

## Teaching notes for *Guess What!* video lesson plan C: Levels 5 and 6

### Stage 1: Activate learners' prior knowledge of the subject topic

The aim of this stage is to find out what learners remember and can say about the topic vocabulary and concepts presented on the CLIL pages of the Pupil's Book. After completing the first unit in each Pupil's Book and watching the first video, learners can also recall words or phrases from a previous unit or level of *Guess What!*

Examples:

- Level 5 Unit 2 (*Where are the places on the map?*): Before learners watch the video, write *map* on the board and ask: *What places can we see on a map of our city/town/village?* Brainstorm the names of places on the board. Learners should know: *police station, fire station, hospital, sports centre* (Level 2 Unit 7) *building, school, farm* (Level 3 Unit 5) *library* (Level 5 Unit 2).

Challenge learners by asking: *Who can tell me some countries we can see on a map in English?* Learners know: *Bangladesh, Brazil, China, Colombia, France, Italy, Mexico, Russia, Spain, the United Kingdom, the United States* (Level 5 Unit 0).

Correct pronunciation if learners say the country using LI pronunciation.

Some learners might know the names of other countries in their LI. Thank them, say the name in English and ask learners to repeat it softly then loudly; slowly then quickly.

- Level 6 Unit 2 (*What abilities do we need for physical activities?*): Before learners watch the video, write *physical abilities* on the board and brainstorm verbs learners know. For example, *turn, shake, bend, stretch, kick* (Level 4 Unit 1) *kick a ball, hit a ball, ski, windsurf, rock climb* (Level 5 Unit 8).

Tell learners you'll mime the words they've said, and they call out the physical ability together. Then say: *We need other physical abilities. Let's find out some new words about physical abilities in the video.*

### Stage 2: Introduce the video

The aim of this stage is for learners to recall topic words and phrases from the CLIL pages of the Pupil's Book and to guess other possible answers to the video question. This helps learners to engage with the CLIL question and to develop their thinking skills by recalling relevant vocabulary and making predictions before they watch the video.

Examples:

- Level 5 Unit 6 (*What were castle homes like?*): Ask the video question. Learners guess possible answers, using vocabulary from the unit and previously learnt vocabulary. Encourage learners to use 'I think' at the start of their predictions, e.g. *I think there were big rooms / dark stairs / old roofs / lovely gardens. I think castles were very cold.*
- Level 6 Unit 6 (*What happens to our old glass bottles?*): Ask the video question. Learners guess possible answers, e.g. *I think we recycle them / put them in a recycling bin. I think we can use old glass bottles for art projects.*

Praise learners for their predictions: *Well done! You've got very good ideas!*

### Stage 3: Watch for general understanding, enjoyment and to answer the topic question

The aim of this stage is for learners to watch and enjoy the video. It enables learners to check their predictions about the answer to the video question and to listen for general understanding of the subject topic. The videos provide meaningful visual and audio support and new topic vocabulary is repeated several times. The videos also contain the texts from the Pupil's Books read aloud.

Say: *Now watch the video. Listen and check your ideas. Are your ideas correct?*

After watching, put learners in pairs. Say: *Tell your partner something you saw in the video.*

To challenge learners further, you can ask follow-up questions related to the video topic.

Examples:

- Level 5 Unit 3 (*What is an underwater food chain?*): Ask: *So, what is the food chain for a sea lion?* (First the sun makes plants grow. Then small fish eat the plants and big fish eat the small fish.) *And what is the forest food chain?* (The sun makes leaves grow. Then small animals eat the leaves. Then big animals eat the small animals.)
- Level 6 Unit 3 (*Why is it important to drink water?*): Ask: *So, why is it important that soil has water in it?* (When the soil has no water in it then plants can't grow.) *And why do animals need water?* (Animals need water when they are hot and thirsty. They need water to live.)

### Stage 4: Watch the video for specific/detailed understanding

This stage develops learners' intensive listening skills by identifying details. Learners describe and make comparisons between images of the topic words seen in the video and recycle vocabulary. The three steps in this stage are:

- 1 asking learners questions to identify topic vocabulary,
- 2 asking learners to describe and compare several images such as those on split screens,
- 3 asking learners to recall what the presenter said.

