



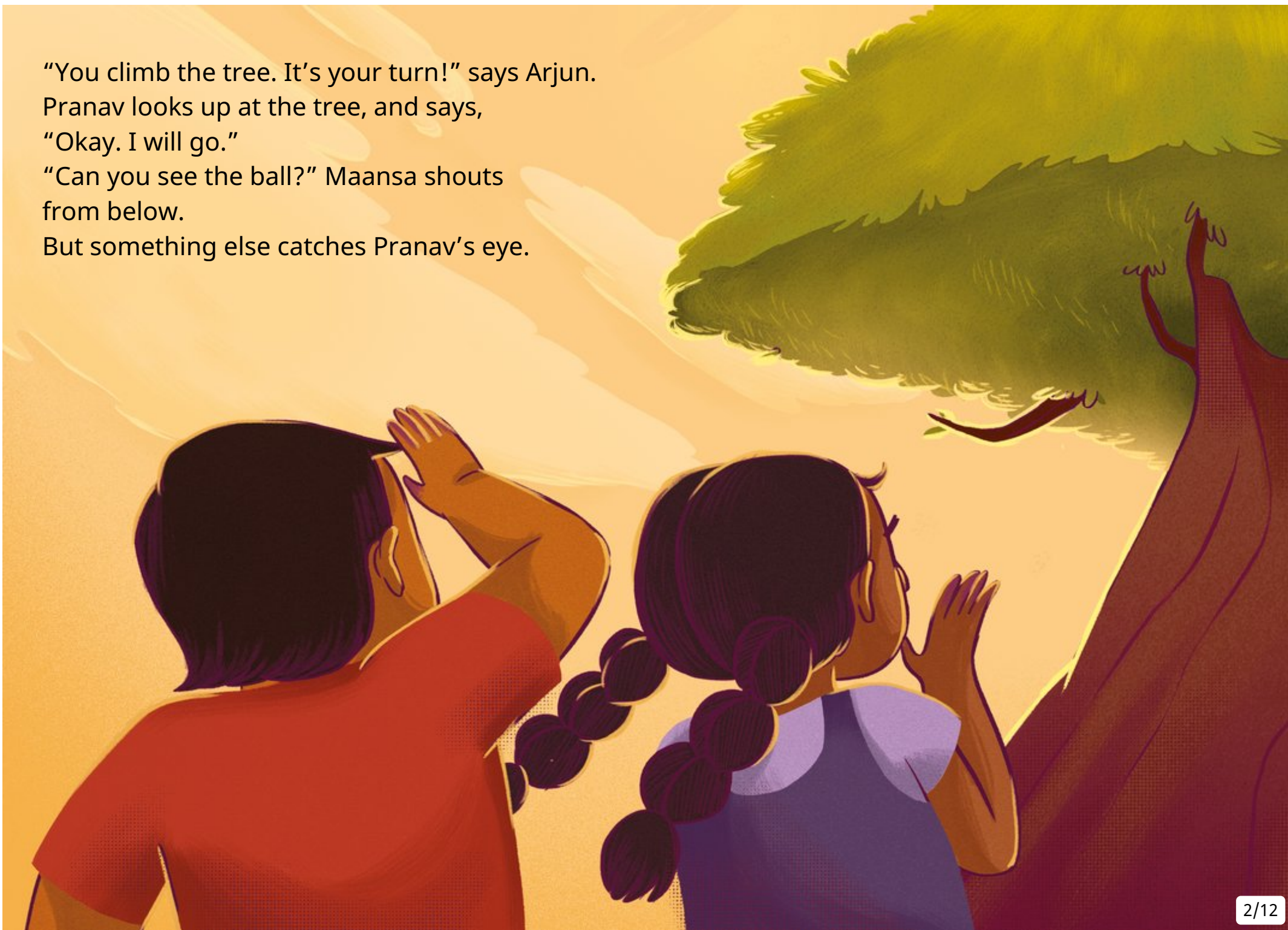
# Pranav the Pattern Detective

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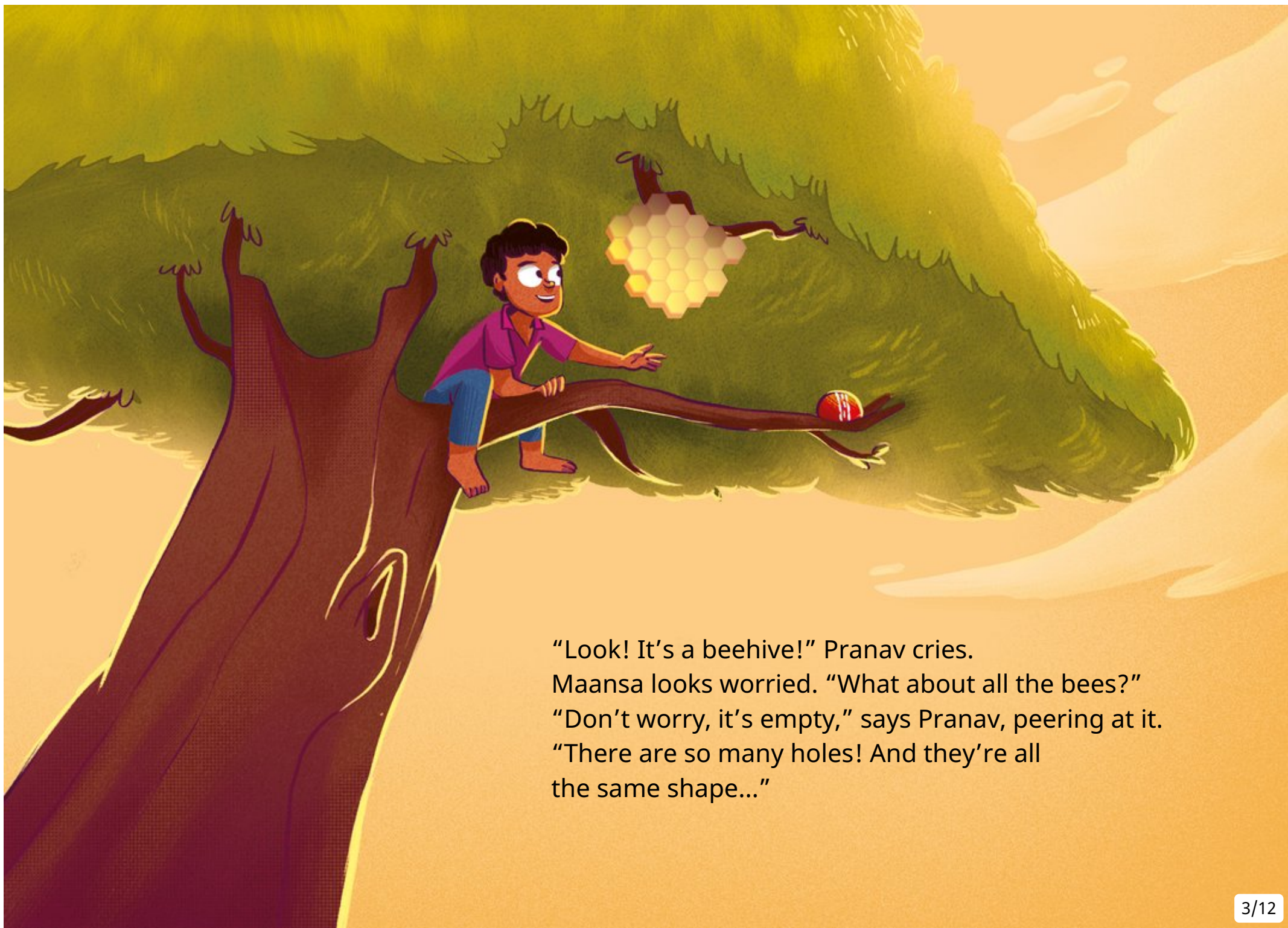
**Illustrator:** Jemma Jose

Level 3

"You climb the tree. It's your turn!" says Arjun.  
Pranav looks up at the tree, and says,  
"Okay. I will go."  
"Can you see the ball?" Maansa shouts  
from below.  
But something else catches Pranav's eye.







"Look! It's a beehive!" Pranav cries.  
Maansa looks worried. "What about all the bees?"  
"Don't worry, it's empty," says Pranav, peering at it.  
"There are so many holes! And they're all  
the same shape..."





“Why did the bees choose this shape? Why not a circle?” Pranav wonders.

He imagines the hive in circles. “That would not work.”

"Bees are very clever," Pranav tells his friends the next day. He has been reading all about them. "They have discovered the best shape for their home. Hexagons come together with no holes or gaps, just like a jigsaw puzzle."

Their maths teacher, Mr Das, overhears them. "The six sides of the hexagon provide more room for the bees," he adds.

"Where did they learn how to do that?" asks Pranav.

Mr Das says, with a smile, "Patterns are everywhere!"





At the market the next day, Pranav looks carefully at the fruits and vegetables. He looks at the pineapples, ridge gourds and the insides of oranges. So many sizes, colours, shapes... but Pranav can see the patterns!

“Are patterns really everywhere?” he wonders.







Pranav becomes a pattern detective!

"There are so many things in nature that are created using repeating patterns," Pranav tells his class the next day.

