



SKEGNESS ACADEMY

Year 11
February Half-Term
Exam preparation booklet

Name: _____

How to Revise?

Your teacher has assigned a specific topic for you to revise over half-term. We recommend using the **Look/Cover/Write/Check** method for revision. Here is how it works:

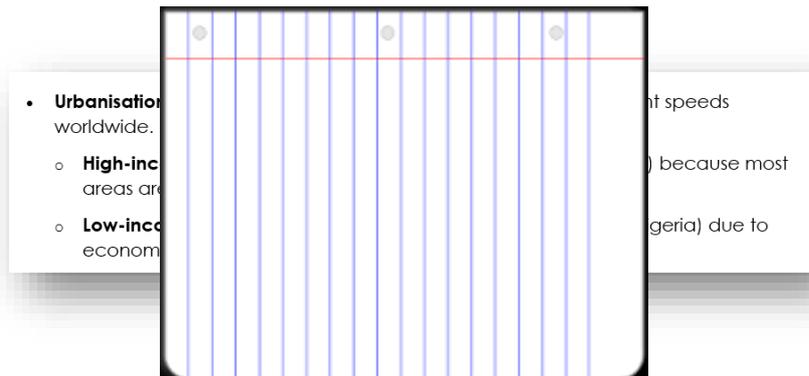
Step 1: Look

- Look at the first bullet points or sentences
- Read through it three to five times

- **Urbanisation:** More people moving to cities, happening at different speeds worldwide.
- **High-income countries (HICs):** Slower urbanisation (e.g. UK, US) because most areas are already urbanised, and birth rates are lower.
- **Low-income countries (LICs):** Faster urbanisation (e.g. India, Nigeria) due to economic, industrial, and trade improvements.

Step 2: Cover

- Cover it with a piece of paper.



Step 3: Write

- Write it out as it was in your booklet

- *Urbanisation:* More people moving to cities, happening at different speeds worldwide.
- *High-income countries (HICs):* Slower urbanisation (e.g. UK, US) because most areas are already urbanised and birth rates are lower.
- *Low-income countries (LICs):* Faster urbanisation (e.g. India, Nigeria) due to economic, industrial, and trade improvements.

Step 4: Check

- Remove the piece of paper and grab your red pen
- Check what you wrote and tick if correct
- Make corrections in red pen to match your booklet
- Repeat
- Once you have it correct, move on to the next chunk of information

In addition, your teacher has given you 10 questions to assess your knowledge and understanding after you have reviewed the entire topic.

We suggest doing it in the following way:

1. Cover up the answers, answer all the questions on a sheet of paper.
2. Check your answers.
3. Repeat if necessary.
4. Once you have answered all questions correctly, move on to the next subject.



English

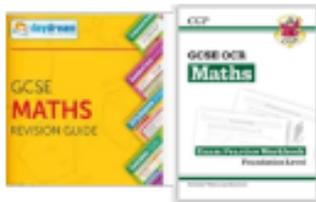
An Inspector calls. Plot summary

1. An inspector arrives at the Birling house. He tells them how a girl called Eva Smith has killed herself by drinking disinfectant - he wants to ask them some questions.
2. The Inspector reveals that the girl used to work in Arthur Birling's factory, and he had her sacked for going on strike. Mr Birling refuses to accept any responsibility for her death.
3. The Inspector then reveals that Sheila thought that Eva had made fun of her, complained and got her sacked. Sheila is deeply ashamed and feels responsible for the girl's death.
4. The Inspector forces Gerald to confess to an affair he had with Eva. Sheila respects Gerald's honesty but returns the engagement ring he gave her.
5. It is revealed that Sybil Birling had refused to help the pregnant Eva.
6. It turns out that it was Eric who got Eva pregnant and stole money from his father to help her.
7. The Inspector leaves. The family ring the infirmary and there is no record of a girl dying from drinking disinfectant.
8. Suddenly the phone rings, Mr Birling answers it, to his horror the phone call reveals that a young woman has just died from drinking disinfectant and the police are on their way to question them about it. The curtain falls and the play ends.