Say: *Let's watch the video again. I'll stop the video and ask you some questions.*

- 1 Pause the video and ask questions to identify details and recycle vocabulary.

Examples:

- Ask: *Which ... did you see in the video? (e.g. materials, food chains, physical activities, planets) What types of ... did you see in the video? (e.g. ants, places, musical instruments, fireworks)*
- 2 Pause the video to ask learners to describe details. For example, say: *Describe this/these photos. What's happening here? What do you think? Do you think the ... is ... or ...? Which ... has got ...? What can you see in front of / behind / next to / between the ...? Which ... do you think is bigger / stronger / faster / heavier / more dangerous / more beautiful?*

Examples:

- Level 5 Unit 3 (*What is an underwater food chain?*) Ask: *What do the plants do? Where do the small fish go? What was in the forest food chain?*
- Level 5 Unit 5 (*What happens when a volcano erupts?*): Ask: *Why do you think the lava is dangerous? Why do you think the plants stop growing?*
- Level 6 Unit 7 (*How are the planets different?*): Ask: *Which ... is the biggest / smallest / nearest / brightest / most beautiful / most wonderful planet?*

- 3 Pause the video three or four times and ask learners to recall what the presenter said. See video transcripts at the end of the Teacher's Books to help you. Ask: *What do you think he/she says next?*

Examples:

- Level 5 Unit 7 (*How do animals communicate?*): Pause the video when the presenter says 'Polar bears...' Ask: *What do you think she says next?* Learners talk to a partner and suggest ideas. Listen to three or four ideas before playing the video sentence '... move their heads from side to side...' Play the video until the presenter says 'wild cats purr, and excited elephants...' then stop the video and ask: *What do you think she says next?* Repeat partner activity, listen to learners' ideas then play the end of the sentence: '...flap their ears.'

Note: Learners can also check the video script with the text in the Pupil's Book Level 5.

### Stage 5: Worksheet C

Learners do worksheet activities to communicate their understanding of new subject vocabulary and concepts presented in the video. The activities involve writing sentences to compare topic concepts and to communicate facts from the video.

You can decide if learners complete the worksheets individually, in pairs or in small groups. Encourage learners to swap worksheets and give short feedback on the work their partner did.

The worksheet activities involve the following:

- 1 In the two outside parts of the Venn diagram, learners draw two key things they saw in the video. For example, in Level 6 Unit 7 (*How are the planets different?*), learners might draw Mars and Jupiter. In the middle part of the Venn diagram, learners write three words which are related to both pictures, e.g. *solar system, space and orbit*.
- 2 Learners complete two gap fill sentences with words about their topic drawings. For example: *My pictures show Mars and Jupiter. They're both planets in our solar system.*
- 3 Learners write three sentences about the video content – two true and one false.
- 4 In pairs, learners read their partner's sentences and identify which sentence is false.

### Stage 6: Extension activity

The aim of the extension activity is to personalise subject learning by making links between the video content and the learners' lives, and to develop creative thinking skills.

Examples:

- Level 5 Unit 6 (*What were castle homes like?*): Ask learners: *Are there any castles near our school/village/town/city? What are they like? Who knows an old castle? What's it like?* Learners recycle vocabulary such as: *very old, dark, high walls, tall towers, big hall, small windows, beautiful gardens, water around it, on a hill, with a drawbridge, etc.*
- Level 6 Unit 1 (*How do we estimate measurements?*) Ask learners: *When do you measure how heavy something is?* (e.g. When we buy fruit and vegetables at the market. When we have bags at an airport. When we want to send a parcel at a post office.)

## Guess What! video lesson plan C: Levels 5 and 6

<b>Unit:</b> _____	<b>CLIL subject:</b> _____	<b>Unit:</b> _____
<b>Learning outcomes</b>	To recall topic vocabulary and ideas already learnt. To listen to and understand the content of the CLIL video. To talk to a partner and agree on the answer to the video question. To identify and communicate new topic and general vocabulary presented in the video. To write topic words and phrases in short texts.	

