

Knowledge Organiser

LO1 Understand the environment which hospitality and catering providers operate.

Hospitality & Catering

Sectors

- Accommodation
- Hotels, resorts, lodging
- Food & Beverage
- Restaurants, fast food, catering
- Travel and tourism
- Cruise, airlines, holiday parks
- Entertainment
- Leisure attractions, Retail stores

Hospitality

Covers all aspects of the accommodation and catering industry, for people away from home. "the friendly and generous treatment of guests and strangers"

Catering

Providing a food & beverage service to people. E.g. restaurant, fast food.

Contract catering

Supply businesses / establishments with food at places it is not usually provided Private functions in hotels or community halls, sports venues for parties, weddings, funerals, concerts etc.) Or airlines, hospitals, schools Food is prepared off site then delivered. (can be made on site if kitchen available)



- Advantages:**
- Accountability** – hold responsibility. Refund if unsuccessful
 - Peace of Mind** - clients can focus on event, not the catering.
 - Experts** – Know the trends. Have trusted suppliers e.g. butcher.
 - One invoice** - client only has one total invoice to pay.
 - Connections** - recruit the right people from existing pool/network. E.g. skilled chefs, silver service waiters, wedding cake designers
 - Legislative Compliance** - work within Food Safety laws/HACCP rules.

Disadvantages

- Cost** – cost for food, preparation, transport & service.
- Stranger Danger** - strangers will be at venue
- Lack of Variety** - depending on type of catering
- Plated dinners - more limited - guests must choose between 2 or 3 options in advance.
- Buffet - increase variety, but more difficult to plan quantities / know which foods guests will prefer

Suppliers

Hospitality business support local business, both for the local economy and the environment.. Local sourcing can include local and seasonal ingredients and toiletries for guest rooms and flowers for reception areas.



- Build up relationship
- Repeat business
- Know what to expect
- Create jobs
- Support local economy
- Repeat business
- Less food miles

Establishment types

Commercial (aims to make a profit)

Residential

Provides accommodation (somewhere to stay)

- Hotels - Guest houses - Holiday parks - Cruise ships - Glamping - Farmhouses - B & B's

Non residential

No accommodation Hospitality & catering only

- Restaurants – Cafes - Pubs – Bars - Fast food outlets - Take away - Casinos - Food vans - Tourist attractions (e.g. theme park) - Sport stadiums – Concert/gig venues – Delicatessen - School meals - transport catering - B & B's

Clients

Business groups for longer meetings in a different city – Individuals, groups or families - Holidays & leisure - Guests attending an event i.e. wedding, celebration - Overseas visitors - School trips

- Individuals – Families - Groups - Tourists & visitors - Workers on regular hours - Shift workers

Non commercial (doesn't aim to make a profit)

Residential

- Public sector
 - Health and welfare NHS, care homes, emergency services, prisons
 - Education Colleges, schools, universities
 - Armed forces Army, navy & air force
- Private sector
 - Private nursing
 - Private care home
- Hostels and shelters

Non residential

- Public sector
 - Schools, nurseries
- Workforce catering
 - Canteens in shops, factories etc.
- Voluntary/health & welfare
 - Lunch club charities, soup kitchen, day care centres

Clients

Varies, depending on sector i.e. prisoners, elderly, students, homeless people etc.

Types of accommodation



Hotel Accommodation with bedrooms and en-suites. 5*first class service ,excellent facilities, high standard of cuisine. Valet parking, concierge, room service 24 hours, fitness centre, pool, spa & modern business areas 4*offer comfort but fewer facilities and less luxurious than a 5* 3*3* - often situated near motorways and have fewer facilities 2* comfortable, do not have restaurants/room service - often next to a restaurant 1*often motels on motorways and have basic accommodation and few facilities

Suite In a hotel but a much larger accommodation., with one or multiple connected bedrooms and bathrooms, like a fully furnished mini-apartment

Boutique hotel a stylish small hotel, typically one situated in a fashionable urban location. Usually unique and quirky bedrooms.

