

Key Stage 2 Geography



Welcome to London's newest outdoor classroom!

We have designed a suite of learning resources for schools to bring with them and use within Queen Elizabeth Olympic Park, London's newest outdoor classroom. It is our ambition for the Park to inspire, raise aspirations and raise educational attainment amongst schoolchildren and we have created lesson plans and worksheets that bring the national curriculum to life across a range of subjects and key stages.

These resources provide a quality learning experience for students through exploring the past, present and future of Queen Elizabeth Olympic Park through the spectacular parklands, venues and waterways. They have been designed to ensure your school group get the best learning experience out of your trip to the Park enabling you and your students to discover, share and enjoy Queen Elizabeth Olympic Park whilst learning. The resources cover the following subjects:

Key Stage 3 and 4 – Geography, Science, Design Technology, Maths and PE

Key Stage 1 and 2 – Literacy, Numeracy, Science and Geography

These resources provide a practical example of the London curriculum in action, using the unique backdrop of this new part of the capital to inspire learning.

We'd like to extend a special thank you to the Fields Studies Council who were commissioned to develop the learning resources and to all the schools involved in helping to input, shape and test the resources.

We hope that you enjoy them and we welcome your feedback.



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Key Stage 2 – Geography

Information for teachers

Activities – information for teachers

The following pages describe various activities that are related to the subject covered in this pack. Pupil worksheets for each of these activities can be found in the following section.

Suggested locations to carry out the activity are also shown, these relate to the map on the following page.

Activities are shown in a circular route from Stratford station, however they can be used in any order and you can take any safe route through Queen Elizabeth Olympic Park.

Each activity is designed to take about 20 minutes.

Activities are designed to require no additional resources or equipment.

Worksheets can be printed in black and white or colour.

Further information

Key facts and useful information can be found on pupil worksheets in boxes like this.

These include information about the venues and the parklands, as well as background about the area around Queen Elizabeth Olympic Park.



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Map

The worksheets can be carried out at sites across Queen Elizabeth Olympic Park. We have suggested a location that we believe is most suitable for each activity. They are identified on the map below.



Location	Activity	Description
London Aquatics Centre	Visiting London Aquatics Centre	<i>To investigate London Aquatics Centre.</i> Students look at London Aquatics Centre and identify how it has changed from Games time to now. They consider who is using it and why.
South of the Park	Parklands investigation	<i>To investigate the uses of south of the Park.</i> Students make observations about south of the Park. They records users and activities along with facilities provided.
ArcelorMittal Orbit	London's new tourist attraction	<i>To investigate the ArcelorMittal Orbit as a tourist attraction.</i> Students investigate the area surrounding the ArcelorMittal Orbit and consider why people visit and what they do during their visit.
The Stadium	Stadium	<i>To consider the uses of the Olympic Stadium following the Games.</i> Students discuss the future of the Stadium as a football and athletics stadium. They sketch the changes taking place.
Neighbourhoods	Design your own neighbourhood!	<i>To design their own neighbourhood.</i> Students observe a development area and decide what they would like to build there. They think about what a community needs and draw their ideas.
Communities	Community impact	<i>To consider the impact of Queen Elizabeth Olympic Park on local communities.</i> Students consider the impact of London 2012 on local communities. They look at each stage of the process from demolition and building to games time and then now. They decide if this has been positive or negative for local communities.
Energy Centre	Energy!	<i>To be aware that energy is produced on site.</i> Students look at the energy centre and query why there is steam coming from the chimney. They then answer questions about the building and its role in powering the Park.

The Copper Box Arena	The Copper Box Arena	<i>To investigate the Copper Box Arena.</i> Students look at the Copper Box Arena and identify how it has changed from Games time to Legacy. They consider who is using it and why.
Here East	Jobs!	<i>To consider one of the employment areas in Queen Elizabeth Olympic Park.</i> Students carry out an employment survey near Here East. They consider the environmental quality of the site and why this could be a good place to work.
River Lea		<i>To describe the river and the changes that have been made.</i> Students look at a past photograph of the River Lea and compare it to now. They look at the north of the Park and the habitats that have been created.
Lee Valley VeloPark	Visiting Lee Valley VeloPark	<i>To investigate Lee Valley VeloPark.</i> Students look at Lee Valley VeloPark and identify how it has changed from Games time to now. They consider who is using it and why.
Olympic Rings		<i>To understand how to use co-ordinates.</i> Students look across Queen Elizabeth Olympic Park and identify the main buildings. They use a map of the site and identify co-ordinates for each building.
North of the Park	Using co-ordinates	<i>To use coordinates and relate maps to real locations</i> Pupils use the vantage point to identify the main buildings they can see and relate them to each other. They use co-ordinates.
East Village	Comparing places!	<i>To compare East Village to their home / school area.</i> Students look at East Village and discover the elements that contribute to the new community. They compare East Village to their home / school area.

