

Will global warming wake the **mammoths**?



Where do **diamonds** grow?

*Journey of Christopher Columbus*



## ▶ HOW THE WORLD WORKS ◀

### Atlas of Connections



How did **rabbits** appear in Australia?



**DISCOVER**

THE WORLD IN CONTEXT,  
using large folding  
maps



# PLANTS

Man's agricultural activities have changed the face of the world during the last few centuries. Sea voyages gradually spread unknown and exotic plants to every continent. Intense farming requires careful and thought-out use of water and soil.

## Grains

Wheat, barley, oat, and other grains have been an important source of food for millennia. Figuring out how to store the nutritious seeds allowed man to abandon the hunter-gatherer lifestyle, switch to agriculture, and settle down.



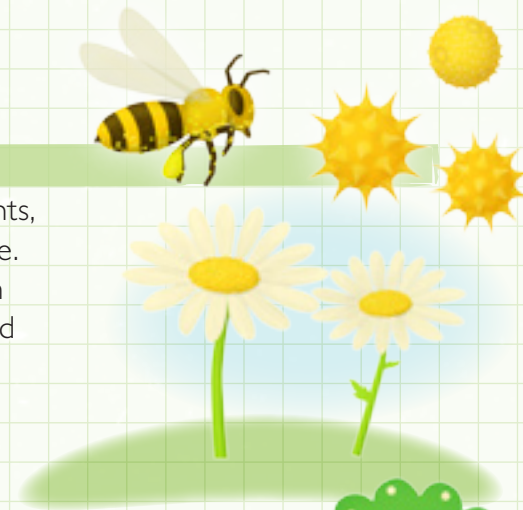
## Rainforest

The Amazonian rainforest is the largest rainforest in the world. It is a home to tens of thousands of plant species. Its trees affect the climate and life on the entire Earth, being a source of life-supporting oxygen and absorbing man-made carbon dioxide.



## Pollen

Bees help spread pollen among plants, and thus are essential for agriculture. It's necessary to protect them from dangerous pesticides which are used to eliminate pests.



## Soil depletion

Working the land requires a lot of expertise and care. Soil gained by deforestation becomes depleted only after a couple of years, turning into an infertile desert. Losing the thin layer of fertile soil is a danger mainly to huge expanses of land in the South American rainforest which makes way to fields and pastures.



## Erosions

Plants play a great part in shaping nature. Their roots strengthen soil and keep it watered. Deforestation of hills often leads to erosions and faster floods.



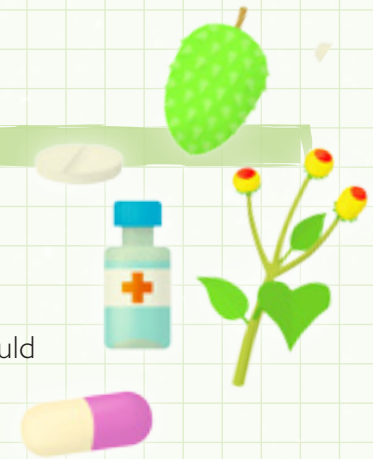
## Pastures

Extending pastures to satisfy growing demand for meat changes the face of nature in many places in the world.



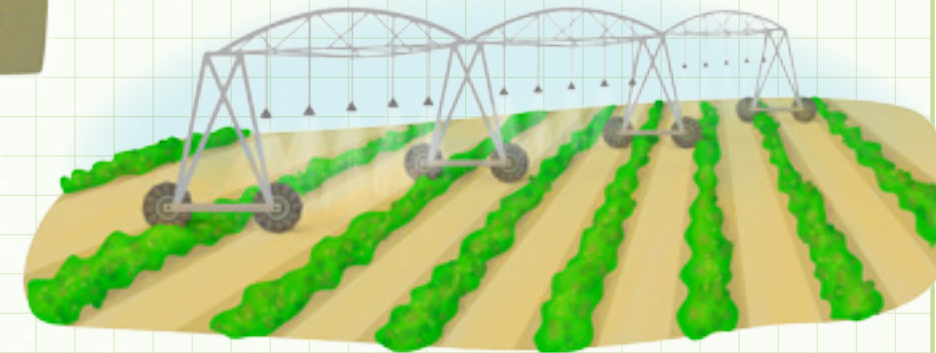
## Medicine

A great number of healing substances come from parts of plants. Many unexplored regions in rainforests still hold undiscovered treasures that could be utilized in medicine.