Motel a roadside hotel designed primarily for motorists, typically having the rooms arranged in low blocks with parking directly outside.

Youth hostel (YHA)

Accommodation is usually in comfortable bunk beds, sharing rooms with others. Bathrooms are shared. Bed linen provided to make up own bed. Either a full meal or self-catering. Most locations have a sitting area, drying room, cycle store.

B&B/Guest house Accommodation for a night & a meal in the morning, provided in guest houses & hotels.

Cabins small wooden shelter/house in a remote area. Usually for larger groups r families, with self catering facilities and sometimes with an outdoor hot tub.

What is rated?

Open all year - Number of rooms (including en suite availability – Other spaces (bars etc) – Environment & Atmosphere – Reception area – Customer care & service – Access to facilities (i.e. Receptionist all night) – Meal facilities & standards – Health and safety – Standard & Maintenance of facilities (i.e. Lighting) – Extra facilities (i.e. Spa, gym, valet) – TV & Wi-Fi – Suite availability – Cleanliness

Standards, Reviews & Ratings

Reviews can affect businesses – good reviews boost custom, poor reviews can lead to people avoiding the establishment

Michelin - worldwide

Anonymous inspectors visit establishments & have a meal, They write a review & can award 1-3 stars for excellence

AA Rosette Awards: UK

first UK-wide scheme for assessing the quality of food served by restaurants & hotels. Focuses on the TASTE.

Good Food Guide

Members of the public fill in a review which is compiled into a guide. Points are awarded for excellence 1-10.

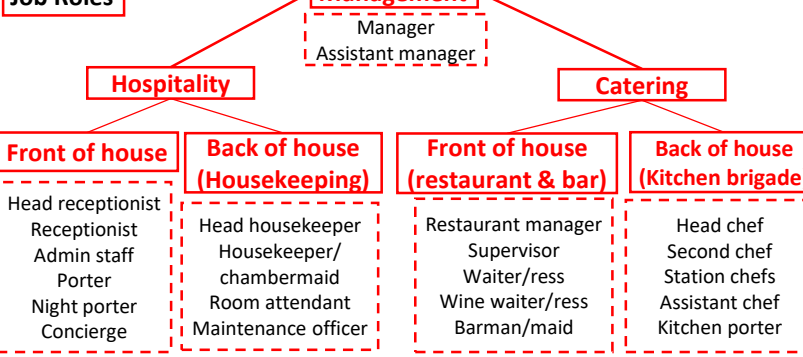
Online Reviews

Anyone can post reviews of an establishment. Large number of reviews so an average score is likely to be reasonably accurate

What is rated?

Type & range of food
Quality of food & ingredients
Provenance (where the ingredients come from)
Consistency (cooking, flavour, appearance quality)
Level of skill
Creativity

Job Roles



How to achieve a distinction

Be able to:

- Distinguish types of business/establishments
- Evaluate the suitability of different types of food service
- Explain the facilities of a range of accommodation types
- Discuss the advantages and disadvantages of different review and ratings.
- Analyse the job roles within hospitality and catering establishments

Types of service

Table: Waiting staff take food orders & serve customers who are seated at table. Plated in kitchen. + Good portion control. All plates are consistent in the presentation. Provides experience for special events. -Relies more on skilled kitchen staff than serving staff. Time consuming for the kitchen staff.

Guerdian: food is cooked or prepared for service from a trolley at the customers table (i.e. a steak, flambéed dessert) + Sometime dishes are cooked/assembled in front of the customer. -Requires skilled service, is very specialist. Time consuming with high staff & menu costs.