Curriculum links

KS2	Geography	• Develop knowledge of Queen Elizabeth Olympic Park including physical and human characteristics • Develop geographical skills: • Collect, analyse and communicate with a range of data gathered through fieldwork and first hand experiences • Interpret sources of geographical information including maps, photographs, aerial photographs • Communicate geographical information through maps, numerical and quantitative skills and writing • Subject Content • Place Knowledge • Understand similarities and differences between places • Human and Physical Geography • Use geographical vocabulary to refer to key physical and human features • Geographical Skills and fieldwork • Use maps • Use compass directions and grid references • Use aerial photographs to recognise landmarks • Use fieldwork and observational skills to observe, measure, record and present the geographical features of Queen Elizabeth Olympic Park including sketches, plans
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Key Stage 2 – Geography

Pupil worksheets

Visiting London Aquatics Centre

In 2012 London Aquatics Centre had 17,500 seats, now it has 2,500.

Describe how the building has changed?

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.....



London Aquatics Centre 2012

There are two 50 metre swimming pools and one 25 metre diving pool. During the London 2012 Olympic and Paralympic Games, the capacity was 17,500 people.

This was achieved using two side extensions which have now been removed. Capacity is now 2,500 people (expandable to 3,500).

Who comes here?

Watch the entrance for 5 minutes, count how many people enter or leave the building. Before you start add more categories in the 'who' column

Time	Who	Tally
	Men	
	Women	

What time of day do you think this will be busiest?.....

Why?

What are the people doing here?

Have a look around you, can you find any information about what people can do in London Aquatics Centre? Write them in the box

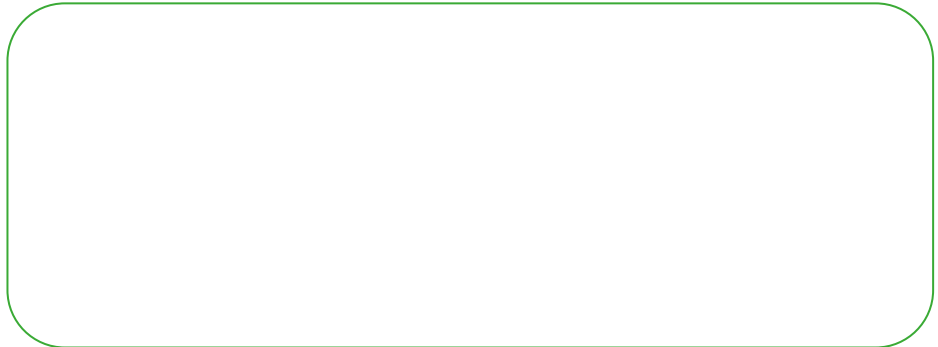
Why not compare this to the Copper Box Arena and Lee Valley VeloPark?

Parklands investigation

Queen Elizabeth Olympic Park is made up of more than 22 miles of interlinking pathways, waterways and cycle paths. There are 250 benches and lots of seating built into the parklands, so people are never more than a 50 metre walk from a seat.

Sit in a safe place in the parklands, draw a picture of what you can see.

You could include the Park, trees and flowers, people, paths, benches, bins.



