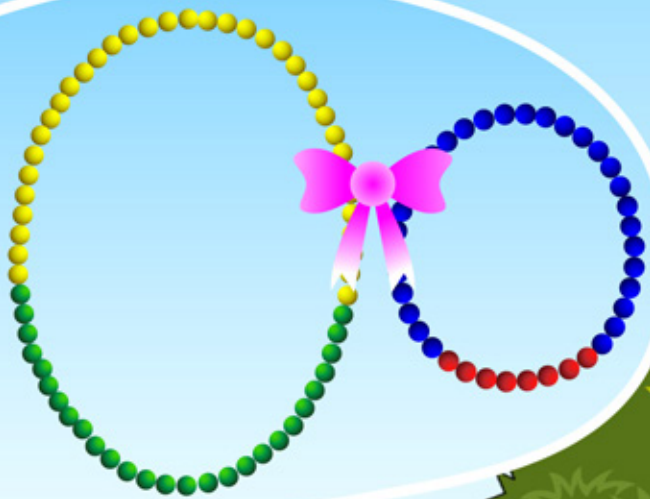




“What if I sell the necklace and the bracelet together? How many shillings will I make?” asks Tiny Tembo.





Set =



Mzee Kigo tells the girls,  
“This time, no need to use the boxes to help you.  
Just place the numbers into their ones and tens  
columns and add them up.”



	tens	ones	
	<input type="text"/>	<input type="text"/>	
+	<input type="text"/>	<input type="text"/>	
<hr/>			
	<input type="text"/>	<input type="text"/>	

Kibena sets up the boxes like this:

38 beads for the bracelet and

63 beads for the necklace.



$$\begin{array}{r} \begin{array}{|c|c|} \hline 3 & 8 \\ \hline \end{array} \\ + \begin{array}{|c|c|} \hline 6 & 3 \\ \hline \end{array} \\ \hline \begin{array}{|c|c|} \hline & \\ \hline \end{array} \end{array}$$

Illustration of a bracelet with 38 beads (3 blue, 8 red) and a necklace with 63 beads (6 yellow, 3 green).



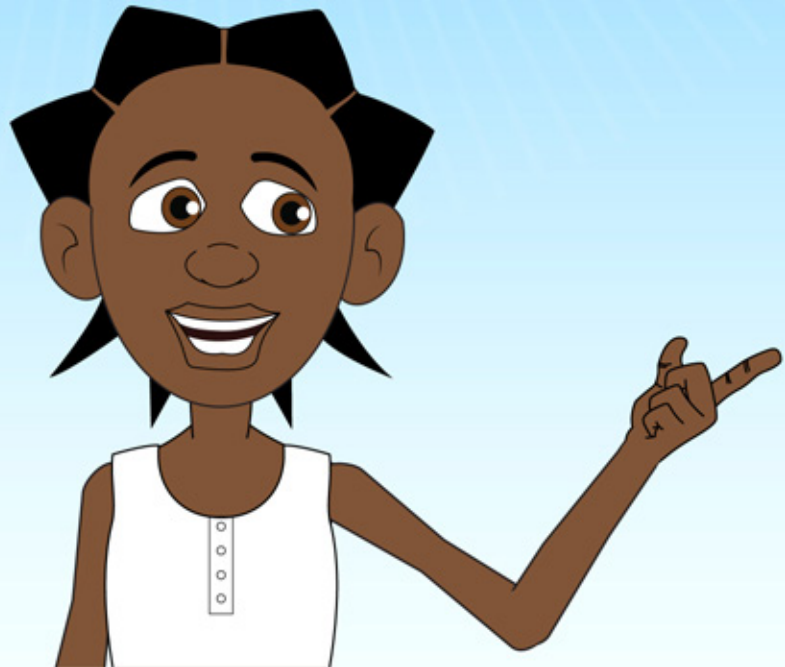
She adds the **eight** and **three** together to get eleven, which is **one ten** and **one one**. She writes the **one** in the ones column and carries the ten over to the tens column...



