



Pavla Hanáčková • Diarmuid Ó Catháin

TRACTOR



ALL ABOARD!

# TRACTOR

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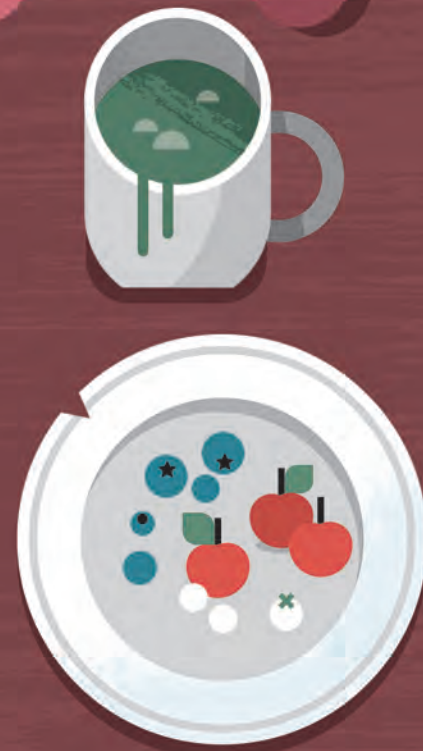
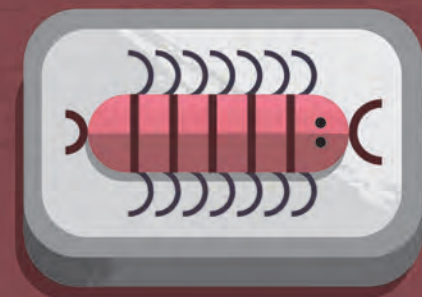


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What's on the menu tonight? Worms, bugs and berries? Not again! Karl didn't feel like eating the same meal he'd been having for breakfast every night for as long as he could remember. He wanted to try something new, something delicious!

But I don't have the slightest idea where to get new foods. I only know where to find the staples for my pantry!



Karl tried staying up during the day and searching for new foods. Unfortunately, some were out of his reach.

He tried nibbling on a new kind of leaf. Oh-oh, that's a kakapo's feather that only resembles a leaf! Mr. Kakapo wasn't very happy about that!

He came across some strange berries, but it didn't feel right to taste them.



Karl sat down tired and his belly started to rumble.



Then a bee landed on a teeny tiny plant.

That's where goodies come from! I need to find **A FARM!**





# Super tractors

Tractors began to be widely used in the 19th century when they replaced oxen, mules and horses. Do you have an idea what the first tractors looked like? Tractors of today have come a long way from simple engines on wheels. Tractors are amazingly versatile and powerful vehicles that come in all shapes and sizes. Let's have a look at some of the most interesting tractor designs!



## Tricycle tractor

Designers experimented with design as well as functions. The **John Deere** company came up with a **three-wheeled** tractor. The wheel fitted at the front was great for moving around shorter turns, but tractors were more likely to keel over.



## Compact tractor

These small tractors are perfect for places with **narrow lanes**, such as vineyards or orchards. The driver can sit high up on them comfortably and pick the fruits or trim the trees at the same time. Very clever!

## Row crop tractor

These are the most **versatile** vehicles on the farm. Just add tools to them! Then, they help to plant crops in a row, plough, and sow seeds as well as dig holes and move things around! Thanks to the cab, the driver is protected from the heat, dust and noise.



steam engine

solid steel wheels

## Steam tractor

The very first tractors were born thanks to **portable steam engines**, which emerged over 100 years ago. Later, steel wheels, a driver's seat and a steering wheel were added to it and voila! Meet the grandfather of all tractors. Steam tractors were reliable and strong, but quite slow.

## Crawler tractor

Its oddly shaped wheels are there for a reason. Tough **rubber tracks** don't squash the ground as much as the regular round wheels do and provide tractors with excellent stability and grip. Sand, snow or mud – not a problem for crawlers!



