



At what temperature does water freeze? It depends!

FREEZE!

Water freezes at 0°C, right? Yes and no – that’s just the starting point. Scientists have shown water droplets can freeze between 0° and –38°C. But the limit just dipped again!

A team of engineers at the University of Houston took it down further to a very chilly –44°C. They did this by experimenting with microscopic droplets of water down to 2 nanometres in size. Droplets on softer surfaces, such as oil or gel, froze at even lower temperatures.

Understanding more about how water freezes has lots of applications. It can improve anti-icing designs for aircraft and wind turbines, help with climate predictions, and improve the storage of human organs for transplants.

And then there’s the icy mystery of wood frogs. They turn themselves into ice blocks during harsh winter conditions. Scientists haven’t worked out all the details of how these frogs can survive. But they do!

So the next time someone asks you at what temperature water freezes, you could say: “That all depends!”

– By Louise Molloy

SNIFFING OUT PLATYPUSES

Scientists at Zoos Victoria plan to use their Detection Dog Squad to sniff out platypuses in the wild. Platypus numbers are falling, and they are vulnerable to bushfire and drought.

Current predictions say the platypus population will drop by half over the next 50 years. This grim outlook has prompted the zoo to rally the dog squad to learn more about how this furry icon lives in the wild.

Dr La Toya Jamieson is a Wildlife Detection Dog Officer. She hopes the “old-school technology” of using dogs’ powerful sense of smell will help locate wild platypuses in burrows. Dogs might also help find other signs of platypuses, such as their poo and their use of waterways.

La Toya said dogs were chosen for the squad based on their athleticism and agility, but they also need to be highly motivated by rewards, such as treats or toys.

– By Heather Gallagher

Kip the Detection Dog has completed his training. He is on track to sniff out platypuses in the wild from April!