Question	Answer
1. Who arrives at the Birling house and why?	An inspector arrives to ask questions about Eva Smith's suicide.
2. How did Eva Smith die?	She killed herself by drinking disinfectant.
3. Where did Eva Smith used to work?	She used to work in Arthur Birling's factory.
4. Why was Eva Smith sacked from her job?	She was sacked for going on strike.
5. How does Mr Birling react to Eva's death?	He refuses to accept any responsibility.
6. Why does Sheila feel responsible for Eva's death?	Sheila thought Eva made fun of her, complained and got her sacked.
7. What does the Inspector force Gerald to confess?	He forces Gerald to confess to an affair with Eva.
8. How does Sheila react to Gerald's confession?	She respects his honesty but returns the engagement ring.
9. What did Sybil Birling do when Eva needed help?	She refused to help the pregnant Eva.
10. What shocking news does Mr Birling receive at the end?	He learns that a young woman has just died from drinking disinfectant and the police are coming to question them.

Maths

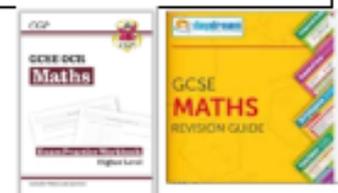


Aiming for Grade 4 (Foundation)

Aiming for Grade 5 (Foundation)

If you are aiming for a Grade 4, please turn to pages 31-39 in the revision guide and use the notes to help you answer the questions on pages 12 to 15 in your exam workbook for practice. The questions on the next page need to be answered to ensure skills are secure.

If you are aiming for a Grade 5, please turn to page 23 to 25 in the revision guide and use the notes to help you answer the questions on pages 11, 19 & 20 in your exam workbook for practice. The questions on the next page need to be answered to ensure skills are secure.



Aiming for Grade 6 (Higher)

Aiming for Grade 7+ (Higher)

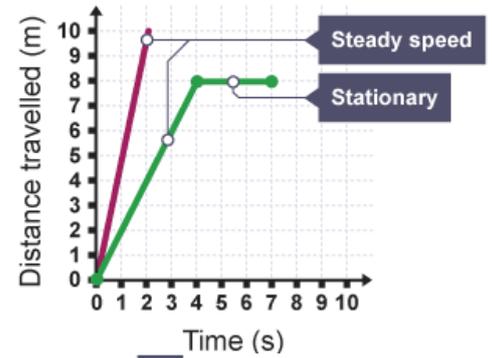
If you are aiming for a Grade 6, please turn to pages 20 to 29 in the revision guide and use the notes to help you answer the questions on pages 6 to 9 in your exam workbook for practice. The questions on the next page need to be answered to ensure skills are secure.

If you are aiming for a Grade 7, please turn to pages 41 to 43 in the revision guide and use the notes to help you answer the questions on pages 23 to 25 in your exam workbook for practice. The questions on the next page need to be answered to ensure skills are secure.

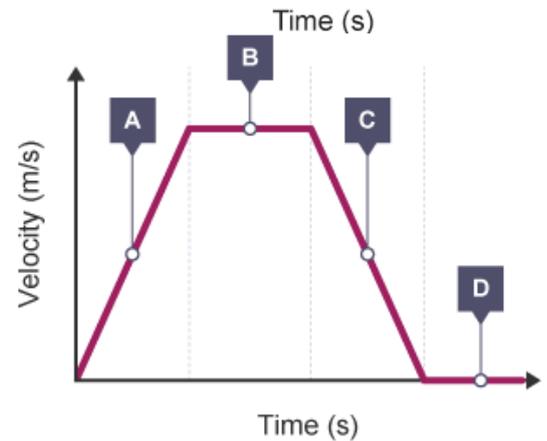
Science: Physics

If an object moves along a straight line, the distance travelled can be represented by a distance-time graph.

If an object moves along a straight line, its motion can be represented by a velocity-time graph. The gradient of the line is equal to the *acceleration* of the object.

