



Bijlage VSBO TKL

2024

tijdvak 1
dinsdag 14 mei
07.30 - 10.00 uur

Engels

Tekstboekje

Text 1 Trapped on the tracks

It was dark and about 9:30 p.m., when Julia Smith arrived at the train station. She jumped in her Honda and began the 20-minute drive home to her husband and 6-year-old daughter. She had just returned from visiting her parents and had traveled the route so many times, she could almost drive ...1...: turn left into Station Road, then left on Montauk Highway, and then – bamm! Out of nowhere on that terrible night of November 20, 2018, a car drove into the side of Smith's Honda, propelling her backwards some 90 feet onto the railroad tracks. She sat in the car, bruised, but mostly just ...2... by the impact and by the airbags.

As it happened, Josh Cooper was getting ready for bed. He had just finished reading the newspaper and was about to ...3... under the covers when he heard the typical noise of metal on metal and shattering glass coming not far from his house. Being a volunteer firefighter, Cooper didn't think twice. He fetched a ...4... and, still in his pajamas, ran out of the house. "Any firefighter would have done what I did," he told reporters. "We're always on duty."

The first car he saw, about 200 meters from his front yard, was the one that had hit Smith's car. Cooper saw that the driver was ok, so he looked around and noticed Smith's car ...5... the railroad tracks. And then he heard the sound that nobody wants to hear at such a moment: the bells signaling that a train was coming.




"The barriers were starting to come down," he told reporters. "I saw the headlights of the train on the horizon." Cooper ran to Smith's car and banged on the ...6... on the driver's side. She just looked at him without really seeing him. "I don't know where I am," she said. She didn't seem to be hurt.

"Lady, you're on the railroad tracks," Cooper shouted. "I have to ...7... right now!" He pulled the handle, but the door was smashed in and jammed shut. The heavy train, traveling at 60 miles per hour, was coming fast towards them. Cooper ran to the other side and managed to open the door. Please, God, he thought, don't let her be trapped. He pushed aside the deflated airbags, grabbed Smith's arms and pulled her towards him across the passenger seat until he could help her out and rush her to ...8... behind a signal box a few feet away. Within mere seconds, the train ran into the car. "It was like in the movies," Cooper told reporters the next day. But this one had a twist. Last night the hero arrived in ...9..., not in a fire truck.

Adapted from: Reader's Digest, December 2019

Text 2 Clothes cleaning

- 1 Chemicals used in dry cleaning clothes have long been suspected of causing health problems for people, as well as damage to the environment. Perchloroethylene ("perc" for short) is most commonly used in the dry cleaning process. Government agencies have reported about many negative effects from exposure to this petroleum-based chemical. The U.S. Occupational Safety and Health Administration (OSHA) links it to dizziness, blurred vision, loss of coordination and other nervous system effects, including amnesia. Also, the Environmental Protection Agency (EPA) calls perc a likely cause of cancer in humans. The EPA also warns that the chemical can leak into the ground, contaminate water supplies and cause smog in the air, which has been associated with breathing problems.
- 2 Earthtalk.org suggests there are safer alternatives through products and processes used by 'green' dry cleaners across the United States. These include environmentally friendly liquid silicone, which is basically sand in the form of a liquid. This doesn't react chemically with cloth fibers. It's safe to use on delicate materials like beads, lace, silk and cashmere, and won't cause the clothes to shrink.
- 3 A good option for cleaning your clothes is also wet cleaning, whereby fabric is cleaned in a computer-controlled washer and dryer that uses water – along with specialized soaps and conditioners. The machine spins its contents much more slowly than a typical home washing machine. Because wet cleaning is free of dangerous chemical compounds like those in perc, it eliminates health and safety risks, as well as environmental hazards. As an added benefit, the equipment and operating costs are lower. While the biggest disadvantage of wet cleaning is that it produces waste water, it's still a highly energy-efficient method.
- 4 Finally, the method of liquid carbon dioxide (CO₂) cleaning has proven effective, with no negative effects. Some commercial cleaners use this pressurized gas in combination with other gentler cleaning agents to dissolve and remove dirt, fats and oils in clothing instead of using perc.
- 5 Of course you can also consider simply hand-washing delicate clothes and fabrics yourself in mild, non-toxic detergent and then hanging them outside to dry!