Silver Food is served by the staff using a spoon and fork. + It provides a more personal customer experience - Service can be slow. Expensive, Costs high (more serving staff required)

Buffet: Food displayed in containers at an open counter or serving station. Customers pick up a plate/bowl and help themselves. (expensive foods sometimes served to the customer i.e. roast meat) + Customer controls portion sizes, casual, less staff, fast - Hard to predict portions, Temperature control can increase risk of food poisoning, Less formal. Can be low cost depending on type of food.

Fast food Foods/drinks displayed on a menu behind a counter or on a screen/poster. Customers place their order & pay at a sales point. More than one till. **Take away** – one till and member of staff + Fast, hot, no waiting staff needed, no tables needed. Good for people out and about/rushed/on breaks -Expensive to set up, equipment, unhealthy, lack of 'experience'. May need delivery staff

Transport catering - Tray or trolley. Train – prepacked food brought on a trolley . Plane – pre order food which is then stocked and heated for journey. Made in factory + cater for everyone, Less waste - No seconds, limited choice

Counter Service - Cafeteria All food displayed on a long counter, customers move along the counter with a tray and choose what they want, then queue up to pay at the end (schools, cafes) + Food displayed, dining area clean, high turnover. Low skill of serving staff. - Customer queue, food may run out, impulse buy **Free flow** – different counters i.e. cold sandwiches, hot section then pay at a central till **Multipoint** - different counters i.e. cold sandwiches, hot section then pay at different counters i.e. pay for cold sandwich at cold sandwich counter/till

Family Food is placed on the table and served in bowls or plates with forks or spoons, then customers serve themselves. i.e. Potato in one bowl, vegetables in another. + Customers portion food themselves so no portion control or presentation on each plate for staff, sociable method. Quick & easy. - Hard to judge portion sizes, waste. Required larger tables

Vending Provide hot & cold snacks and drinks Someone needs to maintain and restock regularly +no staff, cheaper, hygienic (packaged) - Run out, money lost in, high maintenance

Factors affecting type of service

Cost - Location and type of establishment - Number of customers to serve in a given time- The client - Availability & skills of serving staff Type of food/menu on offer - Time expected for the meal

Catering Roles

Head Chef (Maitre chef de Cuisine)

In charge of the whole kitchen

Second chef (Sous chef)

Directly in charge of production

Station chefs (Chefs de partie)

- Vegetable chef** (l' entremetier)
- Pastry chef** (le patissier) Prepares pastries and desserts
- Larder chef** (le garde manger) Responsible for cold foods, including salads and dressings
- Sauce chef** (le saucier) Prepares sauces, stews & hot hors d'oeuvres

Assistant chef (commis chef) Helps in all areas, basic jobs

Kitchen porter Cleans up after chefs and does the washing up



Hospitality roles

Management – in charge of the business and staff
Receptionist - employed in a hotel to receive guests and deal with their bookings.

Admin staff managing information within an office. This generally includes answering phones, taking memos and maintaining files
Porter/Night porter employed to carry luggage and other loads, especially in a railway station, airport, hotel, or market.

Concierge assist guests by booking tours, making theatre and restaurant reservations, etc.

Housekeeper/chambermaid/room attendant does or directs the domestic work and planning, such as cleaning, bedding, refilling.

Maintenance officer repairs of maintenance of buildings and equipment

Review looking at/examining the quality of something. Usually to make a decision about or change something

Rating - a classification/ranking of something based on a comparative assessment of the quality or standard.

Client – a person/business/organisation using hospitality and catering services

Accommodation - a room, group of rooms, or building in which someone may live or stay

Hospitality - the business of entertaining clients, conference delegates, or other official visitors.

Catering - provide people with food and drink at a social event or other gathering.

Commercial - making or intended to make a profit.

Non commercial - not intended to make a profit. i.e. a hospital.

