Name: _____ Date: _____

Tavi and the Bones Under Her Skin

Reading level 8 (4th grade) · 700 words

Tavi pressed her hand to her chest, and something hard pressed back from under her skin. "What is that?" she asked the school nurse. "That is a rib," said the nurse. "It is a bone. How many do you have?" Tavi guessed ten, and then a hundred. "You have 206," said the nurse. "Almost all of them are hiding under your skin."

Tavi wanted to discover every bone, so she tapped the top of her head. Knock, knock! That was her skull, and it keeps her brain safe the way a hard hat does. "Your skull has a big job," said the nurse, "because it protects your brain every minute of every day."

Next Tavi discovered her ribs, and she ran her fingers along them one by one. They curve around her chest like a cage, and inside that cage her heart and her lungs were safe. Tavi pressed on the cage with her fingers, and it felt strong.

The nurse had Tavi reach around and feel the middle of her back. "Do you feel the bumps?" she asked. "That is your spine, and it is a stack of small bones shaped like rings." Tavi ran her finger down the bumps. Soft pads sit between the rings, which is why she can bend and jump without a crunch.

Tavi bent her knee, and then she bent her elbow. Both of them work like the hinge on a door, because they swing open one way and close the other way. "Now try your shoulder," said the nurse. Tavi swung her arm all the way around, and it went in every direction. A shoulder is not a hinge at all!

Tavi wiggled her fingers and wondered how many bones were inside one. "Three in each finger," said the nurse, "but a thumb has only two." Tavi counted the bones in her own hand and pressed each finger, and she felt the little bones under her skin. Her thumb had one fewer than the others.

"Which bone is the longest?" asked Tavi. The nurse tapped Tavi's leg just above the knee. "The femur," she said, "and it stretches from your hip to your knee." Tavi pressed on her leg. It felt long and heavy and strong, and it carried her weight when she stood on one foot.

"And which one is the smallest?" asked Tavi. The nurse touched the side of Tavi's head, beside her ear. "That one hides deep inside, behind your eardrum, and it is only a few millimeters long." Tavi pushed on her ear, but she could not feel it at all.

On the wall hung a photograph of Tavi as a baby, and she asked, "Did I have the same bones then?" "No," said the nurse. "You had more, maybe 300! Some of them were soft, the way the tip of your nose is soft. As you grew, the soft parts turned into hard bone, and some bones grew together."

A baby's head is different, too. A baby's skull has gaps between its bones, and the gaps let the bones squeeze together when the baby is born. As the baby grows, the gaps slowly close, and the bones join at their edges like puzzle pieces. Tavi touched her head, and her gaps had already closed a long time ago.

"Are bones alive?" asked Tavi. "Yes," said the nurse. "They grow and change all the time." Tavi thought about that for a moment. A boy in Tavi's class had a blue cast on his arm. ""His bone is mending right now," said the nurse, and Tavi looked at the cast and thought about the bone inside."

After school, Tavi got on her bike and pulled on her helmet. She pulled on her wrist pads and her knee pads, too. Then she clicked the strap tight under her chin, and the helmet felt snug and safe. Click.

Now it is your turn to try. Press your fingers on your ribs and feel how they curve around your chest. Then wiggle your toes. Each little toe has three bones, but your big toe has only two. How many other bones can you find? Start at your head, and work your way down.

Questions

1. How many bones does an adult have?

A. 206
B. 33
C. 300

2. Why does a baby's skull have gaps between its bones?

A. So it can grow a hat
B. So the bones can squeeze together when the baby is born
C. So the baby can hear better

3. In this story, what does the word "hinge" mean?

A. A part that swings one way, like a door
B. A part that spins all the way around
C. A part that stays stuck

4. Which bone is the longest?

A. The stirrup
B. The rib
C. The femur

5. What was happening to the bone under the boy's blue cast?

A. It was mending
B. It was turning to rubber
C. It was getting smaller

Words to know

skull: head bone
spine: back bones
hinge: swings one way
femur: thigh bone
cast: hard bone wrap

Answer key: Tavi and the Bones Under Her Skin

1. A. 206
2. B. So the bones can squeeze together when the baby is born
3. A. A part that swings one way, like a door
4. C. The femur
5. A. It was mending