Adapted from: Natural Awakenings Magazine, April 2019

Text 3 How cockroaches could save lives



Cockroaches are often associated with dirty kitchens and grimy bathrooms – scuttling away as soon as you enter the room and turn on the light. But pest controllers aren't the only people interested in them; these insects are inspiring research into antibiotics, robotics and food production, writes Mary Colwell.

- 1 Some species are exquisite with brilliant colors and patterns. Some are social and make collective decisions, passing on information about food and shelter. Others are solitary. Some pair up and raise their young together. They can hiss, sing and make drumming sounds to attract a mate, and they are supremely hardy. Some can survive for a year on water alone.



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- 2 The heaviest, the subterranean rhinoceros cockroach, weighs in at 35g, measures 8cm in length, and lives in Australia. One of the smallest is a pest commonly found in Europe and North America – the German cockroach – which is just over 1cm long.
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- 3 Their bad reputation is not always justified. In Havana the native bright green Cuban cockroach is

often kept as a pet. Out of the 4,500 known species, only four are considered pests. Most don't live near human homes and they perform a vital ecological role, eating dead and decaying matter. "When I first saw them, my hair stood up," says the lead researcher on a project at Texas A&M University, Hong Liang. "But I went on to keep some in my office as pets for a while. They are actually beautiful creatures. They are constantly cleaning themselves."

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- 4 Rather than finding them repulsive, scientists see them as a source of inspiration. In 1999, Prof. Robert Full at the University of Berkeley in California was inspired by the way cockroaches moved. He devised a six-legged robot that moved faster and more easily than any others. The insects' springy legs, rounded body shape and flexible exterior skeletons – made up of connected tubes and plates – enable them to negotiate complex terrain. Footage of cockroaches on mini treadmills and assault courses shows how stable they are – and

if they do happen to flip over, they can use their wings to right themselves.

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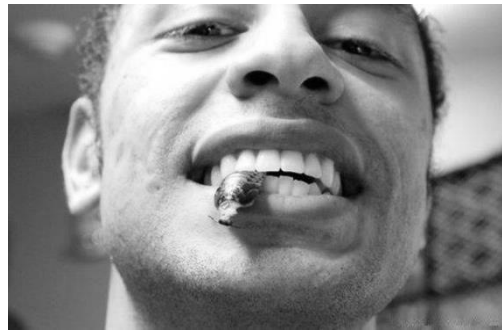
- 5 Then there's the robotic roach – a fusion of a live cockroach and a mini-computer that is attached to its back. Messages can be sent to the computer, to direct the cockroach to places that are hard for humans to access, such as collapsed buildings. This way you can detect if there are people trapped under a pile of rubble after an earthquake, for instance.

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- 6 There is cockroach-related research in medicine too. Scientists have long wondered how roaches could spend their lives in dirty environments with no ill effects and it turns out they produce their own powerful antibiotics. They might hold the key when it comes to developing medicine to knock out the most virulent bacteria that make humans ill, such as E. coli, MRSA and other superbugs that are resistant to many existing



treat-ments. Today, hospitals in parts of China use a cream made from powdered cockroaches to



treat burns and a cockroach syrup is sometimes given to patients to alleviate the symptoms of intestinal infections.

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- 7 The insects can also be eaten. In China, the American cockroach is the preferred delicacy. Double frying them in hot oil is said to give them a crispy outer and succulent inner with the consistency of cottage cheese. In the Shandong province in eastern China, Wang Fuming set up a cockroach farm. He keeps 22 million at a time in his underground bunkers and says that since 2010 the price for cock-roaches has risen tenfold.

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- 8 As the human population and its need for mass produced protein grows, perhaps the despised cockroach will one day feed the world. If only people could be a little less squeamish.

Adapted from: BBC.com

Text 4 Running into Rihanna

1 It was one Saturday night last August. My buddies and I were wandering somewhat aimlessly through Greenwich Village in New York City. Looking for girls? A place to eat? Maybe. I can't quite remember. In time, our gang divided into two groups, separated by 50 feet or so. My group, the one lagging behind, decided to pull one of those silly grade-school pranks by ducking into a dark recessed doorway and seeing how far the front group would get before realizing we were gone. It worked all too well, as the others walked on without a clue, not realizing our absence.

2 Seconds later, a black Mercedes came to a screeching halt directly in front of us, dropping off a beautiful, well-dressed woman who proceeded to walk in our direction. Upon seeing us, she jolted to a halt, apparently wanting to get to the door that the five of us were now blocking. Time seemed to drag as we stood there, her staring at us and us at her, no one saying a word. Then it struck me that this woman looked very familiar – almost too familiar to believe.



