

# RULER OF THE WAVES

Kelly Slater talks about big waves and surfboard measurements

Surf's up! Kelly Slater, a nine-time world champion surfer, stars in the new IMAX 3-D movie *Ultimate Wave Tahiti*. In the movie, surfers talk about what creates a wave, how a wave is formed, and what waves do in the ocean. But the movie is not just about the science of waves. Kelly and other surfers show off and even wipe out on the big waves!

Kelly also shares what makes the best wave for him. "The ultimate wave is different for everyone," he told *DynaMath*. "Anywhere between 10 and 20 feet high is what I love."

Kelly rides the waves using different boards based on the size of the waves and what kinds of tricks he wants to perform. In general, the bigger the wave, the smaller the surfboard he uses. Kelly can surf on boards as short as 62 inches or as long as 120 inches—10 feet!

Kelly's boards also have different widths and thicknesses. The better you get at surfing, the shorter, narrower, and thinner your board can be to ride the waves!

**Measure fractions of an inch** to compare different surfboards. Then, let's hit the waves!

## What to Do

Use the information in *Reading a Ruler* above and to the right to answer the questions about surfboard sizes.

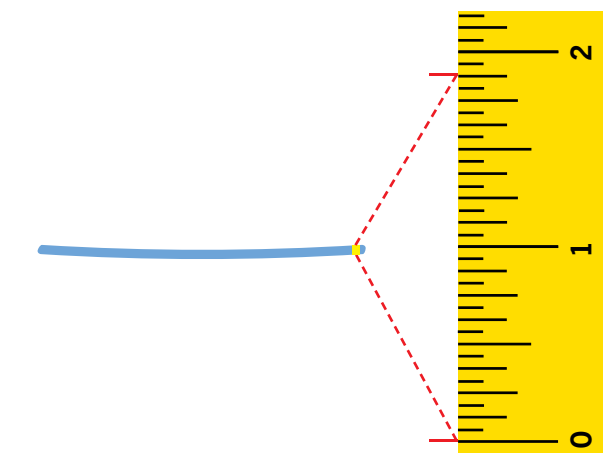
**READING A RULER**  
Most inch rulers or tape measures divide each inch into 16 equal sections. Lines of different lengths stand for different fractions of an inch:  $\frac{1}{16}$ ,  $\frac{1}{8}$ ,  $\frac{1}{4}$ , and  $\frac{1}{2}$  inch.

1 Kelly won the 2008 world champion title on a board with the width shown in the close-up below. What is its width?

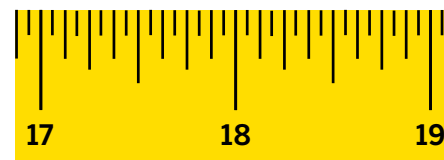


Kelly makes a splash wherever he goes!

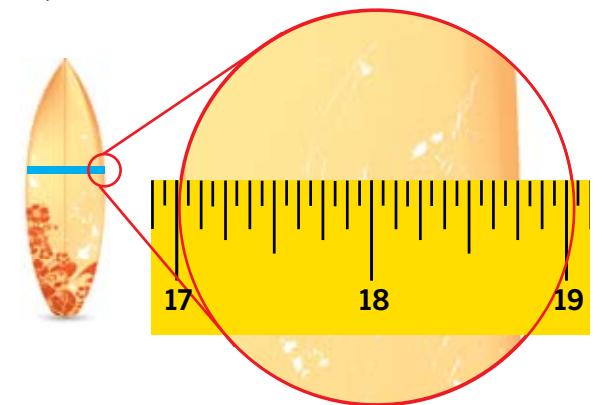
2 The lines on the ruler below show the thickness of one of Kelly's thinnest boards. How thick is the board?



3 Some of the boards Kelly uses are  $18\frac{1}{2}$  inches wide. Mark where  $18\frac{1}{2}$  inches would be on the ruler below.



4 Sometimes, Kelly likes to use one of his shorter boards. It is 64 inches long. When Kelly rides a shorter board, he likes it to be wider so he can float better while waiting for the perfect wave. What is the width of this board?



5 An 11-year-old girl wants to start surfing, and a surfboard maker says that she should use a board that is 7 feet long and  $3\frac{5}{16}$  inches thick. Mark  $3\frac{5}{16}$  inches on this ruler.



## SUPERMATH

Most of Kelly's boards are between  $18\frac{3}{8}$  inches and 20 inches wide. What is the difference between those widths?

—By Katherine Jakub