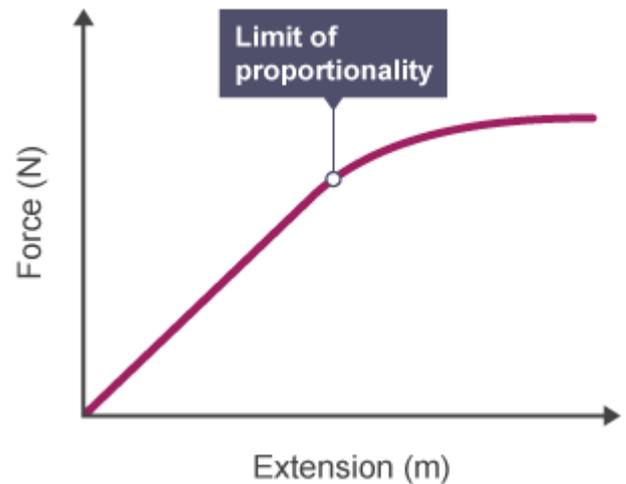


Section of graph	Gradient	Velocity	Acceleration
A	Positive	Increasing	Positive
B	Zero	Constant	Zero
C	Negative	Decreasing	Negative
D ($v = 0$)	Zero	Stationary (at rest)	Zero

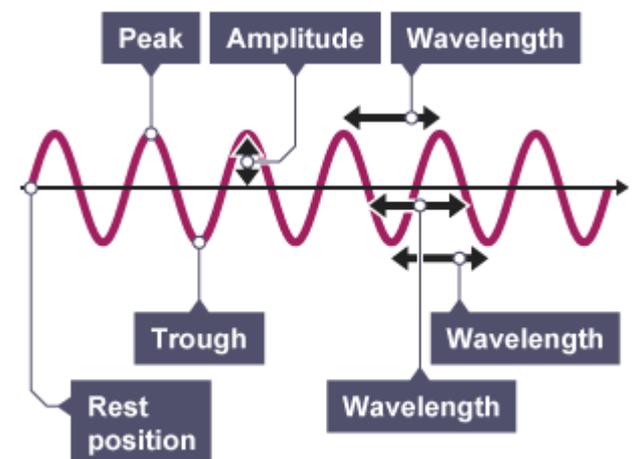
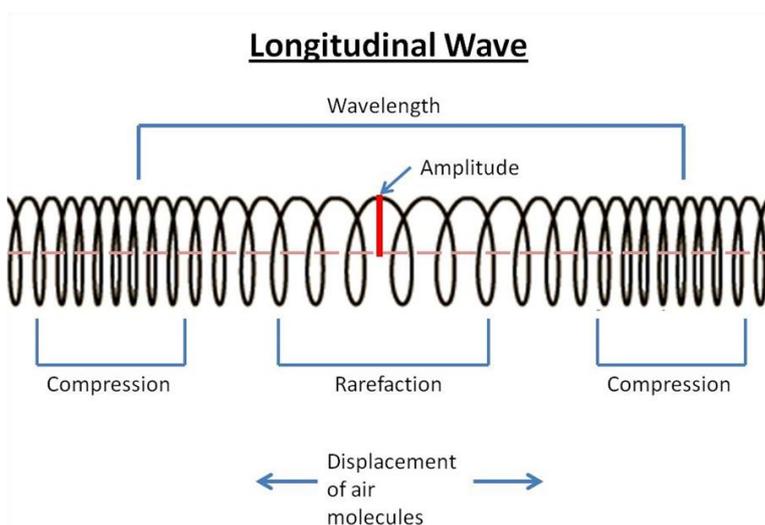


Contact forces are forces that act between two objects that are physically touching each other. These forces are: Friction, Air Resistance, Reaction Force and Tension Force

Spring constant is a measure of the stiffness of a spring up to its limit of proportionality. The *limit of proportionality* refers to the point beyond which Hooke's law is no longer true when stretching a material. Non-linear extension and *inelastic* deformation can be seen above the limit of proportionality. The limit of proportionality is also described as the 'elastic limit'.



The direction of these oscillations is the difference between longitudinal or transverse waves. In *longitudinal waves*, the vibrations are parallel to the direction of wave travel. In *transverse waves*, the



vibrations are at right angles to the direction of wave travel.

magnetic waves are transverse waves. Their vibrations or are changes in electrical and magnetic fields at right angles to the direction of wave travel.

