

The Autumn Festival is in town this week. Are you going to go? I know it is nearly the middle of September, but it doesn't feel very autumnal<sup>1</sup> to me. There are a lot of dragonflies about, but not as many as usual and it is still so hot. I went to the HBC trash pickup on Sunday with 9 students. We had a great time and picked up a lot of trash, but I got really sunburned. While you are reading this, my legs are still stinging<sup>2</sup>. Hopefully, it will start to cool down soon. I think autumn is probably my favorite season of the year. Maybe I will see you at the Autumn Festival. It is always pretty crowded, but the food is excellent and there is a lot of variety.



10 differences

Last week's answer

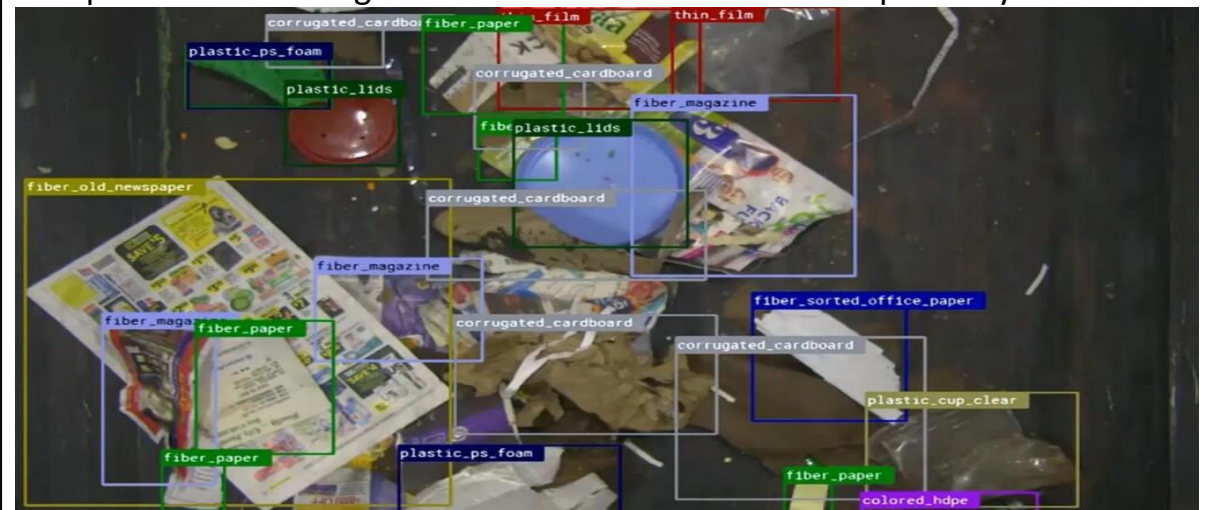


### Something you didn't know about robots:

1. The word "robot" comes from the Czech word "robota", which means "forced labor"<sup>3</sup>.
2. We always think of robots that look like us. These are called androids. Most robots are just machines that can do a task automatically.
3. As the population of Japan ages, we are going to need more and more robots. The Japanese government is investing a lot of money into robots that can care for the elderly and robots that can work in agriculture<sup>4</sup>.
4. There is a Japanese rock paper scissors robot that can win 100% of the time. It is, of course, called Janken. It actually wins by cheating<sup>5</sup>. It has much faster reactions<sup>6</sup> than any human and it can see what shape your hand is forming.

### Recyclables Sorting Robot

We obviously need to recycle far more than we do at the moment. One of the problems is that people don't separate out things in different types of materials. Because of this, a lot of things that are recyclable are thrown away. Only 9% of plastic is recycled in America. If there was a way of sorting out all of the recyclable material, a lot more waste could be recycled. Well, now there is. A company in America called Amp Robotics has made some robots that can do just that. So far, there are two robots, but they are going to make a lot more. The two robots are called Sorty McSortFace and Sir Sorts-a-Lot. If you don't understand the joke behind these names, please come and ask me. Both of the robots have arms, and they are placed above conveyor belts<sup>7</sup>. They use a camera to watch a stream of trash that moves along below them and AI software analyzes<sup>8</sup> everything they see. It can recognize different materials and when it sees something that should be recycled it can grab<sup>9</sup> it. You might say, "what is so special about that? I could do the same thing!" Well, the robot can pick out 80 items per minute! And it can do it for 24 hours a day. That's 115,200 pieces of recyclable trash a day. Almost 250,000 for both robots together! One of the reasons the robot is so accurate<sup>10</sup> is because it has a database of every product that is sold in America. When the camera scans the conveyor belt, the AI software compares what it sees against a database of all known products, and it immediately knows what materials were used to make the product. These are only two robots. Amp Robotics and many other companies are working on more and better robots to help us recycle.



- 1.autumnal 秋っぽい
- 2.sting チクチクさせる
- 3.forced labor 強制労働
- 4.agriculture 農家
- 5.cheat ずるくする
- 6.reaction 反応
- 7.conveyor belt コンベヤーベルト
- 8.analyze 分析する
- 9.grab つかむ
- 10.accurate 精密な





## One thing we can do to help the environment

### #1 Take Shorter Showers

There are three reasons why taking shorter showers can help the environment. The first reason is obviously because we shouldn't use more water than we have to. As the world warms up, there are going to be more droughts<sup>5</sup> and we are going to need to conserve<sup>6</sup> as much water as possible. The second reason is because getting the water to your shower needs a lot of electricity. The water has to go from the reservoir to a water treatment facility<sup>7</sup>. After it has been cleaned, it goes along a series of pipes until it reaches the one that leads to your house. All of this needs electricity because the water has to be pumped along these pipes.

The third reason is because it uses a lot of electricity to heat the water for the shower. If you have an 8 minute shower every day, you use about 65 liters of water. If you have a cold shower, then you are only using the water. If you have a hot shower, then the water has to be heated and heating 65 liters of water produces about 750 grams of CO<sub>2</sub>.

So, what can we do. First, we can take shorter showers. If you can cut your shower time down from 8 minutes to 4 minutes, you can cut about 10,000 liters of water and 300 kg of CO<sub>2</sub> every year. Second, we can turn the temperature of the shower down a little. Third, we can use more efficient<sup>8</sup> showerheads. There are showerheads that aerate<sup>9</sup> the water. They produce bubbles and make it feel like more water is coming out of the shower, which means you can use less water.



### World record

Here is another record that I don't think any of us will be able to beat. There is a French climber called Alain Robert. He climbs skyscrapers around the world, and he doesn't use any safety equipment<sup>1</sup>. He has no harness, no rope, and nothing to stop him if he falls. He has the world record for the tallest building climbed. He climbed the Burj Khalifa, which is the tallest building in the world. It is 828 m high. It took him a little over 6 hours to climb to the top. He has climbed more than 150 buildings so far. Sometimes he has permission<sup>2</sup> to climb the buildings, but more often he is arrested<sup>3</sup> when he



gets to the top because the police are waiting for him. He is usually released from prison pretty quickly and he has sponsors that pay the fines<sup>4</sup> for him.



I can't change the world, but I can change the world in me.

– Bono

- 1.safety equipment 安全装置 2.permission 許可 3.arrested 逮捕される 4.fine 罰金  
5.drought 干ばつ 6.conserve 保全する 7.water treatment facility 水処理場 8.efficient 効率の良い 9.aerate 空気を入れる