

Submarines

Zuri and Friends

Made for Tlaloc

With love from the Faust book maker

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Zuri, Teo and Juno were friends. Their owl Pip came. They wanted to peek from below. At the harbor stood an underwater boat. “A submarine travels underwater,” Zuri explained. “People can ride inside.” A yellow tugboat was leaving.



Teo peeked up through a tube. “This periscope showed things above,” Zuri explained. “Glass inside turned light.” Teo saw gray.

Did you know? Light from outside enters a periscope's top. Glass inside turns light toward the viewing hole.



For a better peek, Teo pressed closer. His glasses slipped crooked! “Peek, peek—still gray!” he cried.



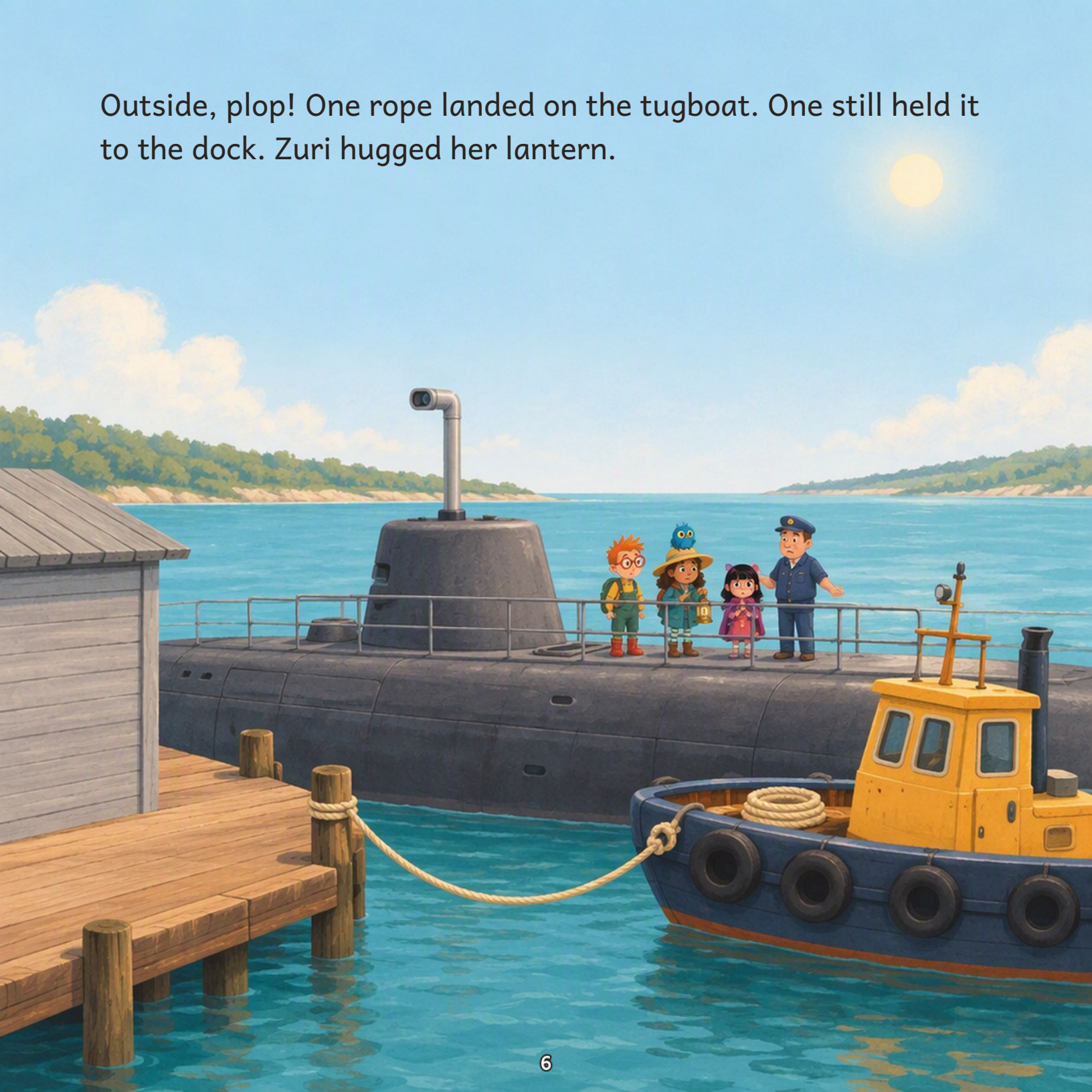
“Wait, wait, wait, but WHY?” asked Teo. For another try, he switched eyes. Juno leaned sideways. “Peek, peek—still gray!”



Pip tugged Zuri's scarf toward the stairs. Their guide, *a* museum helper, led Zuri upstairs. *W*as the tugboat leaving?



Outside, plop! One rope landed on the tugboat. One still held it to the dock. Zuri hugged her lantern.



Zuri traced the tube below their feet. “Glass turned light down the tube,” she explained. “We saw outside from below!”

Did you know? Some periscopes use two glass pieces. One turns light down the tube. Another turns light toward the viewing hole.



Juno spotted a shed's broad gray wall. In her sketchbook, she drew matching gray. Could that explain their view?



Back inside, Pip pointed at a turning handle. Zuri said, “The top faced that shed! Turning would change our view.”

Did you know? Gray walls bounce light into a periscope. Inside glass turns that light toward someone's eye. The person sees the wall.



Zuri asked their helper to turn the handle. Swish! Gray slid away. Through the tube, Zuri saw rippling water.



The helper turned farther. Zuri followed the turning opening. Only water passed. The last rope rose. Everyone waited.



All peeked. Teo waved wildly. “Peek, peek—hello, yellow!” “They couldn't see you,” Zuri explained. Juno drew. “That's a story!”



For grown-ups

Traditional submarine periscopes use two glass prisms. Their tops must clear water for above-water views. Some submarines use cameras instead.