

UNIT 1: How many planets are there in space?

Unit introduction

Each unit begins with a brief overview of the topics and Use of English areas that students will read about. In this first unit, the topics are **space and space travel** and **the Hubble Space Telescope**. The Use of English areas are **passive verb forms**, **wh- question forms** and **time sequencers**.

A Speaking and thinking (Coursebook pages 7–8)

1 Pairs

If you think that students will not know the names of many of the planets in English, you could immediately direct them to the image on page 7 and the anagrams in Activity A2. However, if they are happy to discuss the questions without too much support, give them a few minutes to do so, monitoring their discussions but not interfering. The aim is to introduce students to the unit topic and to give them some freedom to talk without fear of correction.

2 Pairs

Many students enjoy working with letters and doing puzzles, so this type of activity provides some variety and an opportunity for visual and kinaesthetic learners to do well. There are nine anagrams for students to unscramble. There is no reason why you should not give two or three examples if you feel students will struggle. Note that the names of the planets are always spelt with a capital first letter.

ANSWERS: a Neptune, b Jupiter, c Mercury, d Pluto, e Venus, f Saturn, g Mars, h Earth, i Uranus

3/4 Pairs

Activity A3 discusses where the different planets got their names from and asks students to think about the names of the planets in their own language. In Activity A4, students match the list of gods/goddesses to the planets. Once again, it does not matter if students do not have too much knowledge at this stage. Provide as much support as you think is necessary.

ANSWERS:

Position	Name	God/goddess
1	Mercury	winged messenger of the gods
2	Venus	goddess of love and beauty
3	Earth	
4	Mars	god of war
5	Jupiter	king of the gods
6	Saturn	god of farming and agriculture and father of Jupiter
7	Uranus	god of the sky and heavens and father of Saturn
8	Neptune	god of the sea
9	Pluto	god of the underworld

B Listening (Coursebook page 8)

1 Pairs

Give students time to think about the information in the table in their notebooks and to guess how the planets got their names. They will find the answers in the listening activity that follows. There is no need to provide any answers at this stage.

2 Alone, then pairs

Prepare students for the audio. Make sure they understand who they are going to hear talking (Taran), what the topic is going to be (how the planets got their names) and what they need to do (check if their ideas in Activity B1 were correct). When students are ready, play the audio once and then let students check their answers with a partner.

TRACK 2

Have you ever wondered how the planets got their names? I mean, why are they called Mercury and Uranus and Jupiter, and so on? Not exactly easy to remember, are they?

Well, all of the planets, except for Earth, are named after Greek and Roman gods and goddesses. Jupiter, Saturn, Mars, Venus and Mercury were given

their names thousands of years ago, but nobody knows exactly when nor by whom.

The other planets – Uranus, Neptune and Pluto – were not discovered until much later, when telescopes were invented, and so their names were given more recently: Uranus in 1781, Neptune in 1846 and Pluto as recently as 1930. The tradition of naming the planets after Greek and Roman gods continued for these last three planets as well.

Going back to the oldest planets, Mercury, the winged messenger, was named after the Roman god of travel. The name was given because Mercury is the fastest planet – it completes one revolution around the sun in just 88 days. Venus was named after the Roman goddess of love and beauty because this planet appears as the brightest and most beautiful in the sky, after Earth's moon.

Some of you might know that Mars was the Roman god of war, but why was the name given to this planet? Well, Mars is red in colour and this colour was associated with blood in battles.

Jupiter got its name because it's the largest of all the planets – the king!

Saturn was the Roman god of agriculture, but it is not exactly clear how the planet got its name.

Uranus, the father of Saturn, is positioned next to it, and got its name from the ancient Greek god of the sky.

Neptune has a beautiful blue colour and so the Romans named it after their god of the sea.

Pluto, which is no longer classified as a planet, is the furthest from the sun and is always in darkness, just like the underworld, the place beneath the ground in mythology.

Our planet, Earth, is not named after a god or goddess – it's an English/German word which simply means 'the ground'. Boring, huh?!

3 Whole class, then alone, then pairs

It is a useful strategy to encourage students to think about the key word/s in questions, as this will help them to identify where to find the answers in a text (both listening and reading). It is also a good idea to get students to think about the **type** of answer each question is looking for, and to make possible predictions. For example question B3a asks *When were the planets Jupiter, Saturn, Mars, Venus and Mercury named?* The key words are *When, named* and *the planets*. *When* and *named* mean that students

need to listen for a date/year. The answer could be that Jupiter, Saturn, Mars, Venus and Mercury were all named at the same time (likely), or that there is a different date for each planet (unlikely, as this would mean listening for four different dates, and then writing them down before proceeding to the next question).