Stage	Timing	Teacher language (examples)	Learner language	Assessment: Most learners can...
1 Activate prior knowledge of topic	5 mins	<i>Who can tell me words about ...? Let's find out some new words about ... in the video.</i>	topic nouns, verbs, adjectives noun phrases, e.g. <i>worker ant, primary consumer, board game, solar system</i> expressions, e.g. <i>change colour, make tighter</i>	<ul style="list-style-type: none"> <li>recall topic vocabulary and ideas from previous levels and units</li> </ul>
2 Introduce CLIL video	5 mins	Ask video question. <i>What do you think the answer is? Well done! You've got very good ideas</i>	Answers to video question, e.g. <i>I think the answer is ... They're made of ... It's in the ... It's got ... and ... They were ...</i>	<ul style="list-style-type: none"> <li>predict possible answers to the video question</li> </ul>
3 Watch video for general understanding	5 mins	Before: <i>Now watch the video. Listen and check your ideas. Are your ideas correct?</i> After: <i>Work with a partner. Tell your partner something you saw in the video.</i>	<i>I saw that ... are made of ... We use a ... and a ... We need ... and ... They were ... They're made of ... has got ... but ... has got ...</i>	<ul style="list-style-type: none"> <li>listen and understand video content</li> <li>talk to a partner and agree on an answer to the video question</li> </ul>
4 Watch video for specific/ detailed understanding	10 mins	1. <i>Let's watch the video again. I'll stop the video and ask you some questions.</i> 2. <i>Describe the photos. What's happening here? Do you think it's/ they're ... or ...? Which ... is (bigger)? Which is the (fastest)?</i> 3. <i>What do you think he/she says next?</i>	1 and 2: topic nouns, noun phrases, present and past simple verbs, present continuous comparative and superlative forms of adjectives, e.g. <i>big, small, fast, heavy, weak, strong, dangerous (because – from Level 5 Unit 7)</i> 3. <i>We/I think he/she says ...</i>	<ul style="list-style-type: none"> <li>identify and communicate new topic and general vocabulary presented in the video</li> </ul>
5 Complete worksheet	10 mins	<i>Read question 1/2/3/4. What do your pictures show? What did you see? Which sentence is false?</i>	<i>My pictures show a ... and a ... They're both ... I think sentence C is false. You're right/ wrong! Try again.</i>	<ul style="list-style-type: none"> <li>write topic words and phrases in short texts</li> </ul>
6 Extension activity	10 mins	Personalising: <i>Are there any ... near our school/town/city? When do you ...?</i>	<i>There are ... near ... I ... after school / in the morning.</i>	<ul style="list-style-type: none"> <li>complete the extension activity and give peer feedback</li> </ul>

**Lesson evaluation**

**Write some notes about your video lesson.**

What went well?	What didn't go so well?	What will you do differently next time?

Name: \_\_\_\_\_

Class: \_\_\_\_\_



- 1** Draw two things you saw in the video. Write three words about the pictures.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- 2** Write about your pictures.

My pictures show \_\_\_\_\_ and \_\_\_\_\_.

They're both \_\_\_\_\_.

- 3** What did you see in the video? Write two true sentences and one false sentence.

A \_\_\_\_\_

B \_\_\_\_\_

C \_\_\_\_\_

- 4** Show your sentences to a partner. Your partner guesses which sentence is false.

I think sentence C is false.

You're right!



## Video scripts

### Seasons and weather

**Unit topic:** Seasons and weather

**Topic:** Art – shadows

**Question:** What do the shadows in a painting tell us?

**Learning objective:**

Pupils should:

- be able to describe different shadows and where their source of light is
- understand that shadows move and change depending on the time of day and the season

#### Video 00

Hello. Welcome to *Guess What!*

Today we're asking,

What do the shadows in a painting tell us?

First, let's look at some different shadows.

Look how this shadow is moving! It moves because the sun is moving across the sky.

Now look at this moving shadow! Can you see how it gets shorter ... then longer again?

Look at the shadow of this biker. It's very long.

Look at the shadow of this basketball player. It's very short.

Look at the sun making shadows of the trees on the snow.

And look how these mountain shadows move as the sun comes up.

Now listen to what the shadows in a painting tell us. Artists use shadows to show different seasons and times of day.

To show summer, artists often paint short shadows. This is because the sun is high in the sky in summer, and when the light comes from above, it makes short shadows.

