

5/15/2023 (#5 this year)

Did you enjoy the long walk last week? The weather was perfect. It was sunny, but not too warm. Perfect walking weather. I walked with the junior high school from Makomonai Park to Jyozankei. How was the high school walk? That is a nice walk from Chitose to Shikotsuko. You spend a lot of time walking through the forest. The junior high spend a lot of time walking on roads, which is not quite as nice. How are your legs? My legs used to hurt the next day. Then I got older and they hurt two days after we finished. Now I'm even older and they hurt about three days after we finish and for a long time. Ha ha. I guess I'm not fit¹ enough². I need to exercise more.



12 differences

Last week's answer



Something you didn't know about concrete:

1. Concrete was first used in 1300 BC. People discovered that when they covered their forts³ in a thin layer of limestone⁴, it dried to become a very hard layer.
2. The Romans perfected concrete and used it in many of their buildings. It was a time called the architectural⁵ revolution. Many of their buildings are still standing.
3. The word "concrete" comes from the Latin word "concretus", which means "to grow together". The Romans named it.
3. Concrete is the most used building material in the world.
4. 4.1 billion tons of concrete are made every year.
5. Concrete gets stronger the longer it is used.

Concrete that Absorbs CO2

What connects⁶ a 3-time NBA basketball champion and an architect? Concrete that absorbs⁷ CO2 is the answer. Rick Fox is a retired basketball player and an entrepreneur. He is from the Bahamas, which is being heavily affected⁸ by climate change. He wanted to do something to help and Sam Marshall, the architect, had an idea to make concrete that absorbed CO2 from the atmosphere. Rick Fox invested⁹ his money and they formed a company called Partanna.



His company aims to solve two problems. The first problem is that a huge amount of CO2 is produced when concrete is made and the second problem is that there is too much CO2 in the atmosphere. To make concrete, you have to mix 15% Portland cement, 15% water, and 70% sand and stone. The Portland cement is made by heating limestone to a very high temperature and then grinding¹⁰ it. This process releases an enormous amount of CO2. In fact, the concrete industry produces 5% of the world's CO2 emissions!! Rick Fox's company have found a way to make concrete without this step. They use natural and recycled ingredients that



cure¹¹ at room temperature. On top of this, the materials they use absorb CO2. They continue absorbing CO2 when they are used as well. A 100 m2 house will absorb 22.5 tons of CO2 instead of creating 77 tons!

- 1.fit 健康な 2.enough 十分 3.fort とりで 4.limestone 石灰岩 5.architect 建築家
6.connect 関係する 7.absorb 吸収する 8.heavily affected 大きく影響される 9.invest 投資する 10.grind するつぶす 11.cure 硬化する



World record

Have you ever tried to hula hoop? I think that it is pretty good for your body, but it is very difficult to do. I can only do two revolutions¹ before it falls to my feet and I trip over² it. There are a lot of hula hoop world records. Here are some of them. The longest someone has hula hooped for is 100 hours. Jenny Doan of Australia managed to do that in 2019. Fancy trying to break that? The world record for the most hula hoops spun at once is 200. This record is held by Marawa Ibrahim, also of Australia. She managed to spin all 200 hoops in 2015. The world record for the largest hula hoop spun is held by Yuya Yamada of Japan. (I thought it was going to be Australia again.) She managed to spin a hoop that was 5.4 m in diameter! That is enormous. There is also a record for the fastest time to run 100 m while spinning a hula hoop. That record is held by Roman Schedler and he ran it in 13.84 seconds. I couldn't run a hundred meters that fast even without that hula hoop!



When you see bad things on the news, look for the helpers. You will always find people who are helping. – Fred Rogers

An invention

Here's an invention you have probably never even thought about. When do you think nails³ were invented? I don't mean the nails⁴ on your hand, I mean the nails we hammer in to wood to make things. The first nails were used in 3,400 BC, in Ancient Egypt. But they were made of bronze⁵ and



not iron⁶. We have had four ages in human history: the Stone Age, the Bronze Age, the Iron Age, and the Digital Age. In the Stone Age, people only had stone tools, and it is not possible to make nails. Wooden buildings were held together with rope or wooden joints⁷. In the Bronze Age, they learned how to melt⁸ and make things with bronze. The first nails were from this era⁹ and were discovered by archaeologists¹⁰ in Egypt. They were dated to 3,400 BC. They were the same shape as our nails now. However, nails were not very common because it was easier to make wooden joints. Bronze nails are very soft and it is difficult to hammer them. They also have to be made by hand, so you cannot make many of them. Then we learned how to make iron, and we had iron nails. They still needed to be made by hand, though. Then, in the 1870s, people learned how to mass produce¹¹ steel, and we have the nails that we use today. Interesting.



- 1.revolution 回転 2.trip over it～に足がひかかる 3.nail 釘 4.nail 爪 5.bronze 銅
6.iron 鉄 7.wooden joint 木造継ぎ手 8.melt 溶かす 9.era 時期 10.archaeologist 考古学者 11.mass produce 大量生産する