3 After an extended stare-down, with the irritation on her part increasing, she got up the courage to squeeze her way past us to the door, where she pressed an intercom button and announced, without much urgency, "It's Riri." What happened next was a blur: the door opening a crack, a mysterious hand reaching out to seemingly pull this "Riri" lady into the building, and the door slamming shut as quickly as it had opened. Just like that, she was gone.

4 As we exited the doorway to catch up with the others (now a full block away and puzzled by our absence), I looked up at the front of the building to get some idea of where we had been hiding. That was when I saw the sign for Roc Nation, the famous record label. We were only partway down the block when another group of youngsters came running toward us. As they rushed by, they asked frantically, "Did you see her? Did you see Rihanna?" We all puffed out our chests and calmly responded "Yeah" as we hurried to catch up with our friends – who, of course, refused to believe us.

Adapted from: Reader's Digest, October 2019

Text 5 Peak performance

1 Colorado's Gray's Peak rises 14,278 feet above sea level; high enough that trees can't grow to-ward the top, though there are plenty of shrubs, rocks and boulders. It was in this unforgiving terrain that Beverley (Bev) Wedelstedt was unlucky enough to rupture the anterior cruciate ligament and meniscus in her left knee.

2 It was August 2018, and Bev was on her way back down the trail with three friends. A storm was brewing, and they were anxious to get off the mountain. When they approached a rocky drop of a couple of feet, Bev decided that instead of shimmying down on her butt – the safe way to go – she would leap. She landed on her left leg. Then she heard the snap.

3 Every step after that was agony. Before long, she had to stop. As one friend ran down to get help, a number of other hikers, all strangers, attempted to help Bev down the narrow trail by walking on either side of her to support her weight, but that proved slow and dangerous. They were sometimes so close to the ledge that rocks would keep tumbling down from where they stepped on them.



4 Finally, one hiker, Matt, asked her, "How do you feel about a fireman's carry?" Before she knew it, he had lifted her over his shoulder. "Now, I'm not tiny," says Beverley, a college basketball star. Matt clearly couldn't carry her all the way down by himself. So six hikers and one of her friends took turns carrying her while she tried to make light of a difficult situation: "I told them I wanted to meet a lot of guys, but this isn't the way I wanted to do it." Three hours and two rock-strewn miles later, this human con-veyor belt finally met the medics, who took Beverley straight to the hospital.

5 She has mostly recovered from her ill-fated hike, but Beverley knows she'll never shake one thing from that day: the memory of the band of strangers who came to her rescue. "I'm still in awe."

Adapted from: Reader's Digest, October 2019

Text 6 Racing to victory

Carrollton students build a solar go-kart and win Sunchase Challenge.



- 1 While most students head to the beach during spring break, a group of students at Carrollton School of the Sacred Heart in Coconut Grove were building a solar car from scratch. The all-girls robotics, engineering, computer science team, known as CarrollSUN, swept the Florida Sunchase Challenge earlier this month. The annual event is a competition in which school teams from across the state build go-karts with solar panels and batteries, and race them by making use of sunlight. "We researched solar panels and lightweight materials to integrate in our kart to make sure it is a light design. Also, it is aerodynamic in terms of shape," said Carolina Gomez Rivas-Vazquez, one of the team members.

- 2 A total of 16 teams competed in this year's competition. The Carrollton team has competed since 2017. This year they came in first place for overall champion and presentation. The team of 15 earned a trophy, but for Carolina it's more than just gold. "It is interesting to see each other grow through this process," she said. "All the older girls are helping the younger girls. We gained an experience. Our motto is 'racing for a reason'." One of the team's mentors added: "We want to make sure all girls feel comfortable in the robotics, engineering and computer science fields. We want to encourage them to pursue their careers in these fields. At the same time, it encourages them to learn about solar and renewable energy, since this is the future."

- 3 Tim Cassell, the school's director of the teaching and learning department, mentored the team. Thanks to a partnership with the Homestead Miami Speedway, the team tested the car on a professional racetrack. The car can hit up to 40 miles per hour, and one person can drive the car at a time. The students started to work on the car 3 months before the competition, said Cassell. At times, they would work until late at night on the weekends and over school breaks; putting in about 2,000 hours of work in all.