$$\begin{array}{r} \text{1} \\ 38 \\ + 63 \\ \hline \phantom{0}1 \end{array}$$

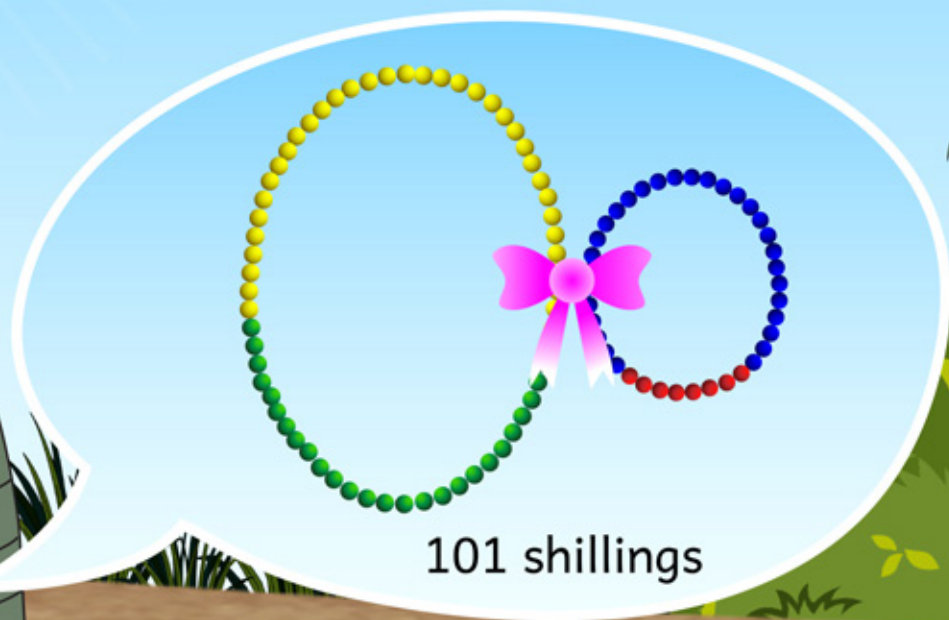
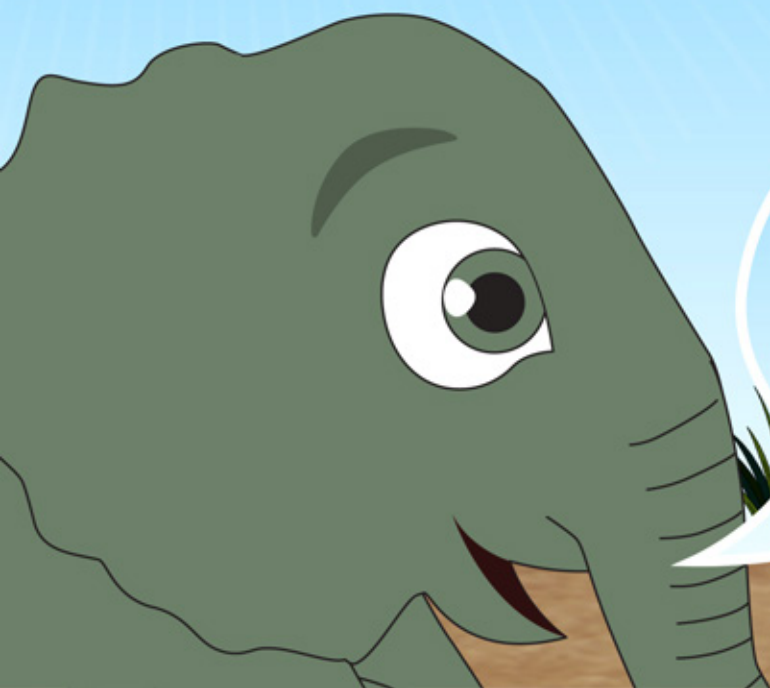
Three plus six plus the one carried over equals:  
one hundred and one!

“Congratulations! You’ve got it!” Mzee Kigo tells her.



$$\begin{array}{r} \text{1} \\ 38 \\ + 63 \\ \hline 101 \end{array}$$

“Yeah! One hundred and one shillings! Let’s make lots and lots, and sell them in sets!” says Tiny Tembo. They all get to work.

