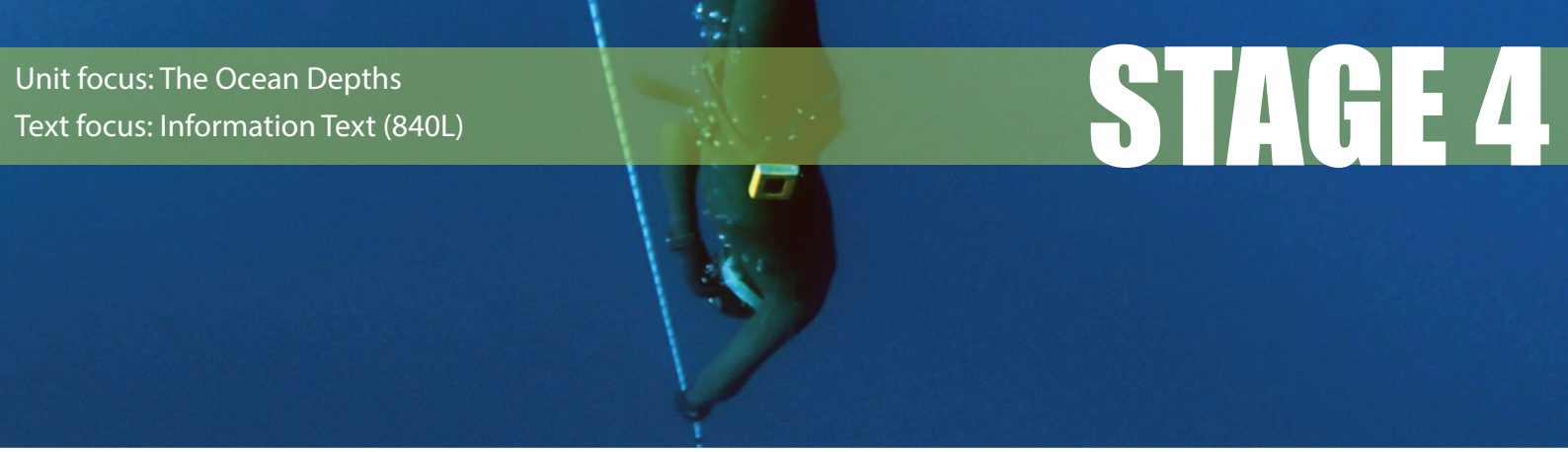


Unit focus: The Ocean Depths
Text focus: Information Text (840L)

STAGE 4

Daredevil Divers

How long do you think an adult can hold their breath? If they concentrate and push themselves to the limits of comfort, most adults can manage between 30 and 45 seconds. After that, the urge to breathe becomes too much. The record for a woman is just over 9 minutes. For men, it's 11 minutes.

Both of these records were set by participants in an extreme sport called freediving. Freedivers spend years learning to control their breathing and maximise the time they can hold their breath for. Once they have learnt to control their breathing, freedivers attach themselves to weights and ropes and drop into the ocean. The idea is to dive as deep as they can on a single breath. There are roughly 5,000 freedivers around the world, and it is estimated that 100 die each year. It is an extremely dangerous sport, and not something to be tried without a lot of training. Even the experts get it wrong.

