Science

1 Look at the photos and describe the buildings. Is there anything unusual about them?

2 Read the text. List four ways in which these buildings are friendly to the environment.

LET'S GO GREEN!

Nowadays, architects are building more and more eco-friendly buildings in the UK for people to live, work and study in. Let's look at a weird and wonderful eco-home in Wales and an award-winning eco-school in England and see how they're making our future greener.

The Hobbit House ▼

In rural Wales, there's an eco-village with nine houses in it. They all use the most up-to-date green technology and environmentally-friendly designs. The Hobbit House is one of them. With its round structure, grass roof and hillside location, it actually looks like the home of the famous hobbit, Bilbo Baggins!

The house uses natural and recycled materials, like wood, stone and mud. It has straw in the floor, walls and roof for insulation. Plastic sheets and mud on the roof keep out the rain. The grass on the roof also insulates the building, keeping it warm in winter and cool in summer. The roof has features such as solar panels to provide energy and skylights to bring in natural daylight too.

There's a living room, a bedroom, a bathroom and a kitchen with a fridge that keeps cool, thanks to a supply of cold air from under the house. The building is a really impressive structure and its design means it's very good for the environment because it causes hardly any pollution. There aren't many homes like it at the moment, but hopefully there will be in the future.

The eco-friendly school ▲

Howe Dell primary school in Hatfield is doing an experiment to make its building harmless to nature. For the pupils, helping the environment is very important and they do everything they can to be green. This includes going to school on foot and developing fingerprint technology to replace library cards in order to save paper.

The design of the school includes thick walls and windows to reduce heat loss and large windows to bring in lots of light. Solar panels heat the water in the bathrooms and canteen, and a wind turbine provides electricity. The roof is covered in plants that provide insulation and it's also a living classroom for pupils to study the natural habitat of insects in biology lessons.

The school is always thinking of new ways to be eco-friendly: it has toilets that flush rainwater, sinks made from recycled plastic yoghurt pots and desks made of drainpipes! It really is an example of what other schools should be like.

It's important to be green for our future, and it's often the small changes that make a big difference

3 Read the text again. Then read the sentences and decide which building(s) they describe. Circle eco-home (H), eco-school (S) or both (B).

1 The grass roof insulates the building. H / S / B
2 Insulation for the building includes straw and mud. H / S / B
3 There are solar panels to provide energy. H / S / B
4 Wind energy provides power. H / S / B
5 The building will cause very little pollution. H / S / B
6 Recycled rainwater is used in this building. H / S / B

4 Match the features of the buildings with their purpose (1–5).

desks made from drainpipes • grass
large windows • plastic sheets • mud • rainwater
skylights • ~~solar panels~~ • straw • thick walls
thick windows • wind turbines

1 provide energy *solar panels*
2 provide insulation .....
3 stop rain entering .....
4 use recycled materials .....
5 provide natural light .....

5 Discuss the questions in pairs.

1 Do you know any eco-friendly buildings in your town or city? If so, what types of buildings are they? Describe them.
2 Do you think eco-buildings are a good idea? Why/Why not?

?? DID YOU KNOW?

There are some eco-friendly buildings around the world with unusual designs, such as a home in Avila, Spain which is made from four empty shipping containers and a home on a farm in Arizona, USA that is made from empty grain silos! Eco-homes like these are both cost-effective and energy-efficient.

PROJECT

Find out about another unusual building that uses green technology and eco-friendly materials. Describe the features of the building and how it is less harmless than most buildings to the environment. Present the information to the class.

VOCABULARY FOCUS

architect [n]: *a person who designs buildings*
award-winning [adj]: *someone or something that has won a prize*
drainpipe [n]: *a pipe on a building that carries rainwater from the roof to the ground*
eco-friendly [adj]: *friendly to the environment*
experiment [n]: *an occasion to test a new idea or activity and find out the result*
feature [n]: *an important part of something*
flush [v]: *make water pass through a toilet*
habitat [n]: *the place where a particular animal or plant lives or grows*
harmless [adj]: *not dangerous*
impressive [adj]: *something to admire because it is very good or shows great skill*
insulation [n]: *material used to prevent heat, cold, noise or electricity from passing through something*
skylight [n]: *a window in a roof or ceiling*
solar panel [n]: *equipment that uses energy from the sun to create power for a building*
straw [n]: *yellow stems of dried crops, such as wheat*
supply [n]: *a quantity of something that is available to use*
up-to-date [adj]: *including the most recent or modern information, ideas or knowledge*
weird [adj]: *strange or unusual*