## Irrigation

Owing to technical progress, we can nowadays grow plants where once there was only a desert. In order for irrigation systems to be sustainable, water sources must be used with great care.



## Fertilizers

Today's agriculture consumes a huge amount of oil. Intense farming is mostly dependent on artificial fertilizers and pesticides. However, foods labeled „BIO“ weren't grown with the use of artificially manufactured fertilizers.

## Biogas

Even plant waste can be valuable. Decomposing organic materials release methane gas, which is later used in biogas stations as a fuel or to produce electricity.





## Pineapple

The pineapple comes from South America and was first grown by the Maya and Aztecs. Indians valued it highly both as a food and a medicine.



## Bananas

Before bananas arrive at shop counters, they spend up to several weeks in refrigerator containers, which is why they're harvested unripe. After being unloaded they're placed in special chambers to be treated by the ethylene gas. This procedure gives them their yellow colour and sweet taste.



## Cotton

Fabrics woven out of cotton have been known to the Indians and Chinese for a few thousand years. Demand for this material increased at the onset of Industrial Revolution when James Watt invented the first steam engine. Steam-powered looms worked faster than hand-loom and soon surpassed them.



## Potatoes

Potatoes, together with Incas' gold treasure, were introduced to Europe by Spaniards in the first half of the 16th century. Two hundred years passed before the inhabitants of the Old Continent suppressed their mistrust of this exotic plant and understood its usefulness.



## Tea plant

Tea's healing and refreshing powers were known to the Chinese long before the arrival of the Portuguese merchants who later introduced it to Europe. Quality tea is made from young shoots which are picked by hand several times a year.



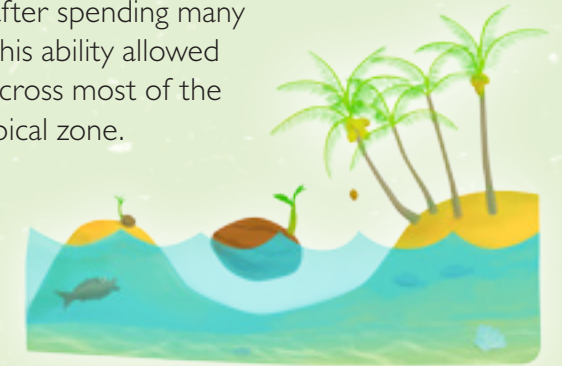
## Lemon

The citric acid present in lemon juice adds flavour to many foods and drinks and prolongs their shelf-life. It's currently manufactured artificially, using fungal cultures.



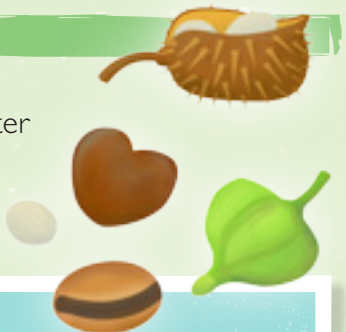
## Coconut

The fruit of a coconut tree can germinate even after spending many days in the sea. This ability allowed them to spread across most of the islands in the tropical zone.



## Aquatic plants

Their seeds travel on the sea's surface and, like coconuts, use water as a means of spreading.



# PLANTS

## Epiphytes

Dense rainforests tend to be too dark to allow further growth. However, epiphytes attach themselves to tree branches, living off of humidity in the air and humus in the bark.



## Boswellia

Incense is a rare fragrant resin which used to be worth its weight in gold. It travelled to Europe, along with other treasured items, via the Silk Road, a busy trading route.



## Cocoa tree

Indians in South America viewed drinks made from seeds of a cocoa tree as a gift from the gods. Cocoa beans today are grown on tropical plantations and serve as an important ingredient in quality chocolate goodies.



## Coffee tree

Coffee, originally from Africa, is enjoyed all around the world. It's grown in tropical zones and then exported to other countries. Lightly coloured coffee seeds gain their typical hue and strong aroma after roasting.



## Kudzu

Plants set to grow outside their natural habitat may disturb the balance of nature and endanger local species. These non-native, uncontrollably spreading plants are called invasive plants.



## Corn

Corn, originally from Mexico, is grown on all continents and is considered an important part of the human diet. Most of the production serves to feed cattle.