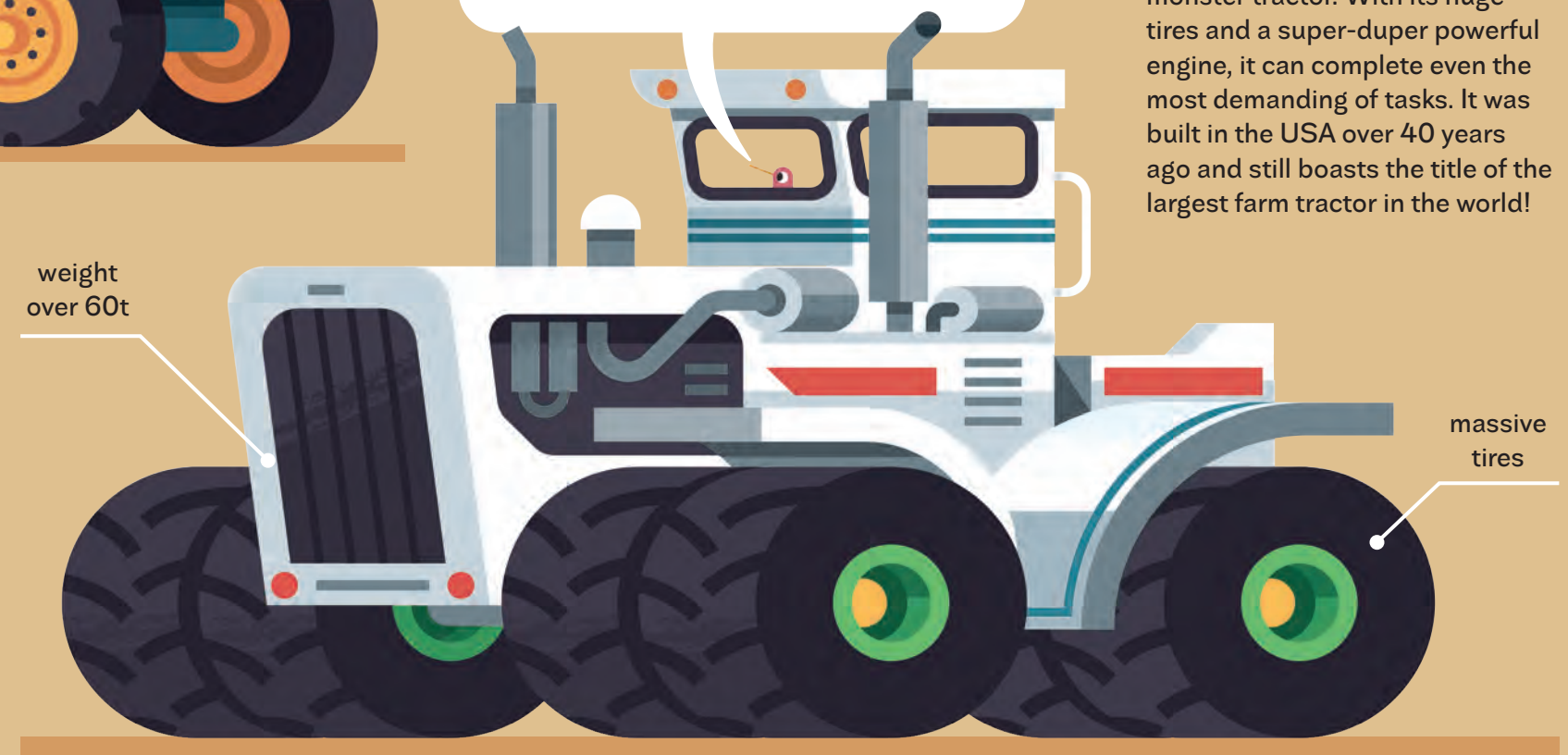
rubber tracks

driver's cab

The word 'tractor' comes from a Latin word "trahere" which means 'to pull'. Makes sense!