Students listen and write the answers in their notebooks, then check with a partner. The audioscript appears on page 150 of the Coursebook, so you can refer students to this as an additional (and student-centred) checking method.

ANSWERS:

- a thousands of years ago
- b (i) 1781, (ii) 1846, (iii) 1930
- c Mercury
- d blood in battles
- e Jupiter
- f because of its beautiful (sea) blue colour
- g Pluto

C Use of English: Passive verbs (Coursebook pages 9–10)

1/2 Alone, then whole class

Before beginning Activity C1, focus on the blue box about passive verbs and ask students to complete the rule: *The passive is formed with the verb to be, followed by the past participle of a main verb.*

Students start Activity C1 on their own, focusing on the underlined verbs in sentences a–c. All the verbs are in the passive form (voice).

For Activity C2, look at the first sentence together and explain to students who or what is the person or thing affected by the action (*all of the planets ... are named* and *Jupiter, Mars, Venus and Mercury were given ...*). The doer is not specified in either example here.

Then get students to look at sentences b and c and identify who or what is affected by each action, and to ask themselves who the doer is.

ANSWERS: **b** *this colour* was associated, **c** *Pluto* is no longer classified; we do not know who the doer is

3 Alone, then pairs

Give students a minute or so to complete a copy of the table in their notebooks, then get them to check with a partner.

ANSWERS:

were given = **past simple**
was associated = **past simple**
is classified = **present simple**

4 Pairs

Now that students know the pattern for forming passive verb forms, they should be able to find the answers here quite easily.

ANSWERS:

present perfect = *have/has been* + past participle

past perfect = *had been* + past participle

5 Pairs or whole class

Focus on the picture of the Hubble Space Telescope (HST) and ask students if they have ever heard of it and, if so, what they know about it. Discuss this as a class or split students into pairs to talk about it.

6 Alone, then pairs

Students work on their own and read the text. While they read, they should write the correct passive forms of the verbs in brackets in their notebooks, then check their answers with a partner.

ANSWERS:

a was launched

b have been delighted

c are used

d is hidden

e is slightly curved

f is made

g is turned

h are transmitted

i is sent

j is streamed

k are turned

l is collected

m is stored

D Reading (Coursebook pages 10–12)**1 Small groups**

Put students into small groups in order to talk about questions a–d. There are no right or wrong answers, so encourage students to talk freely. You should not interfere, but monitor and provide support if required. Make sure you give positive feedback at the end of the discussions.

2/3 Small groups

Students continue their discussions by looking at the picture and answering the questions. Once again, it does not matter if they guess the answers incorrectly.

4 Pairs

Throughout the Coursebook, new words and phrases are introduced and it is often suggested that students use paper and/or digital reference sources

to make sure they understand this new vocabulary. You can ask the whole class to check all the words, or allocate different words to different students, depending on the amount of time available and how difficult you think they might find the words or phrases.

5 Alone, then pairs

Another recurring activity throughout the Coursebook asks students to think about vocabulary items in their own language and to provide a translation for an English word. In this way, they can build up their own bilingual dictionary. Encourage students to make a note of the grammar (part of speech) for new words and to add an example sentence so that new words are recorded in a meaningful context, as shown in the table on page 11. When students have completed their own table for this activity, get them to share their answers with a partner.

ANSWERS: ambitious = adjective, centrepiece = noun, daring = adjective or participle, habitable = adjective, manoeuvres = noun, obstacles = noun, severed = adjective or verb, withstand = verb, zap = verb

6/7 Alone, then pairs

Students read the text and check their answers to Activity D3. If you prefer, they could do Activity D7 at the same time. However, they should work alone and only pair up to check their answers once they have finished both activities.

ANSWERS (D6):

2 metres = arm

3 metres by 2.8 metres = length and width

2.1 metres = height

900 kilograms = weight

50.8 centimetre diameter = wheels

ANSWERS (D7): a centrepiece, b ambitious, c zap, d obstacles, e daring, f manoeuvres, g withstand, h altitude, i severed, j habitable

8 Alone, then pairs

Remind students to think about the key word/s in each question and to predict the type of answers required. They should work alone, then compare their answers with a partner.