Residential - providing accommodation in addition to other services

Contract caterer - a catering company that is hired by a business/organisation to provide catering services i.e. for an event

Supplier – a company, or organization that sells or supplies something such as goods or equipment to customers

Housekeeping - the work or activity of cleaning and preparing rooms for customers

Kitchen brigade - a system of staffing hierarchy found in restaurants and hotels, commonly referred to as "kitchen staff"

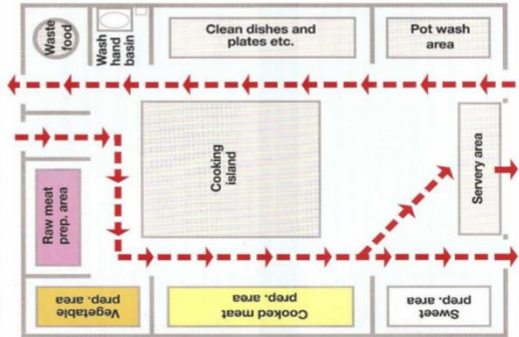
Service - efforts made to achieve pleasant customer experience for guests and exceed expectations through quality service

Key Terms

Knowledge Organiser

LO2 Understand how hospitality and catering provision operates.

Workflow in the kitchen should follow a logical process by using different areas so that the clean stages in food production never come into contact with the "dirty" stages.



You need to consider the following key areas in terms of layout...

1. Delivery
2. Storage
3. Food preparation
4. Cooking
5. Holding
6. Food service area
7. Wash up
8. Waste disposal

DRESS CODE

A chef's uniform is more than a fashion statement. Each component plays a specific role in protecting from potential dangers common in most kitchens

Chef's uniform

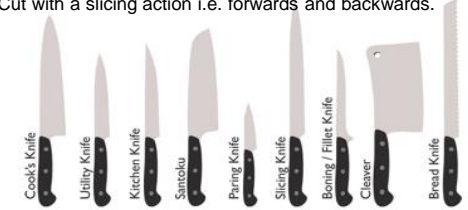
- Chef's jacket
- Chef's pants
- Hat
- Neckerchief
- Apron
- Hand towel
- Slip-resistant shoes

- Some establishments have staff wear the same uniform; this makes them easily identifiable for staff and customers. The uniform may change depending on which area of the establishment they work in.
- Protective clothing as part of a uniform must be paid for by the employer.



KNIVES

1. Store knives safely so you don't cut yourself accidentally
2. Clean knives after each use. Gently scrub the knife, then wash it off with hot water. Dry with a clean cloth
3. Make sure knives are sharp.
4. Use knives for the purpose that they were intended.
5. Cut with a slicing action i.e. forwards and backwards.



Types of Customer

| Leisure | Local residents | Business / corporate |
|--|--|--|
| Customers who visit the establishments in their leisure time e.g. a meal with friends, a family day out, tourists. | Customers who live in the local area who visit the establishment often e.g. regular Sunday lunch, or get togethers | e.g. business lunches. Use business facilities in establishment for meetings or presentations. Courses and conferences |

| Leisure customers' requirements | Local customers' requirements | Business customers' requirements |
|---|---|--|
| <ul style="list-style-type: none"> • Value for money • Good facilities • Families want child menus, play area, child friendly • Older people may want more formal service • Good customer service • Varied choice of menu • Dietary needs e.g. allergies, intolerances, vegetarian catered for without having to ask for special foods • Facilities for physically impaired customers | <ul style="list-style-type: none"> • Value for money • good standard of customer service so they return • Catering for local needs (culture, religion) • Consistent dishes served • Loyalty schemes • Recognised by staff- feel welcome • Menu specials • Theme nights • OAP discount day • Child friendly • Entertainment • Mailing list or email for special offers | <ul style="list-style-type: none"> • Dedicated corporate (business) contact at establishment • Discounted rates • Meeting rooms • Water, juice on tables • Presentation equipment, Tea and coffee for breaks • Lunch or other meals- buffet or restaurant • Accommodation if attendees are from a long distance • Quick service for lunch meetings |

- Value for money
- Good facilities
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- Facilities for physically impaired customers

STOCK CONTROL

2 types of foods when it comes to stock control:

Perishable food and products that do not stay fresh for very long

- Fresh fruit, vegetables
- Dairy products
- Meat and fish
- Only buy enough to last a few days because they will not last

Staple foods and supplies that are canned, bottled, dried or frozen

These have a longer shelf life and so do not need to be purchased as frequently. Larger amounts can be bought to get cheaper prices and can be stored.