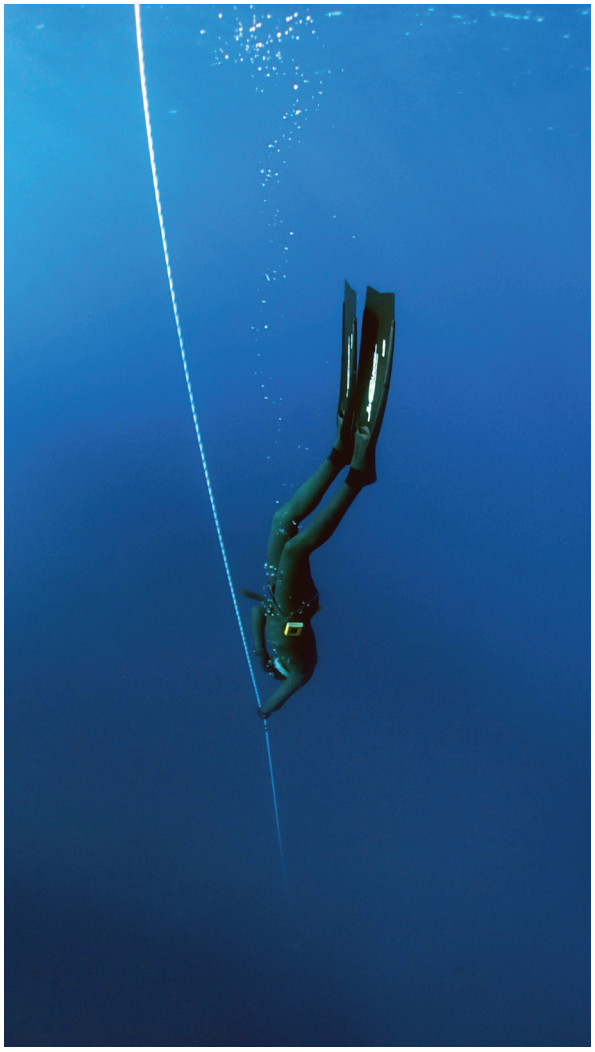
The deepest any freediver has gone is 214m. Herbert Nitsch set the record in 2007. He used a weighted sled to drop him rapidly to the record depth. As soon as he reached his goal, his team used a motor to pull his sled back to a shallow depth to allow him to decompress. The whole thing took just over 4 and a half minutes. He held his single breath of air for the entire time.

One of the biggest problems with freediving is the impact of the pressure on the body. The pressure on the body increases by 1 bar each time the diver descends 10 metres. 1 bar is the pressure on your body at sea-level. The pressure at 10m is twice as much as normal. At 20m, it is 3 times as much. At 30m it is 4 times as much and so on. By the time Nitsch reached 210 metres, the pressure would have been 22 times as much as at sea-level. This causes all of the air in the body to decompress. It also affects the way that gases and chemicals work inside the body. Nitrogen begins to be absorbed into the bloodstream. This has a very similar effect to drinking too much alcohol and can cause divers to make deadly decisions underwater.

The amount of oxygen in a diver's blood at such extreme depths reaches nearly zero. Their heart-rate slows dramatically. Scientists still don't fully understand how they can survive. Things can go

wrong quickly at even relatively shallow depths. For the first 15-20 metres, the human body is very buoyant. It is hard work to get a diver to this depth because the body tries to float. Once they get past this point, it reverses. The pressure means that there is so little air left in the body that it begins to sink. Suddenly, it becomes important to stop the diver from sinking too far and disappearing.

Whatever their reasons for doing it, freedivers can see parts of the ocean that most people can only dream of.



VOCABULARY FOCUS

1. What does the word “urge” mean?
2. What are “participants”?
3. Find a word that tells you the speed that Herbert Nitsch descended.
4. Which word tells you that nitrogen soaks into the bloodstream?
5. Write a definition for “buoyant” in this context.

VIPERS QUESTIONS

I	Why do you think it is called “freediving”?
S	Why is freediving dangerous?
S	What happened as soon as Herbert Nitsch reached a depth of 214m?
R	How long can most adults hold their breath for?
I	Why can most people only dream of seeing the deep parts of the ocean?

Answers:

1. A desire or impulse
2. People taking part in something (freediving)
3. Rapidly
4. Absorbs/absorbed
5. Floats easily

I: Because they don't have any oxygen equipment and aren't attached to anything.

S: The body is under a lot of pressure as it gets deeper. Divers have to hold their breath for a long time. They might suffer from nitrogen poisoning and act in a dangerous way.

S: His team used a motor to pull him back up to a shallow depth. Then he decompressed before returning to the surface.

R: 30-45 seconds

I: It is too dangerous for most people to do