

Different Microorganisms

Bacteria

- Only a single cell. Bacteria range in size from
- Reproduce by splitting in half. They can do this every 20 minutes in the right conditions. This means that one single bacteria can turn into over a million bacteria in about 7 hours!
- There are thousands of kinds of bacteria. Most are harmless. Some make you ill but there are also many useful bacteria.
- Bacteria can live on their own, outside other living things.
- Bacteria do not make their own food through photosynthesis.

Fungi

- Fungi range in size from microorganisms like yeast and the athletes' foot fungus which can only be seen with a microscope to large fungi like mushrooms and toadstools.
- Fungi can reproduce in two ways. All fungi can produce spores – a kind of tiny seed. Microscopic fungi like yeast can reproduce by budding – a small knob or bud forms on the parent cell, grows and finally separates to become a new yeast cell.
- Some fungi are poisonous but many are edible and considered by some to be delicious! Some, such as yeast, are very useful. Some fungi damage plants and kill them.
- Fungi can live on their own, outside other living things, though they often invade other living things and also help to rot down dead plants.
- Fungi do not make their food through photosynthesis. They give out enzymes which digest food outside their bodies and then absorb it once it is digested.

Viruses

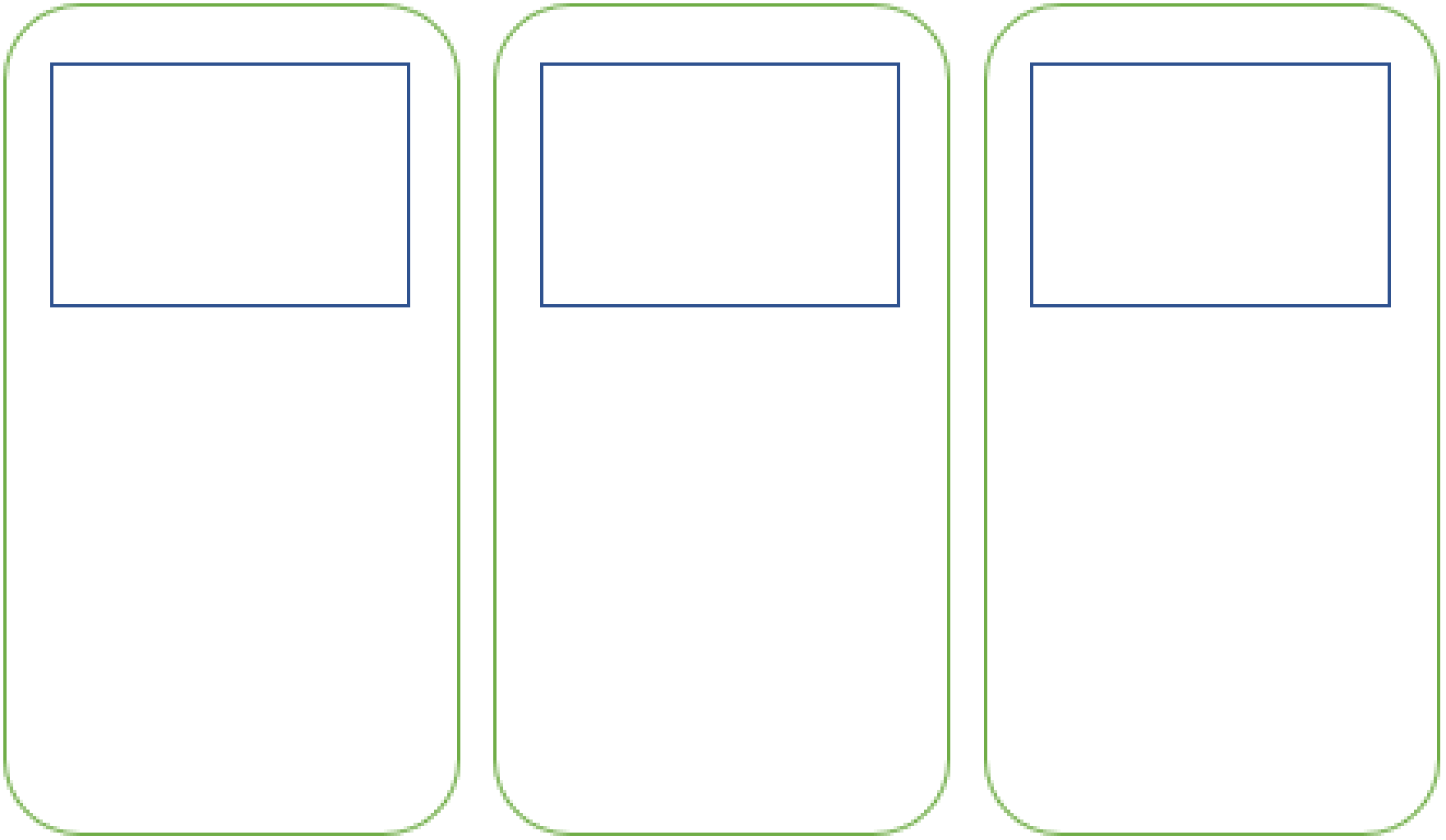
- Viruses are extremely small and can only be seen with a powerful microscope.
- Viruses reproduce by attaching themselves to other living things and using proteins from that living thing to build new virus cells.
- Viruses are responsible for many infectious diseases.
- Viruses can only live inside other living things. They cannot exist on their own.
- Viruses do not make their own food through photosynthesis. In fact, they do not feed at all which means that some scientists do not consider them to be proper living things.