- Condiments,
- Canned vegetables
- Frozen foods including meat, fish and deserts
- Sauces
- Flour, sugar, fat, oil

DOCUMENTATION

Why must they be completed?

1. Maintaining organisational procedures
2. Safety of staff and customers
3. Legal requirements
4. Complying with food safety legislation
5. Complying with accounting and taxation practices

Stock control

Monitor stock levels for re ordering
Decide frequency of stock check
First in First out for items with a shelf life

Personnel records

Hours worked
Personal details
Wages
Taxation
National insurance
Training
Accidents
Staff rotas and timetables

Health and safety, hygiene

Fire certificate
Staff training records
Accident book
Food hygiene checks
Cleaning checks
Bookings and reservations
Electronic booking system
Electronic reservations system
Diary with bookings and reservations
Feedback forms

Purchasing

Food and drink orders
Packaging orders
Equipment
Tables, chairs etc.
Cutlery and crockery
Staff uniforms

Financial

Income tax
VAT
Wages
Insurance
Sales and income
Staff costs
Heating, lighting

CUSTOMER REQUIREMENTS

Customer service is what an establishment does in order to meet the **expectations** of their customers and generate customer satisfaction.

- **So customers return.** - People will not return to a place where they were not satisfied with the service. Repeat business means a successful business.
- **Exceeding expectations**- This makes repeat business more likely
- **Growth of the business**- If customers receive a high standard of service and return, they will spend more money and also tell other people about the business.

Customers are influenced by:

- TV
- Magazines
- Health
- Travel abroad
- Technology
- Ratings and reviews
- Amount of money service is

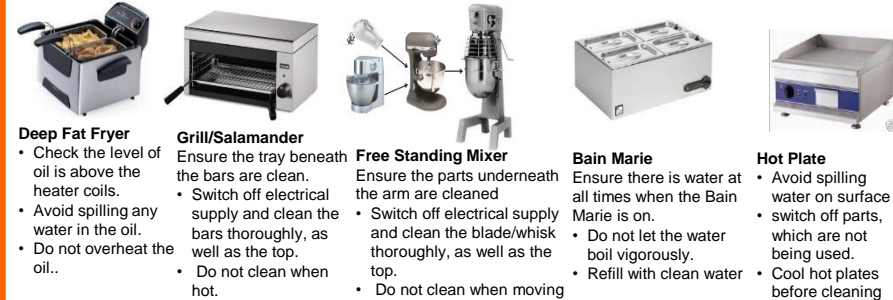
Remember

1. **FIFO – First In First Out rule.**
2. **Check use by/best before dates and make sure you stick to these. Do not use something if it is past its use by date.**
3. **Keep food that can cause an allergic reaction separate from all other food.**

Small Equipment – you will need to know what each piece of equipment is used for.



Large Equipment – you will need to know what each piece of equipment is used for.



- Deep Fat Fryer**
- Check the level of oil is above the heater coils.
 - Avoid spilling any water in the oil.
 - Do not overheat the oil.

- Grill/Salamander**
- Ensure the tray beneath the bars is clean.
 - Switch off electrical supply and clean the bars thoroughly, as well as the top.
 - Do not clean when hot.

- Free Standing Mixer**
- Ensure the parts underneath the arm are cleaned
 - Switch off electrical supply and clean the blade/whisk thoroughly, as well as the top.
 - Do not clean when moving

- Bain Marie**
- Ensure there is water at all times when the Bain Marie is on.
 - Do not let the water boil vigorously.
 - Refill with clean water

- Hot Plate**
- Avoid spilling water on surface
 - switch off parts, which are not being used.
 - Cool hot plates before cleaning

Knowledge Organiser

LO3 Understand how the hospitality and catering provisions meets health and safety requirements.