All electromagnetic waves:

- transfer energy as *radiation* from the source of the waves to an absorber
- can travel through a *vacuum* such as in space
- travel at the same speed through a vacuum or the air

Ionising radiation

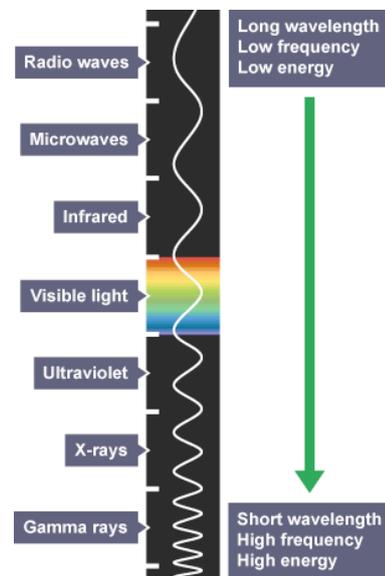
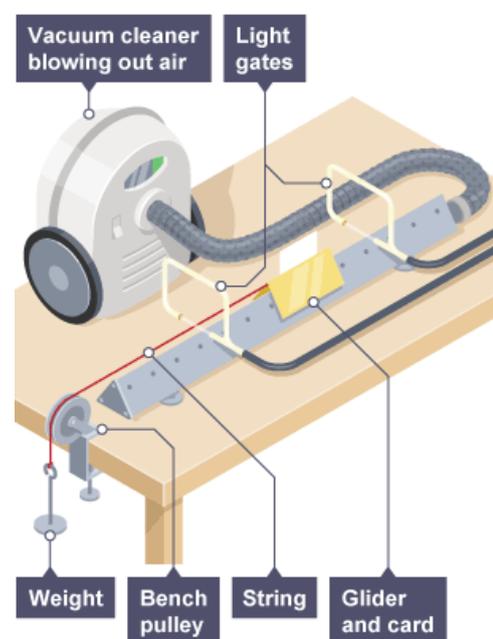
Ultraviolet waves, X-rays and gamma rays are types of *ionising radiation*. They can add or remove electrons from molecules, producing electrically charged ions. Ionisation can have hazardous effects on the body:

- ultraviolet waves can cause skin to age prematurely and increase the risk of skin cancer
- x-rays and gamma rays can cause the mutation of genes, which can lead to cancer

To investigate the effect of varying the force on the acceleration of an object.

Method

1. Position an air track on a bench with a bench pulley at one end and two light gates above the track. Cut an interrupt card to a known length (such as 10 cm) and attach it to an air track glider.
2. Connect the glider to a hanging mass by a string the length of the air track passing over the bench pulley. Make sure the air track is level and that the card will pass through both gates before the mass strikes the floor.
3. Set the data logging software to calculate acceleration.
4. Add $5 \times 20 \text{ g}$ slotted masses (0.98 N of force) to the end of the string.
5. Release the glider, then record the weight and acceleration.
6. Repeat steps 4 and 5 two more times and calculate a mean value for the acceleration.
7. Repeat steps 4 to 6, removing one of the slotted masses each time (giving forces of 0.78 N, 0.59 N, 0.39 N and 0.20 N).



Thinking distance is the distance a vehicle travels in the time it takes for the driver to apply the brakes after realising they need to stop

Braking distance is the distance a vehicle travels in the time after the driver has applied the brake

A driver's reaction time can be affected by *tiredness, drugs, alcohol, distractions*

There are three stages as an object falls through a fluid: at the start, the object accelerates downwards due to the force of gravity as the object's speed increases, frictional forces such as *air resistance* or *drag* increase at terminal velocity, the weight of the object due to gravity is balanced by the frictional forces, and the resultant force is zero

Question	Answer
1. State the units for force.	Newtons, N
2. State the units for weight	Newtons, N
3. State the units for work done	Joules, J
4. Name the type of quantity that has magnitude only.	Scalar
5. Name the type of quantity that has magnitude and direction	Vector
6. Which type of quantity is velocity?	Vector
7. Which type of quantity is speed?	Scalar
8. Complete this sentence 'Newton's second law states that resultant force on an object is _____ to its acceleration'.	'Newton's second law states that resultant force on an object is directly proportional to its acceleration'.
9. Complete this sentence 'Newton's third law states when two objects exert a force on each other, the force on each object is _____ but in _____ directions'.	'Newton's third law states when two objects exert a force on each other, the force on each object is equal but in opposite directions'.
10. State two factors that affect the braking distance of an object.	Weather conditions and vehicle conditions
11. Tiredness can affect the thinking distance of a vehicle, state three other factors that affect thinking distance.	Alcohol, drugs and distractions.
12. State the type of wave where oscillations occur perpendicular to the direction of the wave's motion.	Transverse
13. State the type of wave where oscillations occur parallel to the direction of the wave's motion.	Longitudinal
14. The number of waves passing a point each second is called what?	Frequency
15. Name the distance between two equivalent points on a wave.	Wavelength
16. What type of radiation is ultraviolet, X-ray and gamma rays	Ionising
17. State two risks of exposure to high levels of UV radiation	Skin cancer and premature aging