In winter the sun is lower in the sky. The light comes from the side and makes longer shadows.

Artists also paint long shadows to show the morning or the evening, and short shadows to show midday.

The shadows in paintings can also tell us where the sun is in the sky. When the shadows are on the right of the objects, the sun is on the left.

When the shadows are in front, the sun is behind.

Let's learn about shadows made by light coming from different places.

The long shadows of these dancers come from the bright lights in front of them.

Look at these shadow puppets. The light comes from behind them.

The light making the shadows of these statues is coming from the side.

This skater's four shadows come from lights in front of him, behind him, and from both sides.

Look! The painter of these Egyptian paintings didn't paint any shadows. He didn't think about shadows or light.

What do you know?

What do the shadows in a painting tell us?

Each window has a ... shadow.

The light comes from ... the side.

The light comes from ... above.

Well done!

See you next time on *Guess What!* Bye!

### Unit 1

**Unit topic:** Camping

**Topic:** Maths – measurement

**Question:** How do we estimate measurements?

**Learning objective:**

Pupils should:

- be able to identify units of measurement used for length, weight, width and height
- understand that we use different measurements depending on what is being measured

#### Video 01

Hello again. Welcome back to *Guess What!*

Today we're asking,

How do we estimate measurements?

First, let's look at some things that we measure.

This nurse is measuring how tall the girl is. She measures her in metres and centimetres.

Look! This is a baseball bat factory. This worker is weighing baseball bats. He measures each one in grams.

This man is weighing a bag of rice. Look! It's too heavy so he's taking some out.

This man is using a metre stick to measure how tall the plants are.

And this science student is measuring how much liquid she needs. She measures the liquid in litres and millilitres.

This woman is measuring lime juice with a teaspoon. One teaspoon is about 5 millilitres.

Now listen to how we estimate measurements.

How long is your sleeping bag?

How heavy is your rucksack?

How much water is there in your water bottle?

When we don't know and we can't measure something, we have to guess, or estimate, measurements.

To help us estimate, we can think about other objects we know. For example, Alice knows her tent is 4 kg.

Her rucksack feels a bit heavier. Alice estimates that her rucksack is about 5 kg.

When we're estimating, we use words like *it's about ...*

or it's more than ... but less than ...

For example: *The tent is about 250 cm long.*

Or: *The tent is more than 2 m long but less than 3 m long.*

Let's learn about estimating some different measurements.

This man is estimating how wide and how long the turtle is.

This golfer is estimating how far he needs to hit the ball.

This helps him know how hard to hit the ball.

This woman is estimating how far it is from one place to another place in Paris. This helps her decide if she can walk to the places she wants to go to.

Before he weighs the onions, this man estimates how many will make one kilogram. There aren't enough onions, so he adds more.

What do you know?

How do we estimate measurements?

How heavy is it? It's about ... 1 kilogram.

How much is it? It's about ... 30 millilitres.

How long is it? It's longer than 10cm but shorter than ... 11 centimetres.

Well done!

See you next time on *Guess What!* Bye!

## Unit 2

**Unit topic:** Talent show

**Topic:** PE – physical abilities

**Question:** What abilities do we need for physical activities?

**Learning objective:**

Pupils should:

- be able to identify speed, strength, balance and stamina
- understand that different physical activities need different abilities

### Video 02

Hello again. Welcome back to *Guess What!*

Today we're asking,

What abilities do we need for physical activities?

First, let's find out about the abilities that some animals need.

This cheetah needs to run very quickly to catch its food.

And this baby bear needs to run quickly through the water to catch fish.

These horses need to be strong to pull the very heavy wagons up the hill.

These Alaskan dogs need to run on snow and pull this sledge for a long time.

This squirrel monkey needs to be able to sit on and move along these thin branches. Look! It doesn't fall out of the tree.

And this flamingo needs to stand on one leg for a long time. Look! It doesn't fall over, either.

Now listen to the abilities we need for physical activities. Can you run, skate or ride your bike fast? For these activities you need speed because you need to move your body very quickly.

Are you good at rock climbing? You need strength for this activity because you must have strong arms and legs to climb.

Can you stand on one leg without falling down? For this you need balance.

Street dancers need good balance when they move on one leg or one arm.