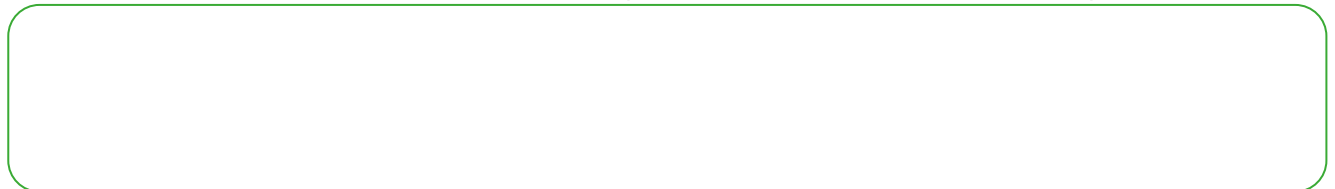
Count everything you can see! Record them in the table below using a tally. Add more if you need to!

What	Tally
Benches / seats	
Litter bins	
Recycling bins	
Fountains	
Bike rack	
Kiosk (stall)	
Trees	

How many people can you see? Look around you for five minutes, what are they doing? Record them in the table below using a tally.

Activity	Tally
Sitting reading	
Sitting eating	
Walking	
Walking dog(s)	
Cycling	
Running	
Playing	

Write some words to describe this area to your friends. How does it make you feel?



Queen Elizabeth Olympic Park has 102 hectares of open space and 6.5km of rivers and canals. The parklands include 45 hectares of bio diverse landscape which is a haven for local wildlife, including reed beds, grasslands, ponds and woodlands, with 525 bird boxes and 150 bat boxes

London's new tourist attraction

The ArcelorMittal Orbit is a tourist attraction. It is the UK's tallest sculpture at 114.5m and is held together with 35,000 bolts. On a good day, you can see 20 miles from the top.

Without moving your pencil off the page, can you draw the ArcelorMittal Orbit in the box?

Add the features that surround it. Label the sketch you have drawn with the main features you can see.

Who is visiting?
Find the main entrance and stand so you can see it.
Count how many visitors there are in five minutes.
Write down some observations you make about the visitors.

Number of people	Observations
	e.g. School Groups

Without asking people, can you work out where they are from? How?.....

Why are they visiting?

Look around you. Can you give up to four reasons people visit ArcelorMittal Orbit.

This survey is your opinion of a place. For each row, score it from 5 to 1. Add up your score and write it at the bottom. Is your total the same as your friends? Why?	Environmental Quality Survey	5 best	4	3	2	1 worst
	Quiet					Noisy
	No litter					Lots of litter
	No smells					Lots of smells
	Exciting buildings					Boring buildings
	Open spaces					No open spaces
	Seating areas					No seating areas
	Near to shops					No shops
	Near public toilets					No public toilets
	Total					

Stadium

During the London 2012 Olympic and Paralympic Games, the Stadium hosted the opening and closing ceremonies as well as the Athletics, track and field events. The capacity was 80,000 spectators.

Here is a picture of the Olympic Stadium during London 2012. How has it changed? Label the picture below showing how it is different.



What would you use the Stadium for?

Why?

.....

In the future, it will seat up to 60,000 people. The football pitch will be 105m x 69m which is equivalent to Emirates Stadium and it will meet UEFA Category 4 classification and will be a fully compliant IAAF Category 1 athletics facility. It will also be used for live concerts and entertainment events.

Design your own neighbourhood!

The area you can see will become a new community.

What do people need in a community? Here are two ideas write or draw some other ideas

Houses

Roads

Shops

Draw a map of your new community in the space below. Each box is equivalent to 10m²

										Key: • • • • • • •

Compare your map to your friends. Explain what you have included and why you have included it.

There will be five new neighbourhoods on Queen Elizabeth Olympic Park. The plans include over 6,000 homes, 12 schools and nurseries, health centres, local shops and businesses employing nearly 10,000 people on the Park.

Community impact

There will be five new neighbourhoods on Queen Elizabeth Olympic Park. The plans include over 6,000 homes, 12 schools and nurseries, health centres, local shops and businesses employing nearly 10,000 people on the Park.

Think about each phase below. Write some positives and negatives for the local community for each phase.

	Positives	Negatives
The demolition of the buildings on site and the construction of the new venues. (2006-2011)		
The London 2012 Olympic and Paralympic Games and the test events before it. (2011-2012)		
The change of use from the Olympic Park. Removing temporary venues and creating new parklands and community spaces (2012-2014)		
Developments in the future, involves building work on some of the site (2014-2030)		

Overall has this been positive or negative for local communities?.....