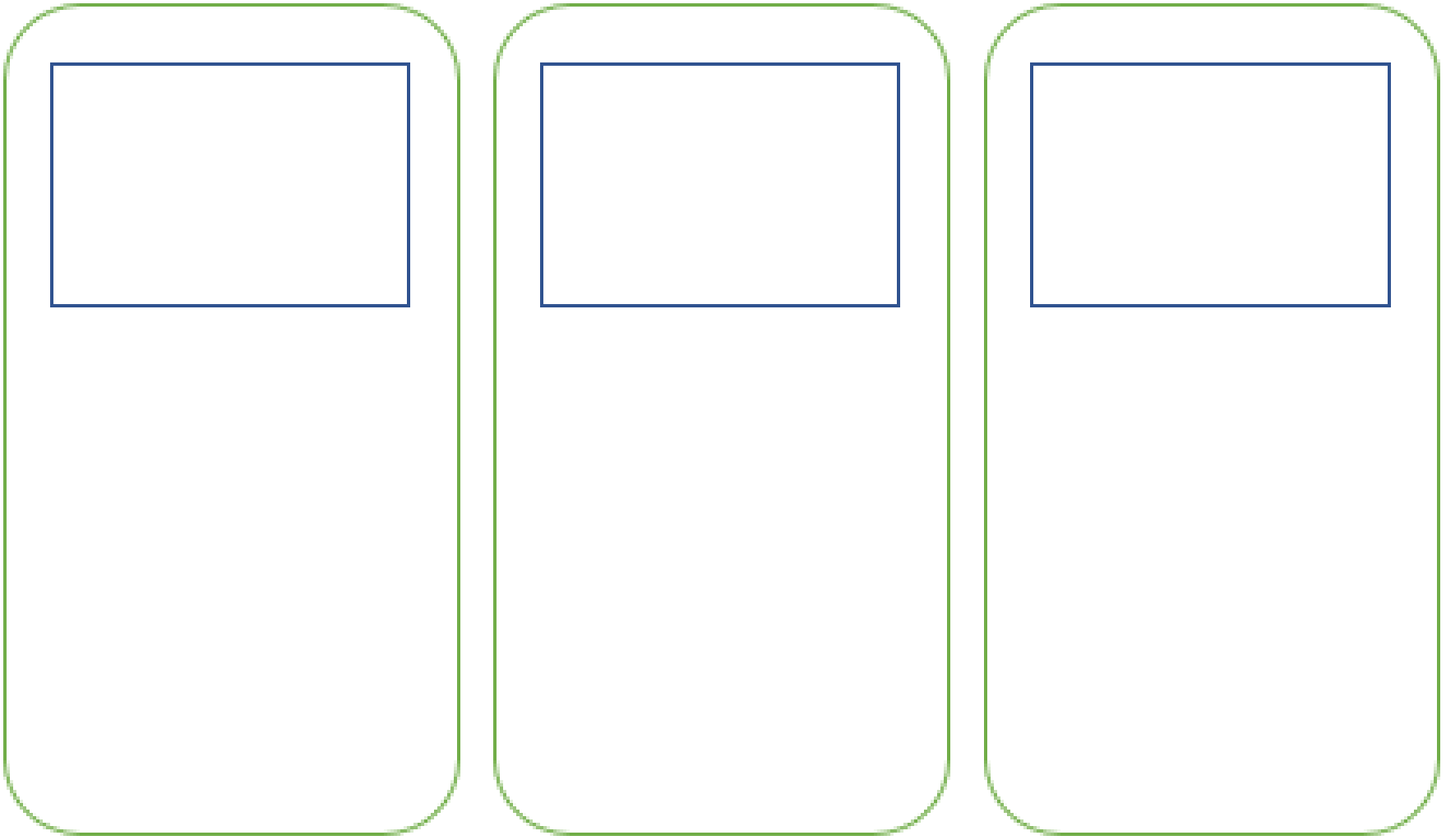
Algae

- Algae range in size from microscopic creatures of only one cell to large, multi-celled algae like seaweeds. There are about 6000 species of green algae.
- Microscopic algae reproduce by cells splitting in two but other algae produce spores.
- Most algae are harmless, though some are toxic and others can grow into colonies so big they block the light and use up the oxygen in the water, killing nearby plants and animals.
- Algae exist on their own and they live in water.
- Algae make their own food through photosynthesis.

Protists

- Most protists are single-celled creatures that can only be seen with a microscope, though a few are larger. There are three different kinds of protists, animal-like, plant-like, and fungus-like protists.
- Some protists reproduce by splitting in two and others reproduce sexually from male and females of their species.
- Many protists are harmless but some, such as the protest that causes malaria are dangerous and can even cause death.
- Because they are so varied, protists can be found in many different places. Some protists live in water, including places that contain water like the soil and inside plants and animals. Some spend their entire lives inside the bodies of other living things.
- Plant-like protists make their own food but others engulf food particles or absorb nutrients from their surroundings.





The Cheese Making Process

What is needed to make cheese from the beginning.

Where is this key ingredient placed and what happens to it?

What is added to the key ingredient to begin the change?

What is it for?

What starts to happen to the main ingredient?

What are the two parts it separates into? What is one of them used for?

What mineral is added to the harder part?

What two key jobs does this mineral do?

Where is the new harder part placed?

What does this process do?

What happens to the cheese now it's shape?

What has to be done to the cheese now?