Do you think you can run in a marathon? It isn't easy because we need to use our muscles for a long time. To run in a marathon we need stamina.

Let's learn about the abilities that some people need for other physical activities.

Look at the speed this racer and his dogs go around the corner. He needs speed to win the race.

This boy needs a lot of strength to lift the heavy weights above his head.

This surfer needs good balance to stay on his surfboard.

This man needs a lot of stamina to skip for a long time.

And this skier needs strength, good balance and stamina to ski like this.

What do you know?

What abilities do we need for physical activities?

We need ... balance.

We need ... speed.

And we need ... strength.

Well done!

See you next time on *Guess What!* Bye!

## Unit 3

**Unit topic:** International food

**Topic:** Science – water

**Question:** Why is it important to drink water?

**Learning objective:**

Pupils should:

- be able to identify body parts that need water to function
- understand why it is important to drink water

### Video 03

Hello again. Welcome back to *Guess What!*

Today we're asking,

Why is it important to drink water?

First, let's find out why we need to give plants, animals and people water.

This soil is very dry so the plants don't get enough water. They aren't healthy.



This soil is also dry so the farmer is giving these plants water.

A farmer gave these horses a lot of water because it's hot. They're very thirsty.

These runners need a lot of water. They've got water to drink and these women are giving them wet sponges for their faces.

This woman is giving her dog water because it's hot and thirsty after running.

This mother is giving her children water. They need water to be healthy.

Now listen to why it's important to drink water.

All plants, animals and humans need water to live.

That's because our bodies need water for nearly everything they do.

Our blood needs water to move around the body.

Our stomachs need water to digest food.

More than 70% of our brains are water, so drinking water helps us to think better.

When we do sport and when it's hot, we lose water through our skin. This body water is called perspiration.

We put water into our bodies when we drink and eat.

When we lose more water than we put into our bodies, we feel tired and we sometimes have a headache.

That's why it's important to drink 6–8 glasses of water a day.

Let's learn what plants, animals and people do when there isn't much water.

These desert plants keep water in their thick stems to use when it doesn't rain.

This gazelle is very special. It never needs to drink. It gets all the water it needs from food.

This desert tortoise is special too. It can live without water for one year!

This woman lives in a desert. She's looking for plant roots because she knows there's water in them.

These African people put red paste all over their bodies. It protects their skin from the hot sun.

**What do you know?**

Why is it important to drink water?

It helps our ... brains.

It helps our ... blood.

We lose water through our ... skin.

Well done!

See you next time on *Guess What!* Bye!

## Unit 4

**Unit topic:** Music

**Topic:** Music – high and low sounds

**Question:** How do string instruments make high and low sounds?

**Learning objective:**

Pupils should:

- be able to identify high and low sounds when played by string and other musical instruments
- understand that we can change the volume and pitch of string and other musical instruments

### Video 04

Hello again. Welcome back to *Guess What!*

Today we're asking,

How do string instruments make high and low sounds?

First, let's find out about different kinds of sound.

Sounds move in wavy lines. We hear sounds when the waves reach our ears.

Look how these sound waves move the water in the glass.

Ambulances, fire engines and police cars make very high, loud sounds so that people can hear them.

Listen to the sound of this woman's voice. Can you hear the high notes and the low notes?

Look at the snake. It's moving to the sounds from this musical instrument.

Dogs can hear some high sounds that people can't hear.

Now listen to how string instruments make high and low sounds.

When we play a guitar or another string instrument, we make the strings vibrate.

When a string vibrates quickly, it makes a high sound.

When it vibrates slowly, it makes a low sound.

The pitch is how high or low the sound is. How can we change the pitch? There are three ways.

- We can make the string tighter. Tight strings vibrate faster, so they make a higher pitch.
- We can make the string shorter because shorter strings vibrate faster too.
- We can use thick and thin strings. Thick strings vibrate slowly and make a low sound. Thin strings vibrate quickly and make a high sound.

Let's learn how some other musical instruments make sounds.

When the drummer hits the top of the drum, it vibrates. High pitch sounds come from the edge of the drum. Low pitch sounds come from the centre.

The piano player is pressing the piano keys down.

The keys make hammers hit strings inside the piano.