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Energy!

Look at the building in front of you, there is a chimney sticking out of the top!



What can you see coming out of the chimney?

Where does it come from?

The Kings Yard Energy Centre was built between 2008 and 2010. It uses gas and local sustainable sourced woodchip to generate hot water for heating, and chilled water for cooling. It also generates electricity which is fed back into the National Grid.

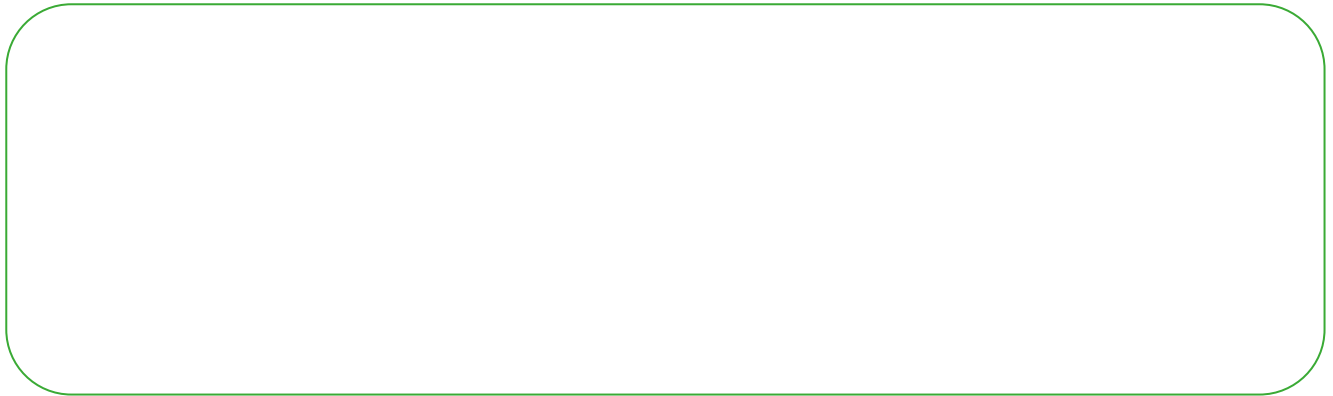
Why do we need energy?

Look around you, draw the things you can see that could be powered by the energy from this building.

A large, empty rectangular box with rounded corners and a green border, intended for drawing.

The Copper Box Arena

Draw a picture of the Copper Box Arena.



The Copper Box Arena hosted the Modern Pentathlon and Handball during the London 2012 Olympic Games and Goalball during the Paralympic Games. It seats 7,500 people.

Can you find out what it is being used for now?

Have a look at the people going in and out of the building. Fill in the table by counting the number of people.

Time	Who	Tally
	Men	
	Women	
	School children	
	Families	

Why are they visiting?

Will there be different numbers of people at other times of the day?

When do you think it will be busiest?

The Copper Box Arena is home to the London Lions basketball team. It is a leisure centre, with sports hall, badminton courts and gym. It hosts events including concerts and sports matches.

What sports can people do here? Try acting them out.

Why not compare this to the London Aquatics Centre and Lee Valley VeloPark?

Jobs!

During the London 2012 Olympic and Paralympic Games these were known as the Main Press Centre (MPC) and the International Broadcast Centre (IBC). It was a 24-hour media hub catering for over 20,000 broadcasters, photographers and journalists. It included a catering village and high street.

Here East is one of the employment zones within Queen Elizabeth Olympic Park. Who is here? For five minutes, count the number of people you can see for each category in the table below. There is space to add more if you need to.

Time	Who	Tally	Who	Tally
	Office worker		Student	
	Shop worker		Shopper	
	Builder		Tourist	
	Park worker		Parent with child	
			Young person	

Here East will feature three main buildings: a 300,000 sq ft innovation centre; a 1,045 seat auditorium; and a 850,000 sq ft building housing educational space, broadcast studios, office space, and a state-of-the-art data centre. It will create over 5,300 jobs on site and provide new public areas.

Which companies have offices in Here East (look out for logos!)?.....

.....

