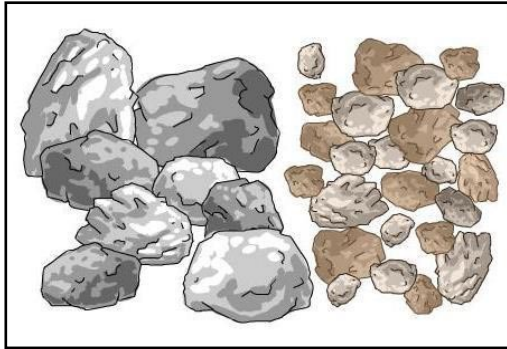
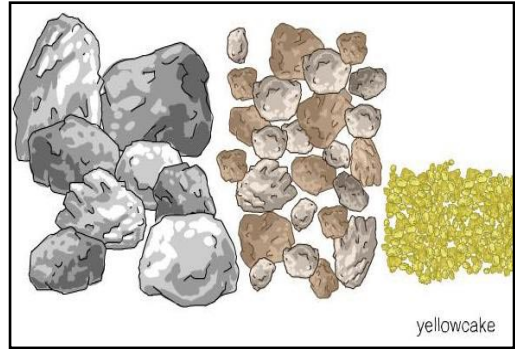


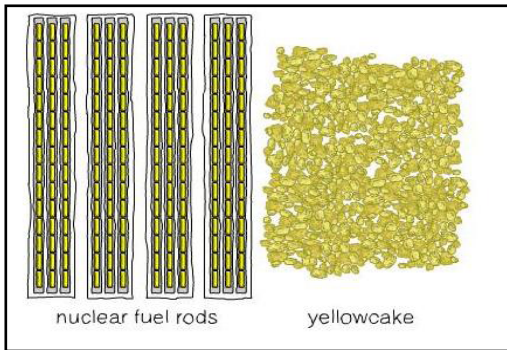
Exercise 1

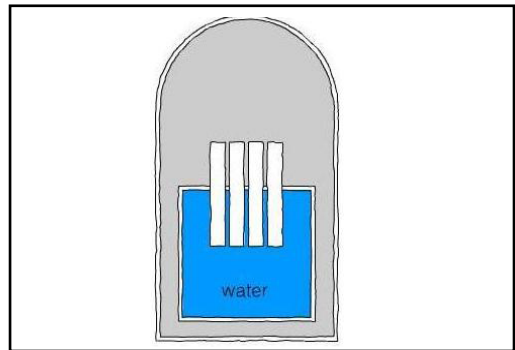
Talk about the pictures with your partner.

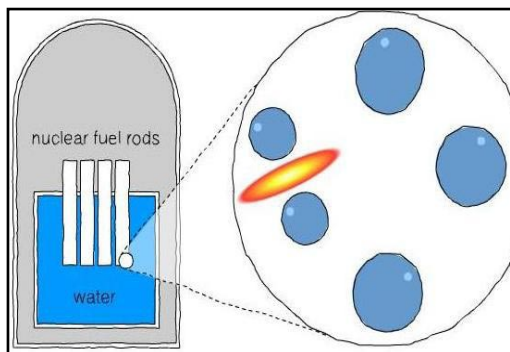
How nuclear power is produced

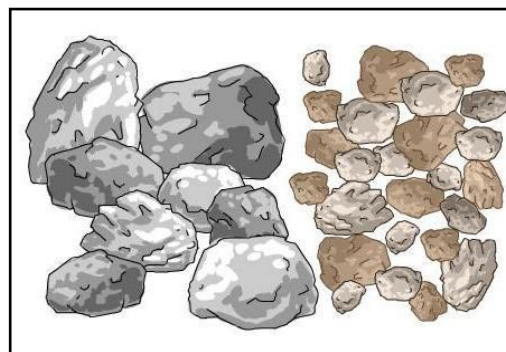


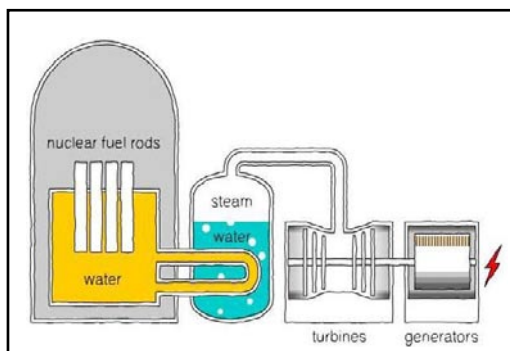


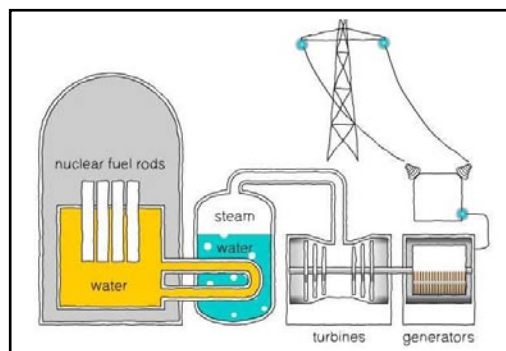












Exercise 2

Write the correct caption (1-8) under each picture in exercise 1.