The strings vibrate and make sounds.

Listen. This girl changes the pitch of the sound when she covers different holes.

These are bagpipes. The piper blows air down one pipe into a bag. He covers holes in another pipe to change the pitch.

What do you know?

How do string instruments make high and low sounds?

When strings move, they do this: ... vibrate.

These strings make a high sound: ... thin strings.

These strings make a low sound: ... thick strings.

Well done!

See you next time on *Guess What!* Bye!

## Unit 5

**Unit topic:** Now and then

**Topic:** History – primary sources

**Question:** What do primary sources tell us about life in the past?

**Learning objective:**

Pupils should:

- be able to give examples of primary sources
- understand that we use primary sources to be able to understand life in the past

### Video 05

Hello again. Welcome back to *Guess What!*

Today we're asking,

What do primary sources tell us about life in the past?

First, let's find out about some old things in museums.

These old dolls are in a museum. They tell us about hats and clothes that people wore in the past.

This old wooden boat is in a museum, too. It shows us how boats were made in the past.

This old kitchen tells us about how people prepared food in the past.

This plane shows us how people flew in the air in the past.

And this old gramophone shows us how people listened to music in the past.

Now listen to what primary sources tell us about life in the past.

A primary source is something old that tells us about life in the past. It can be an old tool, a statue, some jewellery or a board game that people had in the past. History books that we read in school are not primary sources. This is because the writers of school books didn't live at the time they are writing about.

We can learn about the past by asking questions about primary sources. We can ask:

*What did people use this tool for?*

*Who made this statue and why did they make it?*

*What is this jewellery made of?*

*How did people play this board game?*

When we can answer these questions, we learn about life in the past.

Let's learn about what fossils tell us about life in the past.

A fossil is something from an animal or plant. It lived long ago in the past and we can see it now in some rocks.

Look! This scientist is looking for fossils in a piece of rock.

These are fossils of slugs or snails that lived long ago when there were dinosaurs.

This fossil of a dinosaur bone tells us that dinosaurs were very big.

And this fossil of a bird tells us about its bones and size.

What do you know?

What do primary sources tell us about life in the past?

They tell us that people played ... board games.

They tell us that people used metal ... tools.

They tell us that artists made ... statues.

Well done!

See you next time on *Guess What!* Bye!

## Unit 6

**Unit topic:** The environment

**Topic:** Science – recycling

**Question:** What happens to our old glass bottles?

**Learning objective:**

Pupils should:

- be able to explain how glass bottles are recycled
- understand that we can use different materials again and again

### Video 06

Hello again. Welcome back to *Guess What!*

Today we're asking,

What happens to our old glass bottles?

First, let's look at what we use glass bottles for.

We use a lot of glass bottles to keep grapefruit juice and other fruit juices in.

Listen! This musician is using glass bottles to make music.

These glass bottles are used for science experiments. And these small glass bottles are used to keep medicine fresh.

We use a lot of different shapes of glass bottles to keep liquids in, like olive oil.

Some glass bottles are reused. Look! There's a model ship in this one.

Now listen to what happens to our old glass bottles.

When we finish using our glass bottles, we put them in a recycling bin.

A big lorry takes the bottles to a recycling centre. The people at the recycling centre sort the glass by colour. A big machine breaks the glass into small pieces. Another machine mixes the pieces of glass with sand.

They put the glass and sand in a special oven called a furnace. The furnace is very hot.

The mixed glass and sand melt and become liquid.

When the glass is liquid they can change its shape to make new bottles.

They send the new bottles to factories so they can use them again. Recycling glass uses less energy than making new glass, so it's better for the environment.

Let's learn about other materials that melt.

Look! This snow is melting. It's changing to water.

These candles are burning. The candle wax is melting and turning to liquid.

Look! A man is putting gold threads into a very small furnace. The gold melts and is now a liquid.

This man is making metal jewellery with a hot tool.

When the metal melts he can add pieces to it.

Some materials, like wood, don't melt. Wood burns, turns black and then changes to ash.

What do you know?

What happens to our old glass bottles?

A machine mixes the glass with special ... sand.

The glass and sand mixture goes into a ... furnace.

The glass ... melts.

People make new ... bottles.

Well done!

See you next time on *Guess What!* Bye!