ANSWERS:

a to find out if Mars is, or was, suitable for life and to learn more about the red planet's environment

b allows it to carry many scientific experiments

c a full Martian year is 687 Earth days

d from 26th November 2011 to 6th August 2012

e fiery

f a supersonic parachute, rockets, sky crane

E Use of English (Coursebook page 13)

Focus first on the blue box, which contains important information about *wh*- questions and the word order required for these.

1 Whole class, then pairs

Do the first example with the class, checking that they understand why *what* is the object of the question. Then in pairs students look at questions b–f, deciding if *who*, *what* or *which* is the subject or the object and answering the questions.

ANSWERS:

- b *who* = subject, NASA
- c *what* = subject, a supersonic parachute
- d *who* = subject, NASA personnel
- e *which* = subject, Twitter and Facebook
- f *what* = subject, (various answers possible)

2 Whole class, then alone, then pairs

Look at the first part of this question (a) with the class and check that students understand what they have to do. Then students write their answers and check them with a partner.

ANSWERS:

- b Who designed the assembly to *roll over obstacles*?
- c What severed *the link*?
- d What was used for the final part of the landing sequence?
- e What is Curiosity's main mission?
- f How did scientists feel when the rover beamed back information?

F Writing (Coursebook pages 13–14)

1 Whole class, then pairs

Go through the expressions from the unit texts that describe **when** something happened. Make sure students understand that using phrases, rather than individual words, can make their writing more effective and interesting. Then, in pairs, students look again at the *Mars Curiosity* text and find more examples of time sequencers.

ANSWERS: On 26th November 2011, on 6th August 2012, Firstly, Then, When

2/3 Alone

Students build up information about space achievements by looking back at the texts in the unit and selecting at least four more important events to add to the ones in Activity F2. This will give them a total of nine or ten pieces of information, which they should combine into a paragraph, using time sequencers as appropriate.

4 Alone

For this activity, students use the notes given to write a paragraph about missions into space.

SAMPLE ANSWER:

During the early 1960s, many attempts were made by the USSR to reach Mars, but all ended in failure for a variety of reasons. The first success was in 1964, when the USA's *Mariner 4* sent back 21 images. During the late 1960s there were more attempts by the USSR, but none was successful because of launch failures. Then, in 1971, the USSR had its first success when the *Mars 3* Orbiter-Lander sent back data for eight months. It landed on Mars, but only sent 20 seconds of data. In the mid-1970s, the US *Viking 1* and 2 Orbiter-Lander returned 1600 images and a large quantity of data and soil experiments. However, for the next 20 years there were mostly failures from the USA, USSR and China. In 1985, Sultan bin Salman Al Saud joined the international crew on *Discovery* and launched a satellite into space. In the early to mid 2000s, there was plenty of USA success, with enormous amounts of data being sent back. In 2012, Chinese astronauts ate fresh vegetables from gardens in extra-terrestrial bases in space.

DIFFERENTIATED ACTIVITY

For weaker students, offer more support in this writing section. For Activities F2 and F3, they could use just the notes in the Coursebook, rather than finding extra ones to make a longer list. You could allocate two or three of the notes to different students to complete, and then students join their sentences together to make a complete paragraph. In Activity F4, you could complete more notes for them (perhaps a, c, e and g), then students have to complete the others and thus create the whole paragraph. In addition, you could put the verbs into the correct tenses for them.

For stronger students, encourage them to expand on the notes as much as possible by using more descriptive language (adverbs and adjectives). Another variation could be for students to write their paragraph, then turn the content into a question-and-answer interview. For example the first question might be: *Tell us about the early attempts to reach Mars*, with the answer: *During the early 1960s, many attempts were made by the USSR to reach Mars, but all ended in failure for a variety of reasons.* The next question might be *When did the first success happen?* with the answer *The first success was in 1964 when the USA's Mariner 4 sent back 21 images*, and so on.

G Project work (Coursebook page 14)

Every unit in the Coursebook concludes with a section on project work. The idea is for students to work independently if possible, and to expand on the knowledge that they have acquired from the unit. The project can be done at home, at school, or a combination of both, depending on the resources available to students. The time required for students to complete the project will vary. The important thing is for students to create something (in this unit, it is an illustrated classroom poster) and be ready to present their work to the class and answer any questions.