18. State two risks of exposure to high levels of X-ray and gamma rays	Mutation of genes and cancer
19. What 3 things can change the strength of an electromagnet	Amount of current, type of core, number of turns of a coil
20. Name 3 magnetic materials	Iron, cobalt, nickel
21. What direction does a magnetic field move?	North to South
22. Why are electromagnets better than a permanent magnet?	You can change the strength, and you can turn them off

History

Standards of living in Nazi Germany



Living Standards in Germany When Hitler Came to Power (1933)

- **Economic Hardship:** The Great Depression had hit Germany hard, leading to high unemployment (around 6 million people) and widespread poverty.
- **Hyperinflation:** In the early 1920s, Germany experienced hyperinflation, which had long-lasting effects on people's savings and trust in the economy.
- **Political Instability:** Frequent changes in government and political violence made life uncertain and unstable.
- **Social Unrest:** Many people were disillusioned with the Weimar Republic and were looking for strong leadership to improve their lives.

Changes in Living Standards Under Nazi Rule (1933-1939)

- **Employment:** The Nazi regime implemented public works programmes (like building autobahns) and rearmament, which significantly reduced unemployment.
- **Wages and Working Conditions:** While employment increased, wages were controlled, and workers lost the right to strike. The "Strength Through Joy" programme provided some leisure activities.
- **Propaganda and Control:** The Nazis used propaganda to promote a sense of national pride and unity, but also controlled and censored information.
- **Persecution:** Jews, political opponents, and other minority groups faced severe persecution, which drastically worsened their living standards.
- **Economic Recovery:** The economy appeared to recover, but much of this was due to rearmament and preparation for war, which was not sustainable in the long term.

Question	Answer
1. What was the economic situation in Germany when Hitler came to power in 1933?	The Great Depression had caused high unemployment (around 6 million people) and widespread poverty.
2. What was hyperinflation, and how did it affect Germany in the early 1920s?	Hyperinflation was extremely high inflation that ruined people's savings and trust in the economy.
3. Why was there political instability in Germany before Hitler came to power?	Frequent changes in government and political violence made life uncertain and unstable.
4. How did people feel about the Weimar Republic before Hitler's rise to power?	Many people were disillusioned and wanted strong leadership to improve their lives.
5. What did the Nazi regime do to reduce unemployment?	They implemented public works programmes (like building autobahns) and rearmament.
6. How did wages and working conditions change under Nazi rule?	Employment increased, but wages were controlled, and workers lost the right to strike.
7. What was the "Strength Through Joy" programme?	It was a programme that provided leisure activities for workers.
8. How did the Nazis use propaganda and control information?	They promoted national pride and unity but also censored and controlled information.
9. Who faced severe persecution under Nazi rule, and how did it affect their living standards?	Jews, political opponents, and other minority groups faced severe persecution, drastically worsening their living standards.
10. Why was the economic recovery under Nazi rule not sustainable in the long term?	Much of the recovery was due to rearmament and preparation for war, which was not sustainable.

History

Hitler's Policies to Reduce Unemployment



When Adolf Hitler became the leader of Germany in 1933, the country was struggling with a bad economy and many people were out of work. To fix this, Hitler introduced several plans to create jobs and improve the economy. Here are the main points:

Public Works Programmes

- **Building Highways (Autobahn):** One of the most well-known projects was constructing the Autobahn, a network of highways. This created many jobs for construction workers.
- **Other Construction Projects:** Building schools, hospitals and public buildings also provided many jobs.

Rearmament

- **Military Expansion:** Hitler focused on rebuilding Germany's military. This created jobs in factories making weapons, tanks and other military equipment.
- **Conscription:** Introducing compulsory military service (conscription) meant that many young men were employed in the army.