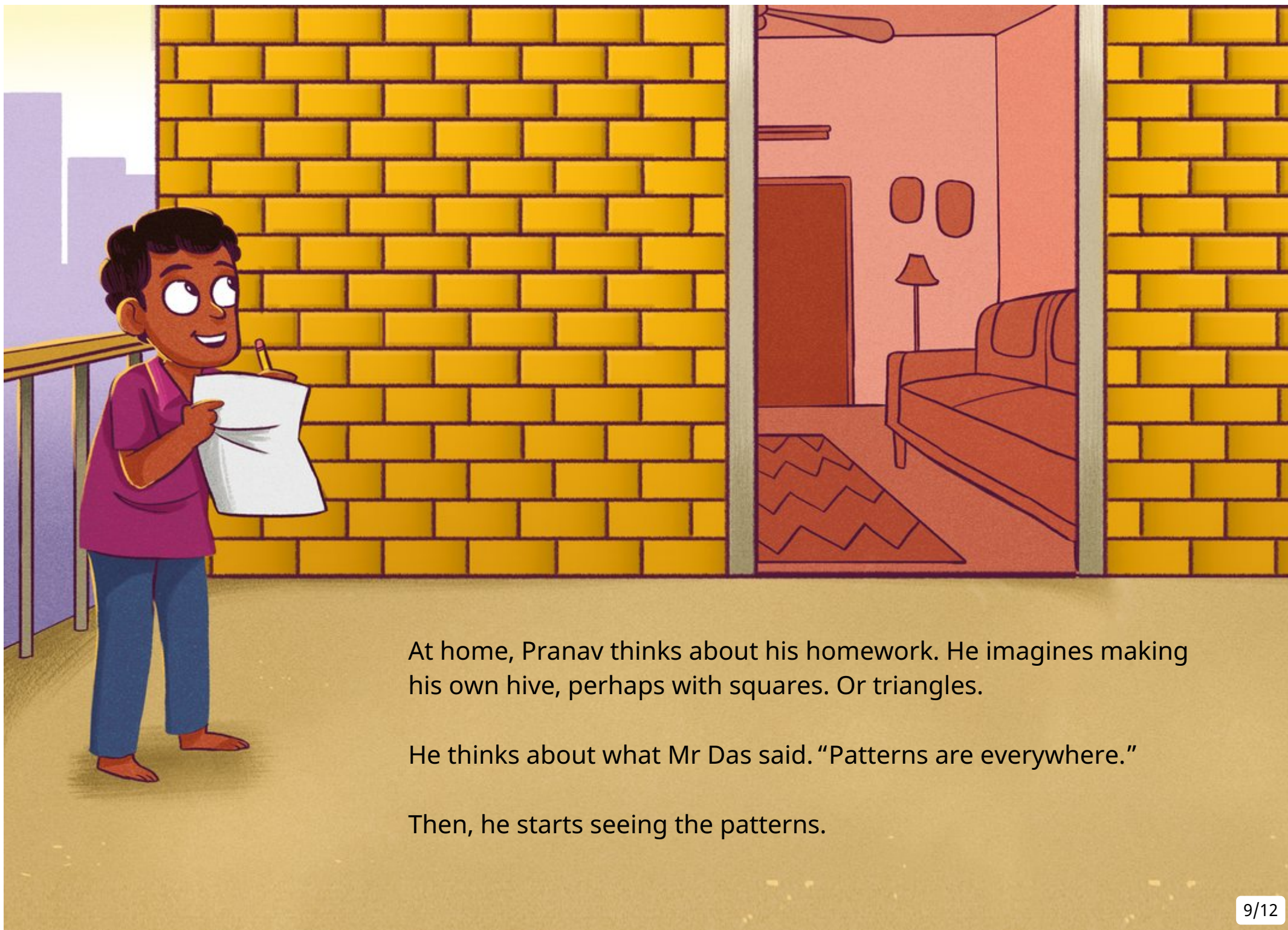
"We use repeating patterns in our man-made world as well," says Mr Das. "Why don't you try to create something using a pattern? That can be your homework."

"What shapes shall we use to make the pattern?" Pranav asks.

Mr Das writes the answer on the blackboard.







At home, Pranav thinks about his homework. He imagines making his own hive, perhaps with squares. Or triangles.

He thinks about what Mr Das said. "Patterns are everywhere."

Then, he starts seeing the patterns.





Carpet. Bookshelf. Windows. Patterns everywhere!  
Wherever he looks, he sees shapes coming together.  
"Bees are not the only clever ones," Pranav thinks.  
"We use shapes and patterns for so many things!"



And so Pranav gets busy  
drawing his dream house.

Red rectangular bricks.  
Black and white square tiles  
at the entrance, like in his  
grandmother's house.

Who knew simple shapes  
could make a home—for bees,  
for me and for you!



## Spot the Patterns

Nature has clever ways of taking shapes and putting them together. Pranav sees this in the world around him: the outside of a pineapple, the inside of an orange, the hexagons of a beehive.

Some shapes, like hexagons and squares, fit together perfectly, leaving no gaps. But others, like circles, don't. When shapes in nature fit together in repeating patterns, leaving no gaps or holes, it is called tessellation.

Pranav sees that humans also use **tessellation**. We repeat shapes to form patterns, and use these patterns to design bookshelves, build castles and create works of art. A simpler word for tessellation is **tiling**.





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# Pranav the Pattern Detective

(English)

It is an ordinary day for Pranav until he spots something special in a tree. This discovery sets him on a journey that changes the way he views the world around him. Shapes will never look the same again.

This is a Level 3 book for children who are ready to read on their own.



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