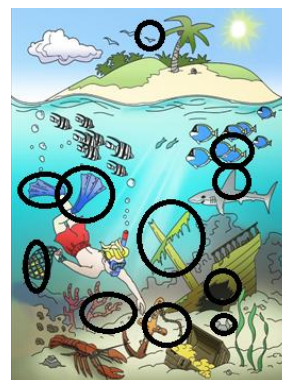


It was my daughter's birthday last week. My brother bought her a disco light that reacts<sup>1</sup> to sound waves<sup>2</sup>. If you put it next to a speaker and play music, the disco light will project<sup>3</sup> different patterns on the walls and ceiling. The patterns will change with different rhythms. I couldn't believe it. When my daughter and I were in the UK this Christmas, my brother had one and my daughter loved it. My brother noticed, and searched for one on Amazon Japan. Then he bought it and sent it to us. My daughter was so happy. And I was overwhelmed<sup>4</sup> with how kind my brother is. My wife didn't like it though. Ha ha.



10 differences  
How quickly can you find them?

Last week:



### Something interesting: Fish

1. There are about 20,000 different species<sup>5</sup> of fish.
2. The largest fish is the whale shark. It is not really a whale. It is just called that because it is so big. It can grow to 18.8 m long.
3. The smallest fish is a type of anglerfish. It is about 6.2 mm long.
4. The most common fish is called a bristlemouth. They are all over the world and there are thought to be quadrillions<sup>6</sup> of them. We can't eat them, which is one reason.
5. The rougheye rockfish has the longest life. They can live to be 200 years old.
6. Fish can hear very well. They pick up vibrations through their skeletons.

### Fish Scale Tiles

A French company have started making tiles from fish scales<sup>7</sup>. They are one of many companies that are springing up to make environmentally friendly and biodegradable<sup>8</sup> products. A lot of people are looking at problems in the world and trying to find solutions to them. This company, called Scalite, saw a problem. When we catch fish, we remove their scales before we eat the fish. If we catch one fish for dinner, that is not a problem, but we fish on an industrial scale. Some of the fish scales are used for fertilizers<sup>9</sup> or fish oil supplements, but about 12 million tons of fish scales are thrown away every year. They are often buried in landfill sites<sup>10</sup>. Scalite have found a way to make tiles out of these fish scales. They take the scales, grind them into a powder, add a natural color pigment and something to bind the powder together. Then they press it into a tile shape using a machine and they have tiles. These tiles are kind to the environment and they can be recycled endlessly.

Interestingly, these tiles are not waterproof, so you can't use them in your bathroom. Because they are made from fish scales, you would think that they would be waterproof, but they are not. They absorb<sup>11</sup> water very easily. The company are trying to find a way to make them waterproof. The problem is, if you make something waterproof, it doesn't biodegrade very easily.

Another person has worked out how to mix fish scales with red algae to make a strong, flexible, and translucent<sup>12</sup> sheet that feels a lot like plastic. It could be used to make plastic bags and it biodegrades in about four weeks.



- 1.react 反応する 2.sound wave 音波 3.project 映る 4.overwhelm 圧倒する 5.species 生物分類 6.quadrillion 1 0 0 0 兆 7.fish scales 魚のうろこ 8.biodegradable 生物分解可能 9.fertilizer 肥料 10.landfill site ごみ埋め立て地 11.absorb 吸収する 12.translucent 半透明



### World record

I was very hungry when I researched this topic. Last month, Pizza Hut in Los Angeles got the world record for the world's largest pizza. They made it on the floor of the Los Angeles convention center. I'm pretty sure that they cleaned the floor first. The final pizza was 4,264 m<sup>2</sup>. They used 6,192 kg of dough<sup>1</sup>, 2,244 kg of tomatoes, 3,992 kg of cheese, and 630,496 slices of pepperoni. It took a team of people nearly the whole day to assemble<sup>2</sup> and cook the pizza. Obviously, there is no oven big enough to take a pizza that large, so they cooked it in sections by moving a portable heater over the pizza. Once they had finished, they cut the pizza up and gave it to local food banks.

They managed to make 68,000 slices. Do you think we could break this record? It would be nice to try, but I don't think we have enough floor space here at school. Maybe we could make one along all of the corridors and in all of the classrooms. What do you think?



**The mind is not a vessel<sup>3</sup> to be filled but a fire to be ignited<sup>4</sup>**

– Plutarch

### A capital city – Wellington

Let's look at Wellington this week. Wellington is the capital of New Zealand. Wellington has a population of 430,000 people, which is 8.4% of the population of New Zealand. New Zealand was one of the last landmasses<sup>5</sup> to be settled<sup>6</sup> by people. Eastern Polynesians reached the islands in about 1250 AD. These people called themselves Maori. The Maori spread across New Zealand. In 1642, the first European explorer arrived. He gave New Zealand its name. In 1839, Europeans started to settle New Zealand. 150 people came from England on the first ship. The first people lived on an area that was swampy<sup>7</sup> and in 1840, they moved to the area that is now Wellington. Wellington became the capital of New Zealand in 1865. Wellington was named after the Duke of Wellington, a famous general<sup>8</sup> in the British war against Napoleon. New Zealand became an independent country in 1947. Wellington is between a harbor and a chain of mountains, so it doesn't have much space to grow. It is the world's windiest city. New Zealand is on the Ring of Fire<sup>9</sup> and Wellington has suffered several severe earthquakes. The most recent one was in 2016. Because of its weather, culture, food, events, and ease of living, Wellington is often ranked in the top five most livable cities.



- 1.dough 生地 2.assemble 集める 3.vessel 器 4.ignite 火をつける 5.landmass 陸塊  
6.settle 定住する 7.swamp 沼地 8.general 大将 9.Ring of Fire 環太平洋火山帯