## Unit 7

**Unit topic:** Space

**Topic:** Science – planets

**Question:** How are the planets different?

**Learning objective:**

Pupils should:

- be able to describe some of the planets in our solar system and compare some of them
- understand that planets are part of our solar system

### Video 07

Hello again. Welcome back to *Guess What!*

Today we're asking,

How are the planets different?

First, let's find out about our solar system.

Our solar system has eight planets and one star. The star is the sun. The sun is in the centre of our solar system.

Our solar system also has asteroids. Look at this asteroid flying through space. It looks like a big rock.

We have comets in our solar system, too. They're very bright and also fly through space.

This is Pluto. It's a dwarf planet because it's much smaller than the other planets.

Now listen to how the planets are different.

The eight planets in our solar system all orbit the sun, but they are not all the same.

The four planets nearest the sun are made of rock and metal.

The other planets are made of gas.

The smallest planet is Mercury and the biggest planet is Jupiter. Jupiter is bigger than all of the other planets put together!

When we look at the night sky, Venus is brighter than the other planets.

This is because its thick clouds reflect the light from the sun, and because it's the nearest planet to Earth.

Some planets have a moon. Moons orbit their planet.

Some planets have more than one moon. Jupiter has 63 moons! How many moons has Earth got?

Let's learn how we find out about space.

This is the International Space Station. It orbits the Earth. Astronauts live on it and study space in it.

This is the Hubble Telescope Satellite going past Jupiter. Its telescope has got a very big mirror about 2.5 metres wide.

Its photographs help us to understand space.

This is a satellite. Satellites don't give us information about space, but they help our daily lives on Earth.

For example, without satellites our mobile phones would not work.

This is a satellite dish. It communicates with satellites in space.

We can find out about planets, asteroids and comets when we look through a big telescope at night.

What do you know?

How are the planets different?

Venus's clouds do this to the light of the sun: ... reflect.

The planets in our solar system do this around the sun: ... orbit.

There are eight planets in this: ... our solar system.

Well done!

See you next time on *Guess What!* Bye

## Unit 8

**Unit topic:** Celebrations

**Topic:** Science – fireworks

**Question:** How do fireworks work?

**Learning objective:**

Pupils should:

- be able to describe how a firework works
- be able to identify the parts that make up a firework
- understand that different elements in a firework cause different effects

### Video 08

Hello again. Welcome back to *Guess What!*

Today we're asking,

How do fireworks work?

First, let's look at different types of fireworks.

These are rocket fireworks. They each have a wooden stick.

They fly high in the air and make beautiful patterns in the sky, and loud sounds.

This girl is holding a small firework, called a sparkler. It makes a lot of bright lights.

We can also hold this firework. It's bigger than a sparkler. It's called a Roman Candle.

This firework is called a Catherine wheel because it turns round and round very quickly.

This long Chinese firework is called a cracker. It doesn't go in the air but it makes very loud sounds.

We must be careful when we hold fireworks so that we can have fun and be safe!

Now listen to how fireworks work.

Fireworks have gunpowder inside them and they also have a fuse.

When someone lights the fuse of a firework, gas from the gunpowder pushes the firework up into the air.

When the firework is in the air, the gunpowder explodes and usually makes a loud sound.

Fireworks have metal salts inside them too. The metal salts explode with the gunpowder.

Different types of metal salts make different colours when they burn. Lithium makes a red light, copper makes a green light and sodium makes a yellow light. Some fireworks have many different metal salts, so they make lots of different colours when the gunpowder explodes.

Let's learn about some celebrations with fireworks.

At New Year, many countries celebrate with fireworks. Look at the fireworks at this Chinese New Year celebration!

These New Year's fireworks are in Sydney, Australia. Listen to the people. They really like the fireworks.

Some countries celebrate their special days with fireworks. Look at the words these fireworks make in this North American celebration. What do they say? This is a festival in Asia to celebrate fireworks. It's the International Fireworks Festival.

What do you know?

How do fireworks work?

They have a ... fuse.

They have ... gunpowder.

They ... explode.

Well done!

Bye!

**Note:** Tell pupils that they should **never** hold a firework unless the fireworks manufacturer states on the box that it is safe to do so.