There are 5 main laws and regulations you must fully understand.

| Abbreviation | Full name |
|--------------|---|
| HASAWA | Health and safety at work act 1974 |
| RIDDOR | Reporting of injuries diseases and dangerous occurrences regulations 1995 |
| COSHH | Control of substances hazardous to health regulations 2002 |
| PPER | Personal protective equipment at work regulations 1992 |
| MHR | Manual handling operations regulations 1993 |

HASAWA

Employers need to ...

- Carry out risk assessments
- To provide and maintain safe equipment and safe systems of work
- Provide information, instruction, training and supervision on how to work safely
- Provide a written safety policy
- Make sure there are toilets, places to wash and drinking water for workers
- Make sure that there is first aid provision
- Provide PPE for jobs if needed
- Have insurance to cover injury or illness at work
- Provide a health and safety law poster entitled "Health and Safety law: What you should know" displayed.

Employees need to ...

- To follow safety advice and instructions
- Not interfere with any safety device
- To report accidents
- To report hazards and risks

RIDDOR

What needs to be reported ...

1. Work related fatalities
2. Work related accidents causing certain serious injuries (known as reportable injuries)
3. Certain work related diagnosed occupational diseases

Accidents are reported to the HSE (Health and Safety Executive)

This is most easily done by [reporting online](#). A report must be received within 10 days of the accident/injury/illness. If you do not keep a copy of the online form your records must include :

- the date and method of reporting;
- the date, time and place of the event; personal details of those involved;
- and a brief description of the nature of the event or disease.

An employer who fails to comply with RIDDOR may be liable on conviction to:

- a fine not exceeding level five on the standard scale, currently £5,000 in a magistrate's court
- an unlimited fine in a Crown Court.
- Note: Accidents or incidents may have been caused by breaches of other health and safety legislation. The penalties for breaching other legislation may be heavier than those for failing to comply with RIDDOR.



COSHH CUPBOARD
Caution hazardous chemicals stored here

Possible health problems ...

1. Contact causing irritation
2. Sensitising substances
3. Toxic fumes
4. Carcinogenic
5. Infectious
6. Fire, explosion
7. Environmental harm problems

Employee responsibilities under COSHH...

- Use control measures and facilities provided by the employer
- Ensure equipment is returned and stored properly
- Report defects in control measures
- Wear and store personal protective equipment (PPE)
- Removing PPE that could cause contamination before eating or drinking
- Proper use of washing, showering facilities when required
- Maintaining a high level of personal hygiene
- Complying with any information, instruction or training that is provided

Employer Responsibilities under COSHH ...

- Implement control measures to protect workers from hazardous substances.
- Preventing or controlling exposure to hazardous substances.
- Providing employees with information, instruction and training, and appropriate protective equipment
- Ensuring that control measures are maintained, kept in full working order, and in a clean condition
- Drawing up plans and procedures to deal with accidents and emergencies involving hazardous substances.
- Carrying out a COSHH risk assessment.

PPER



Symbols linked to protecting ourselves
Wear gloves to protect hands



Wear an apron to protect clothing



Wear goggles to protect eyes



Wear suitable footwear to prevent slips and protect toes.



Wash hands to keep clean and remove residue.



Wear a mask to prevent inhaling fumes.

PPE is personal protective equipment. In addition, the Food Safety (General Food Hygiene) Regulations 1995 require every person working in a food handling area to wear suitable, clean, and (where appropriate) protective clothing.

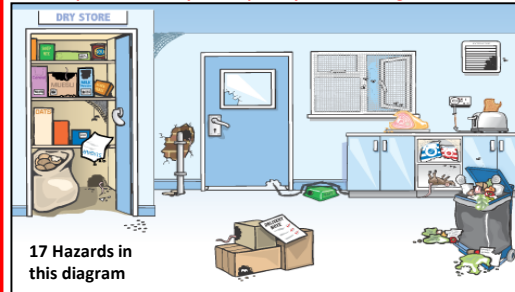
Employee responsibilities under PPER ...