What do they

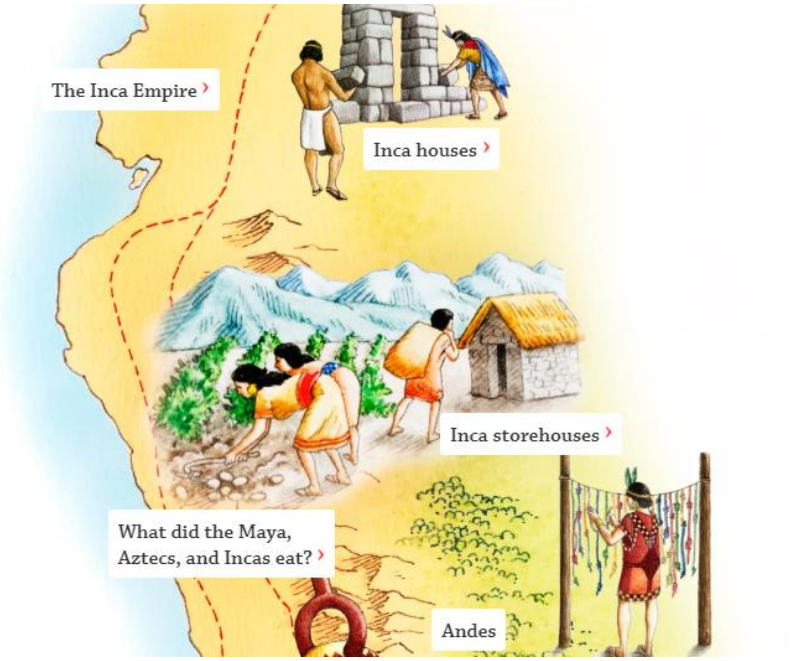
The Inca Empire

The Inca Empire, with its capital at Cusco in modern day Peru, dominated much of western South America in the 15th and early 16th centuries. It stretched throughout most of Peru and Chile, and parts of Ecuador, Bolivia, and northwest Argentina. At its height, 12 million people, who spoke more than 20 different languages, made up this great civilization. It was one of the best organized empires in history. Thanks to their vast network of well-built roads, the Inca people could organize and feed large armies, and send news quickly from one part of the empire to another. The Inca Empire was destroyed in 1532 by the Spanish conquistador (conqueror) Francisco Pizarro and his army.



Incas

The great Inca Empire of South America was dominated by the great mountain range of the snow-capped Andes. No other people built towns so high above sea level. By about 1200 CE the Incas grew from a small tribe living in the Andes into an organized society united under one ruler, called The Inca. From his capital at Cusco, the Inca was worshipped as a child of the sun god. In 1438 CE the ruling Inca, Pachachuti Yupanqui, began a programme of conquest. In less than a hundred years, the Incas had developed into a mighty empire. It stretched 3,500km (2,200 miles) along the Pacific coast of South America, covering much of modern day Peru, Ecuador, Bolivia, Chile, and northwest Argentina.