1. Electricity is sent via pylons and cables to homes around the country.
2. Uranium is mined from rocks.
3. Uranium atoms inside the rods are split into two smaller atoms and energy is released.
4. The yellowcake is taken to a factory where it is turned into nuclear fuel rods.
5. It is then crushed and concentrated to make a powder called 'yellowcake'.
6. As the turbines spin, they drive generators, which make electricity.
7. This energy heats the water and makes steam, which is then used to make turbines spin.
8. At a power station, the nuclear fuel rods are placed under water inside a chamber.

Exercise 3

Complete the gaps, using the present simple passive form of the verbs in the box.

turn into	use	send	mine	place	split
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1. Uranium _____ from rocks before being crushed and concentrated to make a powder called 'yellowcake'.
2. The yellowcake is taken to a factory where it _____ nuclear fuel rods.
3. At a power station, the nuclear fuel rods _____ under water inside a chamber.
4. Uranium atoms inside the rods _____ into two smaller atoms and energy is released.
5. This energy heats the water and makes steam, which _____ then _____ to make turbines spin. As the turbines spin, they drive generators, which make electricity.
6. Electricity _____ via pylons and cables to homes around the country.

Objectives

Science

Students learn how nuclear power is produced by splitting uranium atoms.

Language

Skills: Speaking, listening, writing and reading

Grammar: Present simple tense; present simple passive

Vocabulary: Nouns: *uranium, yellowcake, nuclear fuel rods, steam, turbines, generators, energy, electricity, powder, factory, power station, chamber, atoms, pylons, cables*

Verbs: *harness, produce, mine, crush, concentrate, turn into, split, release, spin, drive*

Activities

Activities	Language skills
Students say what they know about how nuclear power is produced	Speaking; vocabulary; present simple tense
They watch the animation and check if they were correct	Listening; reading; vocabulary
They match captions with a set of pictures	Reading; vocabulary
They do a gap-filling activity	Reading; writing; vocabulary; present simple passive
(Groups only:) They give an oral commentary on the animation	Speaking; vocabulary; present simple tense; present simple passive

Procedure

With the whole class

(Typical situation: whole class watching the presentation and animation on an interactive whiteboard or projector.)

- 1 [Slide 1] Introduce the topic. Ask the class to say what they know about how nuclear power is produced. Introduce some key vocabulary (see above) but do not go into detail. Then ask students to work in pairs and do exercise 1 on the worksheet: they talk about a sequence of pictures showing the process of producing nuclear power. Monitor and help but do not explain the process to students at this stage.
- 2 [Slide 2] Play the animation. Ask the class to watch and listen carefully and check whether their ideas were correct. Afterwards, talk through the process with the whole class.
- 3 [Slide 3] Students continue to work in pairs and do exercise 2 on the worksheet: they write captions under the pictures. Monitor and help. Check answers with the whole class. (See answer key.)

- 4 Grammar focus (optional – see below).
- 5 Tell students not to look at exercise 2 while they do the next exercise. Students work individually and do exercise 3 on the worksheet: they complete the gaps. Afterwards, students check their answers in pairs. Then check answers with the whole class. (See answer key.)

With groups (one group studies nuclear power and then presents it to the class)

(Typical situation: students arranged in groups around computers eg, in a language lab)

- 1 [Slide 1] Students work in their group and do exercise 1 on the worksheet: they talk about a sequence of pictures showing the process of producing nuclear power. They can either talk in English or in their first language.
- 2 [Slide 2] Students play the animation and check whether their ideas were correct.
- 3 [Slide 3] Students work individually or in pairs and do exercise 2 on the worksheet: they write the correct captions under the pictures. They can check answers with their group and then use the answer key.
- 4 Grammar focus (optional – see below).
- 5 Tell students not to look at exercise 2 while they do the next exercise. Students continue to work individually or in pairs and do exercise 3 on the worksheet: they complete the gaps. Afterwards, students check their answers with their group and then with the answer key.
- 6 The group gets ready to give an oral commentary on the animation. They can rehearse once or twice if they wish. Play the animation without sound; students give the commentary.

Grammar focus (optional): present simple passive

1. Focus on sentence 1 from exercise 2: *Electricity is sent via pylons and cables to homes around the country.* Write the sentence on the board or ask students to highlight it on their worksheet. Underline the passive verb form *is sent*. Ask students to identify whether this verb form describes an active process or a passive process. Is the phrase describing what the subject (the electricity) does, or what happens to the subject?
2. Explain to the students that scientific processes are often expressed using the present simple passive, because the most important thing is the event and not who or what is carrying it out.
3. Write the structure of the present simple passive on the board: *am/is/are + past participle*.
4. If you wish, give students further grammar exercises practising the present simple passive to describe processes.

Nuclear power**Worksheet answer key****Exercise 2**

2 5

4 8

3 7

6 1

Exercise 3

1. is mined
2. is turned into
3. are placed
4. are split
5. is/used
7. is sent