## Monster tractor

**Big Bud 747** is a legendary monster tractor. With its huge tires and a super-duper powerful engine, it can complete even the most demanding of tasks. It was built in the USA over 40 years ago and still boasts the title of the largest farm tractor in the world!



weight over 60t

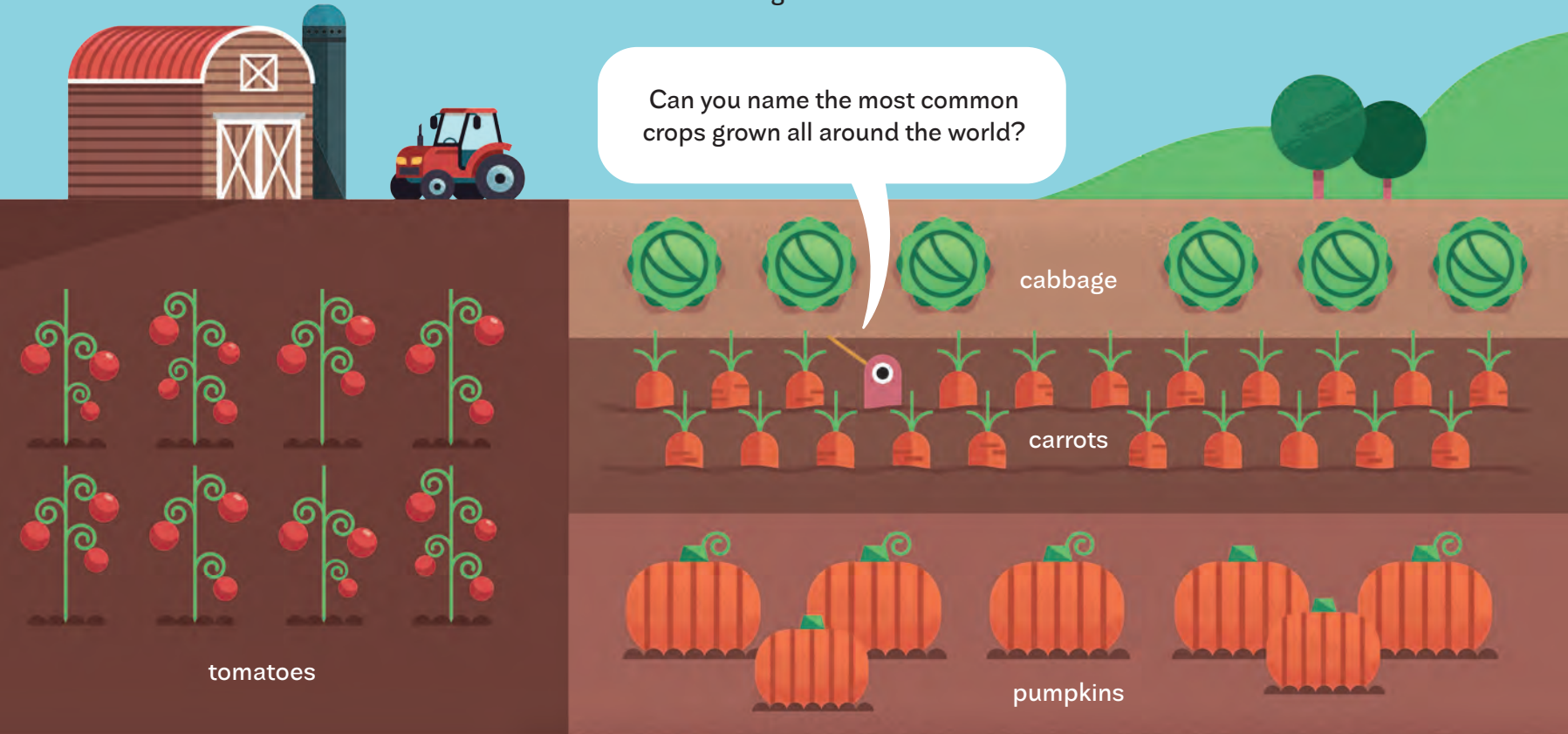
massive tires



# Crops on the farm

The fields and the soil, in which the plants grow, are the heart and soul of every farm. Farmers around the world raise many different crops depending on the climate and culture of their region. All crops have one thing in common: when fully ripe, farmers need to harvest them. Most of the crops, such as vegetables, fruit and grains like wheat, corn or rice, make up the food that people eat. They are also used to feed the animals or to make various things out of them.