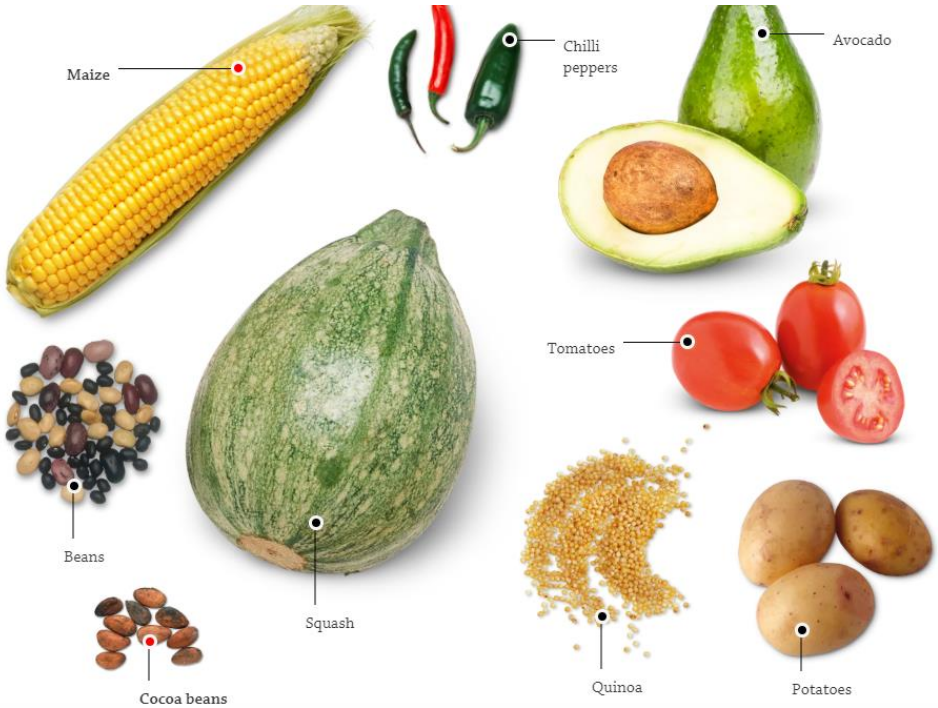


What did the Maya, Aztecs, and Incas eat?

The Maya, Aztec, and Inca civilizations ate simple food. Maize was the central food in their diet, along with vegetables such as beans and squashes. Potatoes and a tiny grain called quinoa were commonly grown by the Incas. Avocados and tomatoes were mainly eaten by the Aztecs and Maya, along with a wide variety of fruit. Maize was made into a sort of porridge, called *atole* in Mesoamerica (the region of Mexico and Central America once occupied by the Maya, Aztecs, and related cultures) and *capia* in Inca territory. Maize cakes were eaten in both regions, but only the Mesoamerican peoples ate maize pancakes, known as *tortillas,* with every meal.



Quiz yourself on the Mayans



Chocolate drink

Many foods enjoyed by the world today were first cultivated in ancient America. One such food was chocolate, made from cocoa beans. The chocolate drink prepared by the ancient Americans was similar to the hot chocolate we drink today, only more bitter and spicy as chocolate was also flavoured with chilli peppers and spices. They sweetened it with honey and flavoured it with vanilla. The drink was served only to wealthy people because cocoa beans were valuable and were thought to be a luxury.



Hunting and fishing

Hunting and fishing were important for the Incas, Aztecs, and Maya civilizations. Meat and fish were part of the diet. In Mesoamerica (the region of Mexico and Central America once occupied by the Maya, Aztecs, and other related cultures), the largest animals were the peccary (a relative of the pig) and the deer. The animals were hunted with bows and arrows. Dogs, rabbits, and other small animals were also eaten. People in Mesoamerica also got meat from raising animals such as ducks and turkeys. The Incas, Aztecs, and Maya fished for everything from shellfish to large fish and sea mammals using nets, harpoons (long spears), fish hooks, and sometimes bows and arrows.

The Maya caught fish in coastal lagoons using bows and arrows.



Inca sling

Inca rituals and beliefs

Religion touched almost every aspect of Inca life. One of the many focal points for their religious rituals were sacred buildings, or temples, dedicated to their gods. The Incas worshipped many different gods, which they associated with natural forces. Their main deity, however, was the Sun god, Inti. The Incas believed the gods had to be kept happy through worship. They held many religious festivals throughout the year, and these involved music, dancing, food, and human sacrifices. The Incas also mummified their dead, as they believed their ancestors continued to watch over the living.



Inca gold

Some of the most common precious metals in the Americas are gold, silver, and platinum. Incas used gold to make ritual objects, trinkets, and jewellery. Combinations of gold and silver, and gold and copper (called *tumbaga*) were also used. Wearing gold jewellery was a sign of a person's wealth and power. When a wealthy person died, his or her tomb would be filled with precious gold and silver objects. The Inca believed that gold was the sweat of the Sun god, Inti, while silver was the tears of his wife, the Moon goddess Mama-Quilla.



Quipu

The Incas invented a way of recording things on a system of knotted strings called a *quipu*. Strings of various colours with single, double, or triple knots tied in them hung from a horizontal cord. The colours of the strings and the number, size, and position of the knots provided detailed information on such things as food supplies and llama numbers. The *quipu* was also used to record the census (population count) and for taxation purposes.

A *quipu* could only be read by an official called a Quipucamayoc.