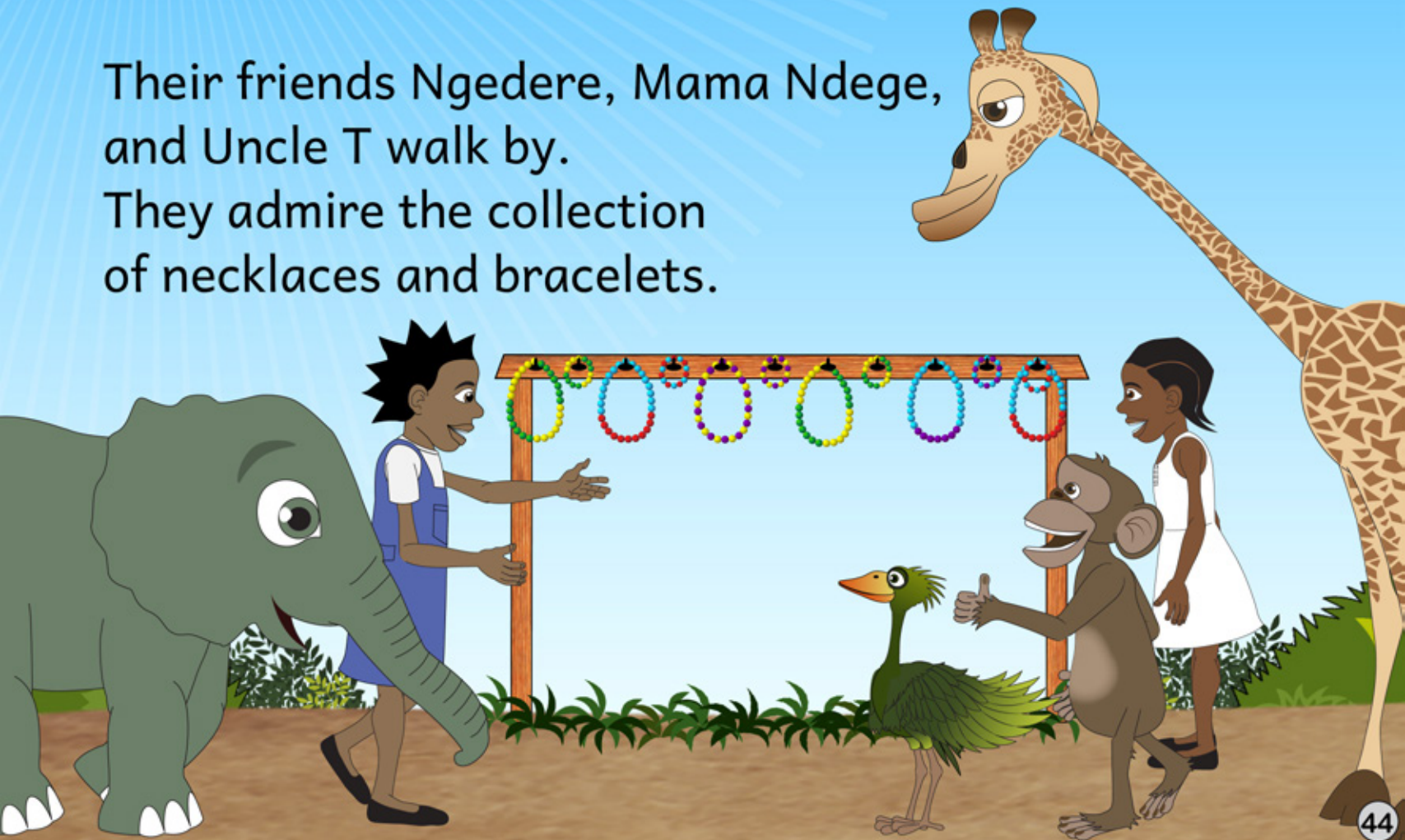




They work hard and make many sets of bracelets and necklaces. As they work, they sing about knowing place values of ones, tens, hundreds, and even thousands.



Their friends Ngedere, Mama Ndege,  
and Uncle T walk by.  
They admire the collection  
of necklaces and bracelets.



“They are beautiful,” says Mama Ndege.  
“Where did they come from?”