- You must wear the p.p.e. if it has been provided for you. You could be held personally liable if you had an accident which could have been prevented by you wearing your PPE
- You must care for it, store it and clean it as necessary;
- You must report any defects.

Employer responsibilities under PPER ...

- Provide the PPE (free) if a risk assessment has shown it to be necessary
- It must be exclusively for you and fit you comfortably
- Provide somewhere to store it
- Provide facilities for it to be cleaned and maintained
- Replace it when necessary
- Provide training (if necessary) in how to wear/use it properly

Risks to personal safety in Hospitality and Catering



17 Hazards in this diagram

5 steps to risk assessment.

- 1) Identify the hazard.
- 2) Decide who might be harmed and how.
- 3) Evaluate the risk.
- 4) Record the findings and implement them.
- 5) Review the assessment and update if necessary.

HACCP

Hazard Analysis Critical Control Point

- (Hazards and how to prevent them occurring)
- Purchase of Food – buy from trusted suppliers
- Receipt of food – check all deliveries
- Storage Food – Correct (check temperatures)
- Cooking food – must be above 75°C.
- Cooling – quick through danger zone
- Hot-holding – above 63°C
- Reheating – not for high risk foods.
- Chilled storage - <5°C.

Reducing Safety Risks ...

- Train staff in safety procedures
- Adequate fire prevention
- Reminders in safe procedures
- Wet floor signs
- Safety footwear (PPE)
- First aid availability

Reducing Health Risks ...

- Food safety procedures
- Use food before date mark
- Washing hands,
- Using sanitizer on surfaces
- Safe storage in fridges
- Use separate chopping boards

MHER

What is manual handling?

- Any transporting or supporting of a load by hand or bodily force
- Lifting, putting down, pushing, pulling, carrying or moving

Start by considering the jobs carried out in the kitchen and the staff who work there. Look at the areas of work where there are most likely to be significant risks and prolonged exposure concentrate on:

- the handling tasks workers are doing;
- the loads they are lifting;
- the environment they are working in;
- the individual capabilities of each worker;
- the positions they need to get in to do the job, e.g. twisting and stretching;
- the time spent on each task, e.g. regularity of lifting and break times.

Manual Handling affects

1. Food Preparation -Repetitive motion of the hands, wrists and shoulders; - Forceful lifting or carrying of heavy bowls or pots; -Awkward bending and twisting of the back. -Workbenches at different heights; -Utensils and knives with ergonomic handles designed for comfort and those that allow for power grips; - Provide knives that are in good condition and kept sharp to reduce the force required by the user.
2. Dishwashing - lifting heavy pots; - awkward bending and twisting when leaning over sinks for long periods; -repetitive wrist and shoulder movements when scrubbing pots. -dishwashers if appropriate; - false bottoms in deep sinks to reduce awkward bending at the waist; - assess the weight of a pot before lifting it; - keep pots close to the body when lifting and bend the knees rather than the back;
3. Ovens and steamers -ovens with side-hinged doors rather than bottom hinged doors allow easier access to items in the oven; -using oven racks between waist and elbow height to minimise awkward posture.
4. Heavy Pots -Large pots and pans with extended handles make it easier to tip when pouring into smaller containers.
5. Cleaning - awkward shoulder or back postures; - cuts, bruises, pressure injuries and sore skin. - cleaning tools that have soft rubber-like handles to reduce gripping force; - a platform of adequate size to minimise reaching
6. Removing waste - lifting heavy rubbish bags, which carries the risk of forceful exertion. - provide smaller refuse bags; - put up signs to remind staff not to overfill them

Personal safety recommendations

How Can Burns Be Prevented?