## Ships

Ships played a very important part in agricultural growth, and changed human diets around the world. Huge container ships are up to 400 metres long and can carry 10 000 containers. Christopher Columbus's ship would look like a tiny fishing boat next to them.



## Mangroves

Mangroves are various types of trees with specialized roots which provide them with supports and oxygen. This allows them to grow in marshes, and even salt water.



## Orange tree

Oranges not only taste good, but are also a great source of vitamin C.



## Roses

Africa has ideal conditions for growing roses throughout the whole year, making their importation to Europe more ecological than supporting the original rose industry in Netherlands.



## Rice

Rice today is a staple food in the entire world. Among its biggest producers are China and India. Rice is grown in fields flooded with water.





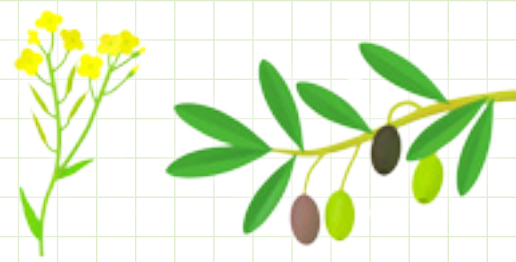
## Sugar

The main sources for the production of sugar are sugar cane and sugar beet. Sugar used to be a luxury item, but nowadays it can be found in many food products and drinks. Excessive consumption of sugar isn't healthy and results in obesity. Sugar is also used in the production of alcohol, and in some countries as a fuel to power car engines.



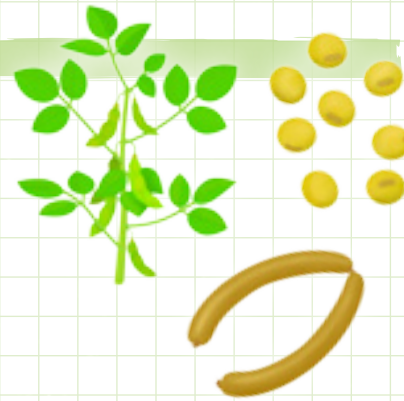
## Oil

Vegetable oils are made by pressing parts of plants, mostly seeds.



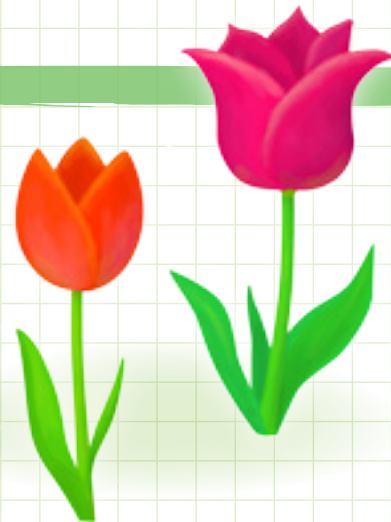
## Soya

This legume is very important in food processing industry and as fodder for farm animals. It's also used in the cosmetics industry. Soybean oil is added to biodiesel.



## Tulips

Tulip bulbs arrived to Turkey and Europe from the Pamir Mountains in 16th century. They used to be considered an expensive luxury goods. Today we can admire Netherlands' endless and colourful tulip fields.



## Wood

The construction and paper industries consume large amounts of wood. Manufacturing paper requires a lot of water and chemical additives. It's therefore a good idea to recycle used paper.



## Bee house

Bee houses are very sensitive to polluted environments and various illnesses. Beekeepers therefore must take special care of them.

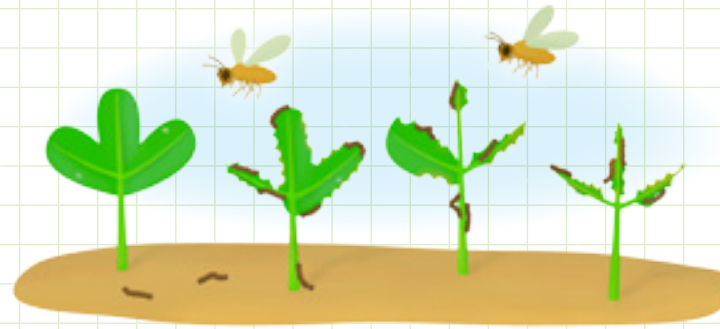


## Vanilla

The beautifully smelling pods of vanilla orchids originally come from Mexico. Today's vanilla beans are grown mainly in Madagascar. Vanilla is used to flavour desserts and ice-cream, though its natural aroma is often substituted with artificially produced chemical substances.