Labour Service

- **Reich Labour Service (RAD):** This programme required young men to work on public projects for a certain period. It provided training and jobs while promoting the idea of national service.

Economic Policies

- **Financial Support for Businesses:** The government gave money to businesses to encourage them to hire more workers.
- **Trade Policies:** Efforts were made to reduce imports and increase exports, which helped boost German industries and create jobs.

Women and Minorities

- **Women:** Policies encouraged women to leave the workforce and focus on family life, which opened up more jobs for men.
- **Exclusion of Jews and Political Opponents:** Jews and political opponents were excluded from many jobs, which were then given to others.

These policies were part of Hitler's larger plan to strengthen Germany's economy and prepare for future military conflicts. While they did reduce unemployment, they were also part of a regime that promoted aggressive nationalism and led to devastating consequences during World War II.

Question	Answer
1. What was the state of Germany's economy when Hitler became leader in 1933?	The economy was struggling, and many people were out of work.
2. What was one of the most well-known public works projects introduced by Hitler?	Building the Autobahn, a network of highways.
3. What types of construction projects provided many jobs?	Building schools, hospitals, and public buildings.
4. How did rearmament create jobs in Germany?	By expanding the military and creating jobs in factories making weapons, tanks, and other military equipment.
5. What was conscription, and how did it affect employment?	Conscription was compulsory military service, which employed many young men in the army.
6. What was the Reich Labour Service (RAD)?	A programme that required young men to work on public projects for a certain period, providing training and jobs.
7. How did the government support businesses to reduce unemployment?	By giving financial support to encourage them to hire more workers.
8. What were the trade policies aimed at, and how did they help create jobs?	Reducing imports and increasing exports, which boosted German industries and created jobs.
9. How did policies towards women affect the workforce?	Encouraged women to leave the workforce and focus on family life, opening up more jobs for men.
10. How were Jews and political opponents affected by Hitler's employment policies?	They were excluded from many jobs, which were then given to others.

Geography

Urban Issues and Challenges – Rio de Janeiro, Brazil



- **Urbanisation:** More people moving to cities, happening at different speeds worldwide.
 - **High-income countries (HICs):** Slower urbanisation (e.g. UK, US) because most areas are already urbanised, and birth rates are lower.
 - **Low-income countries (LICs):** Faster urbanisation (e.g. India, Nigeria) due to economic, industrial, and trade improvements.
- **Megacities:** Cities with over 10 million people (e.g. Tokyo, Lagos, New York).
 - **Rio de Janeiro, Brazil:** An important megacity in South America.
- Former capital of Brazil until 1960.
- Significant for Brazil's economy, contributing a lot to GDP.
- Known for tourism, with famous sites like the Christ the Redeemer statue.
- **Urban Growth:** Creates both opportunities and challenges in Rio.

Opportunities:

- **Social:** Better access to services like health and education (99% literacy rate).
- **Economic:** Jobs in tourism, retail, and oil; one of the richest cities in Brazil.

Challenges:

- **Rapid urban growth:** Leads to slums and squatter settlements.
- **Pollution:** Major issue, especially in Guanabara Bay (sewage and waste dumping).
- **Access to services:** Not everyone has access to healthcare and education.
- **Unemployment and crime:** Especially in poorer areas like favelas (slums).
- **Environmental issues:** Poor waste disposal (due to steep hills and narrow roads), air pollution from traffic, and water pollution in rivers and the bay.
- **Overall:** Urbanization brings growth but also challenges that need careful management.

Question	Answer
1. What is urbanisation?	Urbanisation is the process of more people moving to cities.
2. How does urbanisation differ between high-income and low-income countries?	In high-income countries, urbanisation is slower because most areas are already urbanised, and birth rates are lower. In low-income countries, urbanisation is faster due to economic, industrial, and trade improvements.
3. What is a megacity?	A megacity is a city with over 10 million people.
4. Why is Rio de Janeiro significant in Brazil?	Rio de Janeiro is significant for Brazil's economy, contributing a lot to GDP, and is known for tourism with famous sites like the Christ the Redeemer statue.
5. What are some social opportunities created by urban growth in Rio?	Better access to services like health and education, with a 99% literacy rate.
6. What are some economic opportunities created by urban growth in Rio?	Jobs in tourism, retail, and oil; Rio is one of the richest cities in Brazil.
7. What are some challenges caused by rapid urban growth in Rio?	Rapid urban growth leads to slums and squatter settlements.
8. What is a major pollution issue in Rio?	Pollution in Guanabara Bay due to sewage and waste dumping.
9. What are some issues with access to services in Rio?	Not everyone has access to healthcare and education.
10. What are some environmental issues in Rio?	Poor waste disposal, air pollution from traffic, and water pollution in rivers and the bay.