This survey is your opinion of a place. For each row, score it from 5 to 1. Add up your score and write it at the bottom. Is your total the same as your friends? Why?	Environmental Quality Survey	5 best	4	3	2	1 worst	
	Quiet						Noisy
	No litter						Lots of litter
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	Near to shops						No shops
	Near to public toilets						No public toilets
	Total						

Why would this be a great place to work?.....



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The River Lea

In the 17th and 18th centuries, the River Lea was diverted through manmade channels to power mills and industry. The water was also used to create chemicals and other goods. It was developed as part of a flood scheme in the 1930s resulting in high concrete walls.

This picture is of a bridge over the River Lea. The area has changed a lot, but the bridge still exists – can you find where this photo was taken from?



In the north of the Park, the river has been designed to be more natural. Draw a picture of the river in the space below. Add your own labels

A large, empty rectangular box with rounded corners, intended for drawing a picture of the river in a more natural state.

What will happen when the water level rises?.....
What effect will this have on the area?.....

There are 6.5km of waterways in Queen Elizabeth Olympic Park. Work has been carried out to improve them including removing rubbish. New habitats include reed beds and wetland areas. The north parklands are designed to flood when the water level rises.

Visiting Lee Valley VeloPark

Lee Valley VeloPark now includes the Velodrome and BMX track that were used in the London 2012 Olympic and Paralympic Games and a new 1.6km road cycle circuit and mountain bike course.

Here is a map of the Lee Valley VeloPark. Can you work out where you are standing? Mark it on the map.



There are four types of bikes you can use here. Tick the ones you can see.



Road



Mountain



BMX



Track

Can you work out where each bike is being used? Draw an arrow from each bike to the correct place on the map.

How busy is it here?
Count the number of people you see in 5 minutes and record them in the table.

Time	Who	Tally
	Road bike rider	
	Mountain bike rider	
	BMX bike rider	
	Track bike rider	
	Walking	

Why do they come here?

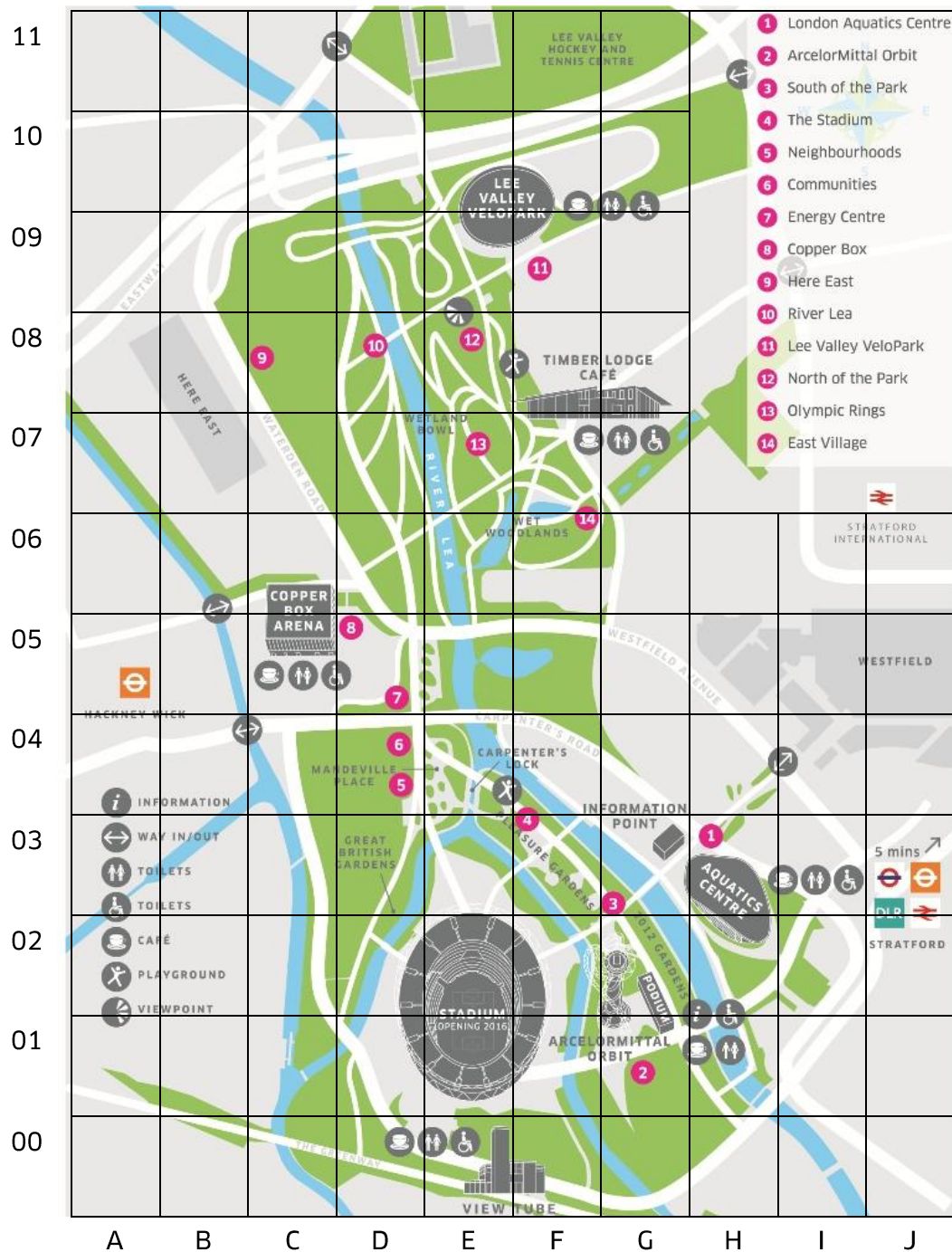
Why not compare this to London Aquatics Centre and Copper Box Arena?