## Monoculture

Sowing crops on large expanses of land allows for easy cultivation, but at the same time encourages pests to spread fast.



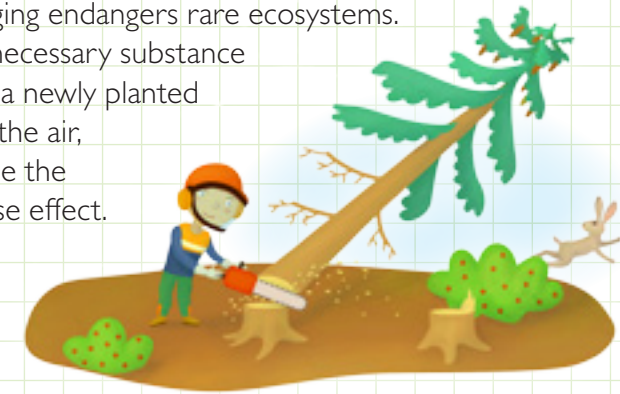
## Seed dispersal

Plants employ several ways to spread their seeds at great distance. Some seeds, while hidden in their tasty shells, are able to survive the journey through an animal's digestive tract, whereas others utilize their unusual shape and disperse via the wind or the sea's surface. Attaching themselves to animals' fur is also a good strategy.



## Woodworking industry

Wood is an ecological material, unless it's used in excess or if its logging endangers rare ecosystems. Carbon dioxide is a necessary substance for producing wood; a newly planted tree absorbs it from the air, thus helping to reduce the dangerous greenhouse effect.

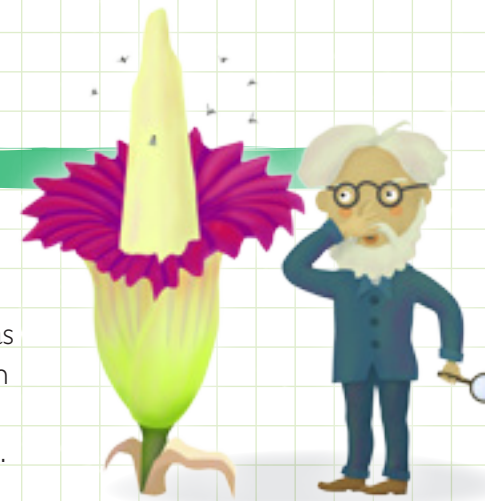


## Truffle

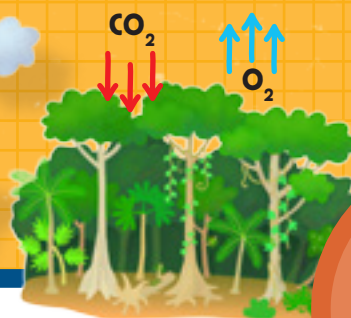
This fungus grows underground, and is a popular culinary delicacy. People employ dogs or pigs and use their superior sense of smell to find them. However, upon discovering the rare goodie pigs may very well eat it themselves.

## Amorphophallus

Plants in tropical zones offer a great spectacle of shapes and colours. A number of rainforest flowers serve as decorations in households. Although amorphophallus has a huge beautiful bloom, it isn't usually grown for this purpose, primarily because of the horrible rotten stench it uses to attract flies.







# HOW THE WORLD WORKS

## Atlas of Connections

Written and illustrated by Tomáš Tůma

This new illustrated atlas is intended for readers from seven years of age and further. It offers you a chance to see the world in its entire unusual context, and to understand how things may depend on each other, even though they occur at places thousands of kilometres away from each other. The four main chapters have a form of large folding maps with detailed illustrations which will show you around continents and reveal relationships between natural phenomena, various fun facts and connections between human society and nature. The book is clearly arranged and accompanied by attached booklets. You will also learn a little about the past and present.

### WHAT YOU WILL FIND IN THIS ATLAS:

- the world in context, captured on large folding maps
- more than 200 coloured entertaining illustrations
- inserted booklets containing further details and information
- migrating and domesticated animals
- plants, rainforests, and their influence on weather



Booklets with additional information



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What is a **cyclone**?



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