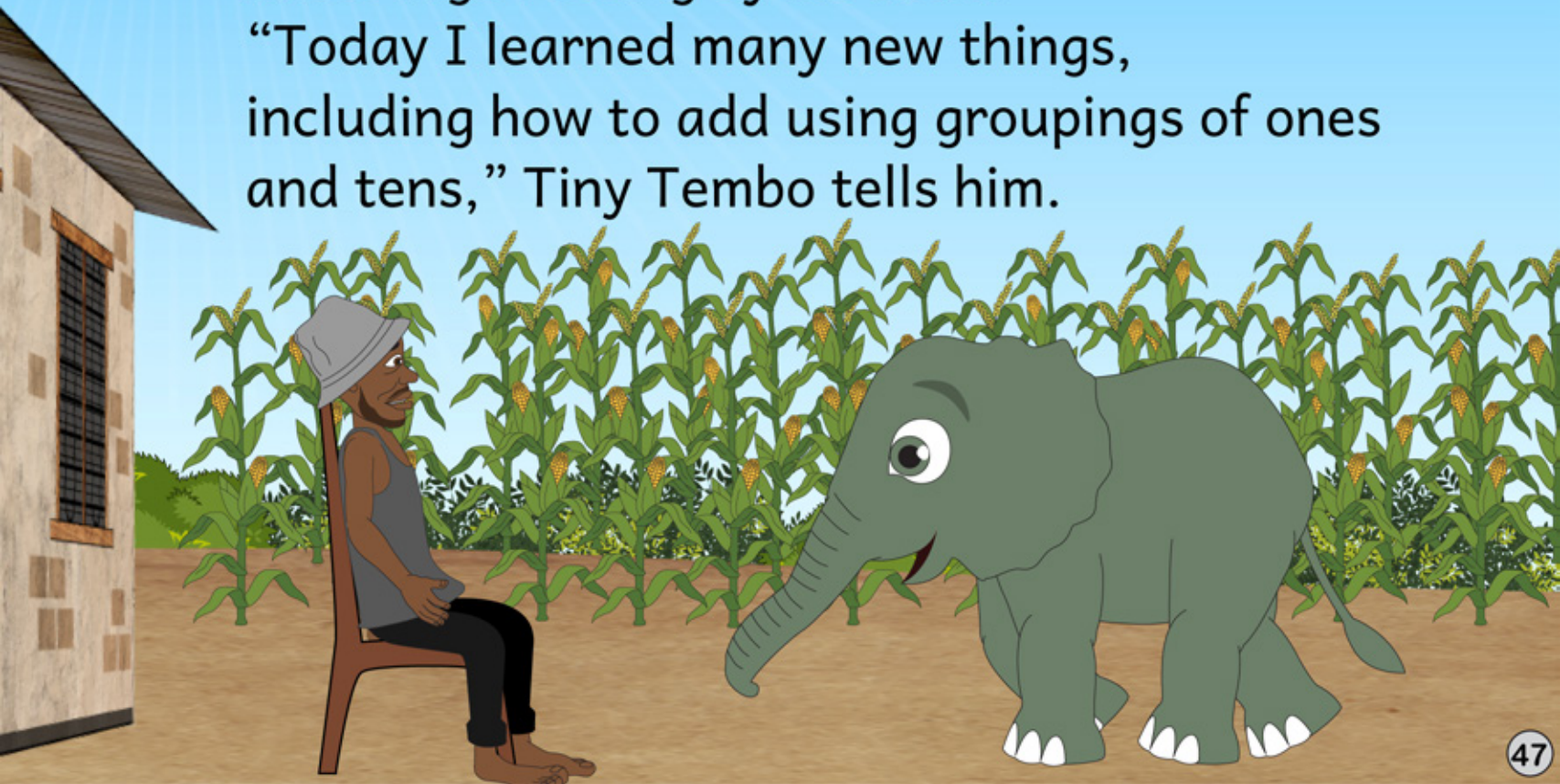


“We made them ourselves!” say the three friends.



At the end of the day, Tiny Tembo finds Mzee Kigo resting by his field.

“Today I learned many new things, including how to add using groupings of ones and tens,” Tiny Tembo tells him.





“And I also learned that, in order to lead a happy life, you need to work together with others and help each other out. That way you learn while having fun!”  
Mzee Kigo simply smiles.







# The End

created by  
[ubongo.co](http://ubongo.co)

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of  
UBONGO INTERNATIONAL,  
except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law.