- 4 Team member Sabine Merus smiles from ear to ear. "The Florida Sunchase Challenge is for all girls and women. It allows them to race for a bigger purpose. It was dedicated to them," she states. The school's Director of Communications, Isabel Junco Singletary, said the girls are an inspiration. "They are so gutsy; I do take my hat off," she said. "And although they came out on top this year, the team is not taking a break. They have their eyes set on a higher prize. They plan to compete in the collegiate level next year for the Solar Car Challenge."

Adapted from: The Miami Herald, April 2019, written by Rodolfo Roman

Text 7 The lemurs of Madagascar

- 1 Today is World Lemur Day. And what better place to see them on this day than Madagascar? The world's fourth largest island, off the southeast coast of Africa, is home to more than 100 species and sub-species of the animals. Most are small, with a pointed nose, large eyes and a tail. They mainly live in trees and can be highly social (like the ring-tailed lemurs), or live a solitary existence (like the mysterious aye-aye). Lemurs have thumbs and four fingers with fingernails on each hand, marking them out as members of the primate* order of mammals. About 65 million years ago, scientists believe, lemurs drifted on rafts of vegetation from the African continent to the shores of Madagascar. Safe from competition and most predators there, lemurs evolved into many particular varieties and can now be found in almost all territories on the island.



- 2 But lemurs are under increasing threat from hunting and forest destruction – a threat so great they're considered to be the most endangered group of primates in the world. World Lemur Day is held on the last Friday in October. It aims to raise awareness and encourage conservation to protect these extraordinary creatures from extinction.



Adapted from: Bing, October 25, 2019

** primates are members of the mammalian order of apes*

Text 8 Road trip

It's time for an adventure, so buckle up and explore your way across the USA. From Nebraska to Tennessee, a vacation is waiting. Summer calls, so let's get up and go!

1 Omaha, Nebraska

A cultural oasis smack dab in the middle of the country, Omaha is a road trip to remember. Home to Lied Jungle, the world's largest indoor desert and the country's largest indoor rainforest, you'll also find quality museums there such as Joslyn Art Museum, a pink marble wonder filled with more than 11,000 works of art that includes a special children's area where kids can magically paint on the floor. In Omaha your family will find a new way to connect with nature, art and each other. After all, isn't that what road trips are all about?



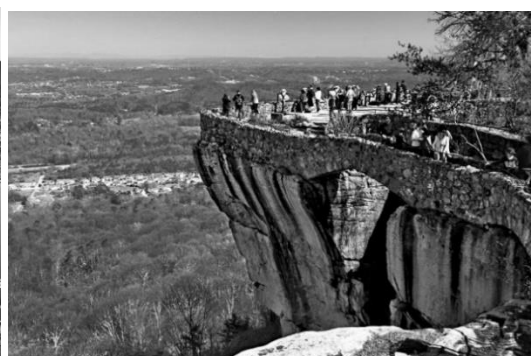
2 Chicago & Route 66, Illinois

Take an amazing drive down iconic Route 66. Start in downtown Chicago at Millennium Park and the Art Institute before you take the Mother Road out of town. At more than 300 miles, there's so much to see along the Illinois stretch of this famous highway. And don't forget to stop in historic Springfield.



3 Chattanooga, Tennessee

Tucked between the mountains of Southeast Tennessee, along the beautiful Tennessee River, Chattanooga is one of America's most breathtaking cities. Unwind with a relaxing trip to the Rock City Gardens full of outdoor adventure, while still having access to amazing restaurants, live music events, art, and world-class attractions.



4 **Kingsport, Tennessee**

Within a day's drive of 70 percent of the US population, Kingsport has endless opportunities for adventure. Get into the outdoors at one of the 37 parks, including Warrior's Path State Park, the most visited State park in Tennessee, and Bays Mountain, the largest city park in Tennessee. Your adventure begins in Kingsport.



5 **Kansas City, Kansas**

From trendy boutiques, jaw-dropping attractions and crave-worthy restaurants, Kansas City Overland Park (KCOP) is the place for your family to access greater Kansas City. Beyond a great selfie, The Museum at Prairie fire in Overland Park hosts world class natural history exhibits, a complete T-Rex skeleton and heart-racing VR (virtual reality) experience.



6 **Manhattan, Kansas**

The last stretch of native tall-grass prairie on the continent presents majestic vistas for the world's most spectacular sunsets. The horizon awaits right outside your door front everywhere in Manhattan KS, your gateway to the Flint Hills. Visit the Flint Hills Discovery Center and rejuvenate in our foodie fun town, filled to the max.



Adapted from: American Way, 2019