Can you name the most common crops grown all around the world?



## How do plants grow?

Plant a seed in the ground, cover it with soil and then water it. Soon, something magical will happen! From the tiny seed, a root and sprouts with leaves grow. Leaves fight their way through the soil - they want to see the sun! Under the ground, a surprise awaits: the tiny seed has transformed into a plump radish.



## What a plant needs to grow?



Plants need four basic things to grow: **sunlight**, **water**, **air** and **nutrients**. Plus, care. With their roots, plants absorb water and nutrients from the soil. Plants use every ray of sunshine as the source of their energy – like we do with sleep. From the air, plants “breathe” carbon dioxide and “exhale” oxygen other living creatures need for breathing. This process is called **photosynthesis**.

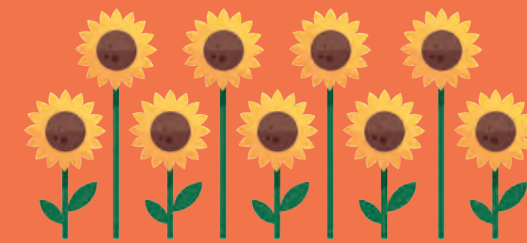
## Wheat

Wheat is one of the most common food crops. Without wheat, there would be no bread, no cakes, no cookies! Wheat is also used for animal feed or even to make fuel.



## Sunflowers

Sunflowers turn their heads to the sun to catch as many rays of sunshine as possible. We can make oil from sunflowers and eat their seeds!



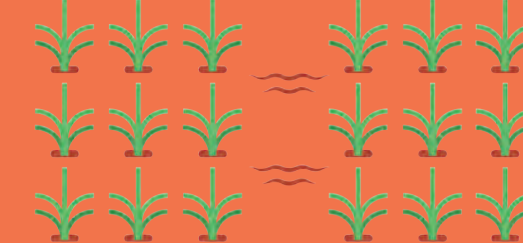
## Corn

Edible yellow seeds are hidden under the husk. Not only can we eat corn, but we make many products from it, be it cooking oils, oil paints, soaps or even fuel!



## Rice

Rice is grown in fields or terraced paddies covered with water. About half of the world's population eats rice almost every day!



## Potatoes

Their edible roots are hidden under the ground. Boiled, baked, or fried – a potato is always delicious! No wonder they are a staple food for people all over the world.



## Cotton

Ready-to-harvest cotton plants have white fluffy tops made of long fibres similar to hair that can be turned into thread we use for making cloth.



## What things can we make out of these crops?



Flour is made from wheat or even rice.



Oils are made from corn or sunflower seeds.



French fries are made from potatoes!



Clothes are made from cotton.



Noodles are made from rice or wheat.



Bread is made from wheat.



# Future of farming

Scientists and engineering experts are already working on a new type of tractor: the **autonomous** tractor, or to put it simply, a tractor that drives itself. They would make farmers' lives much easier.

Such tractors will have a computer inside the cab, and farmers will be able to operate them from a distance, using only their phones or tablets.

Not only will these tractors be more efficient and save farmers money and energy, but they will also be more eco-friendly. They will run on electricity generated from solar panels in the fields.

Farmers will have more time to do some fun activities, like growing the biggest tomato to win a contest ...

... spending more time at farmers' markets and talking to their customers ...

... planting new types of veggies or herbs ...

... cuddling with the animals more ...

... hosting a 'carve-a-pumpkin' day at the farm ...

... or holding tractor races!

SOUNDS  
LIKE A  
BLAST!



Are farms the number one thing you're interested in? Would you like to learn what amazing animals, plants, and fabulous machines you may encounter on a farm? Would you like to become a farmer and see everything with your own eyes?

Kiwi bird Karl is interested in just that. He wants to find out how to grow his own food!

Together you'll learn many interesting things about tractors and other farm machinery. Moreover, you'll discover the inner workings of a farm – be it the harvest or everyday chores! Not only will you learn some fun facts, but you'll also find out where the food we eat comes from.

Join Karl in his tractor and have a peek at what goes on on a farm and even beyond it!

All aboard!  
We're about to get  
down to work!

