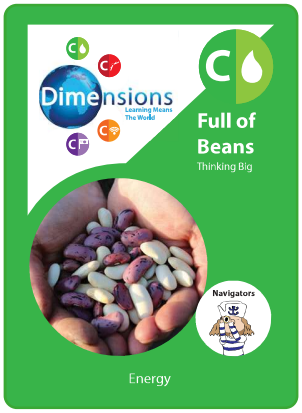
Navigators - Full of Beans



Overview

"Full of Beans" is a thematic unit, with a key focus on geography. You will begin by learning about different types of beans, how and where beans are grown and their nutritional value. You will go on to look at beans as a source of energy, before moving on to learn about energy sources generally, both renewable and non-renewable. A business enterprise element enables you to create and sell your own smoothies.

Types of Beans

Beans are grown all over the world. They grow best in full sun, planted in well-drained and warm soil. Beans are one of the world's oldest cultivated crops. There is evidence of bean cultivation going back 7,000 years! Well-known types of beans that are grown include broad, green, butter (lima), black, kidney, and chickpeas.
Cacao / cocoa (chocolate) beans and coffee beans are used to make some of our favourite food and drink.
Beans are high in fibre, protein and carbohydrates, which means they are a great source of energy.

Key Bean Facts

Beans are part of the legume family of vegetables. Legumes are plants with double-seamed pods containing a single row of seeds.
There are two main types of beans: green / snap (the pod can be eaten) and shell / dried (just the seeds are eaten).
Beans are one of the healthiest foods we eat because they are naturally low in fat and provide important nutrients.

Key Energy Sources

Food energy is measured in calories (kcal).
Fossil fuels (formed from the remains of animals and plants that lived millions of years ago), like oil and gas, provide us with large amounts of energy, but also cause pollution.
Countries in the Middle East, such as Kuwait, have developed into the richest countries in the world because of their oil supply.
Nuclear power is created from the release of energy from nuclear reactors. These reactors usually use uranium or plutonium. Only a small amount of fuel is needed to produce the energy. Nuclear power produces around 10% of the world's electricity. It is a cheap way to produce electricity, but nuclear waste is highly radioactive and accidents and leaks can be deadly and their effects last for a long time.

Natural resources, such as solar, wind and water power, also provide us with energy, but they are sustainable and are much better for the environment. However, they are expensive to set up, solar energy is only produced in daylight hours and the wind does not always blow!

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Vocabulary

Calorie	a unit of energy, often used as a measurement of the amount of energy that food provides
Cultivation	growing crops on land
Consumption	the action of using up a resource
Energy	the power from something such as electricity or oil that can do work, such as providing light and heat
Fuel	a material, such as coal, gas or oil, that is burned to produce heat or power
Nutrients	a substance that is necessary for healthy growth and development
Plutonium	a radioactive metal
Pollution	damage caused to water, air, etc. by harmful substances or waste
Radioactive	releases dangerous energy
Sustainable	causing little or no damage to the environment and doesn't use up natural resources
Uranium	a radioactive metal

Concept Flow

- To learn about different types of beans
- To know how and where in the world beans are grown and how to plan an experiment to grow beans
- To know about different energy sources and where they come from
- To learn more about non-renewable and renewable energy and the advantages and disadvantages of each source
- To learn how to save energy and understand the effect this will have on the environment (local /national / global level)

My Notes / Questions

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