

Student Worksheet

Introducing the Nanoscale: Metric Conversion Problems

Below are some interesting facts that you need to convert into nano units.

1. The world's smallest newspaper was made in the country of Brazil. The paper measured 2.5×3.5 cm. What would this be in nanometers?
2. So you think you think everybody is looking at you! Check this out:
The tallest person in the world lives in Mongolia. He went through a growth spurt when he was a teenager and he is now a total of 2 m 36.1 cm tall. How many nanometers is this?
3. Ever hear of Gene Simmons and the band Kiss? Mr. Simmons was the guy with the habit of sticking out his long tongue, (his long, long tongue)! In fact, his tongue is about 8.75 cm long. How many nanometers would this be?
4. Want to run with the "Big Dogs"? Well, this big dog is only 13.8 cm tall. He is the world's smallest dog. His name is Danka and he is a long-haired Chihuahua. How tall is Danka in nanometers? Woof!
5. Did you know that the world record for the highest jump by a dog was 167.6 cm! That's almost as tall as the average man! The dog was a greyhound named Cinderella and she did it at the Purina Dog Chow Incredible Dog Challenge in 2003. How many nanometers did Cinderella jump?
6. Say what? I didn't hear you, my ears got in the way! That is because my name is Nipper's Geronimo and I am a rabbit with the world's longest ears. No joke! This bunny from Bakersfield, California, USA has a 79 cm long ear! How many nanometers is this?
7. This goat has bragging rights! With the world's longest horns at 132 cm from tip-to-tip, Uncle Sam (the goats name), would have a hard time getting through the door. How many nanometers is this?
8. This cell phone is gigantic! As the world's largest cell phone, it is a whopping $2.05 \times 0.83 \times 0.45$ meters. Definitely not your typical cell, but what would these dimensions be in nanometers?
9. A professional stuntman held his breath for 2 min 38 s—while on fire! This stunt set the world record for a full-body burn without oxygen supplies. How many nanoseconds did the stuntman hold his breath?
10. Ever hear of the rapper Ricky Brown? This guy can rap 723 syllables in 51.27 s! He set this record on his *No Clue* track at B & G Studios in Seattle, Washington, USA. How many nanoseconds was this?