Using co-ordinates

From here you can see across the whole of Queen Elizabeth Olympic Park! Can you spot these buildings from where you are standing?

Stadium; London Aquatics Centre; Copper Box Arena; Here East; ArcelorMittal Orbit; East Village; Lee Valley VeloPark; Energy Centre; Olympic Rings

Using the map below, can you work out the co-ordinates for each building? Remember to go across then up.



Landscape assessment

Queen Elizabeth Olympic Park has 102 hectares of open space and 6.5km of rivers and canals. The parklands include 45 hectares of bio diverse landscape which is a haven for local wildlife, including reed beds, grasslands, ponds and woodlands, with 525 bird boxes and 150 bat boxes

This area is full of different landscape features. Circle the features you can see, you can add more.

Landform	Flat	Gentle slopes	Steep slopes	Hill		
Water	Marsh	Lake	Pond	River	Canal	Stream
Vegetation	Woodland Reedbeds	Scrub	Grassland	Water meadow	Hedgerows	
Man -made features	Roads	Trainline	Bridges	Footpaths		
Visitor Facilities	Litter bins	Seating	Fountains	Playground	Cafe	

Draw a sketch of the site – label your sketch with things you can see!

Site Name..... Date..... Time.....

Look around you, circle one word from each row.

Can you think of any more words you would use?

Scale	Small	Big	Vast
Space	Enclosed	Open	Exposed
Naturalness	Wild	Natural	Managed
Calmness	Calm	Busy	Frantic
Tidiness	Over-tidy	Neat	Untidy
Colour	Dull	Colourful	Bright
Smell	Pleasant	Fresh	Horrible
Sound	Loud	Moderate	Quiet
Safety	Scary	Comfortable	Safe
Beauty	Ugly	Attractive	Pretty

Comparing places

East Village was the Athletes Village during the Olympic and Paralympic Games. Almost 16,000 athletes and team officials lived here during the Olympic Games, and 7,200 during the Paralympic Games.

Look around you and answer the questions in the table below. Some useful words are below

Space	Trees	Roads	Busy	Buildings	Calm	Café
Secure	Dirty	Friends	Playground	Graffiti	Litter	Busy
Dangerous	Shops	School	Flats	Park	Maintained	Unsafe

	East Village	Where you live
What can you see in this area?		
Is this area pleasant to be in? Why?		

East Village has eleven residential blocks, each with five - seven buildings surrounding a courtyard. There are now just over 2,800 apartments. You can also find the local school - Chobham Academy, a health Centre, 35 shops and restaurants, and parklands in the 27 hectare site.

Why do people want to live here?	
What are the benefits of living here?	
Would you like to live here?	
Why might people not like to live here?	