Hospitality and Catering



Working conditions in the hospitality and catering industry

Section A: Types of Employment Contracts and Working Hours

- **Casual:**
 - Provided through an agency.
 - Used to cover employees absent due to illness.
 - No sick pay or holiday entitlement.
- **Full-time (Permanent):**
 - Fixed working hours, including start and finish times.
 - Includes sick pay and holiday entitlement.
- **Part-time (Permanent):**
 - Work on certain days of the week.
 - Fixed start and finish times stated in the contract.
 - Includes sick pay and holiday entitlement.
- **Seasonal:**
 - Used when businesses need more staff during busy times (e.g. Christmas).
 - Specifies a time frame for work.
 - No expectation of further work after the contract ends.
- **Zero Hours Contract:**
 - Agreement between employer and employee.
 - Employee is available for work when needed.
 - No fixed number of days or hours.
 - Employer doesn't have to offer work, and employee doesn't have to accept it.
 - No sick pay or holiday entitlement.

Section B: Pay and benefits in the industry

Salary:

- A fixed amount of money paid monthly.
- Often shown as an annual sum on the contract.

Holiday Entitlement:

- Employees get 28 days of paid holiday per year.
- Part-time employees get fewer days based on their contract hours.

Pension:

- When you reach retirement age, you get a pension contribution from your employer and the government.

Sickness Pay:

- Money paid to employees who can't work due to illness, depending on their contract.

Rates of Pay:

- The national minimum wage must be paid to all employees over 18.
- This rate is per hour and is reviewed yearly by the government.

Tips:

- Extra money given by customers as a 'thank you' for good service.

Bonus and Rewards:

- Extra money or rewards given by the employer to recognize hard work and success.
- Also known as remuneration.

Section C: Working hours

• Maximum Working Hours:

- Employees cannot work more than 48 hours a week on average, calculated over 17 weeks.
- Employees can choose to work more hours if they want to.

• Under 18s:

- People under 18 cannot work more than 8 hours a day and 40 hours a week.

• Breaks and Days Off:

- Employees working 6 hours or more a day must have a 20-minute break.
- Employees have the right to at least one day off every week.

Question	Answer
1. What is a casual employment contract?	A casual employment contract is provided through an agency, used to cover employees absent due to illness, and does not include sick pay or holiday entitlement.
2. What are the characteristics of a full-time (permanent) employment contract?	A full-time (permanent) contract has fixed working hours, including start and finish times, and includes sick pay and holiday entitlement.
3. How does a part-time (permanent) employment contract differ from a full-time one?	A part-time (permanent) contract involves working on certain days of the week with fixed start and finish times stated in the contract and includes sick pay and holiday entitlement.
4. When are seasonal employment contracts typically used?	Seasonal employment contracts are used when businesses need more staff during busy times, such as Christmas, and specify a time frame for work with no expectation of further work after the contract ends.
5. What is a zero-hour contract?	A zero-hour contract is an agreement between employer and employee where the employee is available for work when needed, with no fixed number of days or hours, and no sick pay or holiday entitlement.
6. How is salary typically paid in the hospitality and catering industry?	Salary is a fixed amount of money paid monthly and is often shown as an annual sum on the contract.
7. What is the holiday entitlement for employees in this industry?	Employees get 28 days of paid holiday per year, while part-time employees get fewer days based on their contract hours.
8. What is the national minimum wage and how is it determined?	The national minimum wage is the minimum rate of pay per hour that must be paid to all employees over 18, and it is reviewed yearly by the government.
9. What are tips and how do they benefit employees?	Tips are extra money given by customers as a 'thank you' for good service, providing additional income for employees.
10. What are the maximum working hours allowed for employees?	Employees cannot work more than 48 hours a week on average, calculated over 17 weeks, but they can choose to work more hours if they want to.