Wear a protective apron, watch out for splatters and spills, keep hair and clothes away from flames., keep flammable materials away from

How Can Cuts Be Prevented?

Cut properly, using the bridge and claw grips, be sure moving machine parts are covered by guards, use a broom and dustpan to clean up broken glass.



How Can Strains Be Prevented?

Before moving heavy goods. Think : How heavy is the load? Do you need help to lift it safely? Do you need training or equipment to move it safely ?

How Can Slips, Trips and Falls Be Prevented?

Make sure your path is clear, clean and dry before carrying a load, use non-slip floor pads., wear shoes with soles that grip, clean up spills as soon as they happen.

Customer Safety

- Warn customers that plates are hot when food is served
- Keep areas where customers will walk free of trip hazards
- Clear up spills that could be come a slip hazard
- Good lighting in car parks, walkways
- Clear up spills and hazards in lavatories
- Check and maintain hand dryers, in room kettles

Reasons fires start ...

1. Equipment that is not serviced regularly can cause over heating and cause fires.
2. Human Error. many fires that happen in catering. Such as fat fryers.
3. Electrical . smouldering wires can develop unseen overnight and be the cause of major incidents..
4. Arson. rare occurrence. grudge between employee and employer, or insurance fraud.
5. Chemical. Not very common now due to the COSHH regulations.

Fire Action

Raise the alarm

Leave the building by the nearest exit

Report to assembly point

Do not return to the building until authorised to do so

Do not take any risks

Knowledge Organiser

LO4: Know how food can cause ill health

Useful sites. Type these links into your browser or scan the QR codes:
Video: tinyurl.com/yd5q4dxq
GCSEPod: tinyurl.com/y8hosvsf



Contamination

Food contamination - foods that are spoiled because they contain microorganisms, e.g. bacteria, that make them unfit for consumption.



Contamination of foods can be physical, chemical or biological:

Physical: A foreign object has dropped into the food, e.g. hair, jewellery, finger nail, machinery components.

Chemical: Cleaning products & pesticides

Biological: Bacteria (i.e. from unhygienic workers/high risk food), viruses, moulds & fungi - cause food poisoning

Bacteria need

Moisture (Monday)

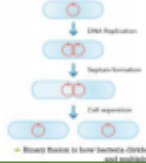
Time, (Tuesday)

Warmth, (Wed)

Food (Thursday)

(& sometimes O2 & pH)

Bacteria doesn't grow in size, but multiplies into 2 every 20 mins - known as **binary fission**



Mould changes the appearance ('fuzzy'), smell and taste of food. It grows and spreads quickly. Often spoils bread, cheese & fruit



Desirable changes in food:

| | Use |
|------------------------|---|
| Yeast | Bread making and fermentation of cereals in beer & fruit in wine. |
| Bacteria (lactic acid) | Fermentation of milk to produce yoghurt & cheese. |
| Mould | Added to cheese - adds texture & flavour (sharp and tangy). |
| Probiotics | Yoghurt to aid digestion. |

Prevent contamination by the 4 C's: Clean - Cook - Chill - Cover

COLOR CODED CUTTING BOARDS



Cross Contamination Transferring bacteria from one source to another. Bacteria can't move, so need something to move from one surface to another. E.g. cutting raw chicken, then using the same knife, unwashed, to cut lettuce for a salad. The bacteria from the chicken will be destroyed when the chicken is cooked but the salad will not.

Toxins: Waste materials of bacteria, can survive high temperatures. Survive when reheating pre-cooked foods (ie rice)

Spores: Created from bacteria & can survive very high temperatures. Spore-forming bacteria include bacillus cereus

Yeast can grow & spread quickly. Grows on fruit. Spoil fruit by fermenting the sugars

Enzymic browning - chemical process - oxygen & enzymes in food react to cause a cut surface to brown i.e. apple

Storage

Remember, bacteria needs warmth & moisture to multiply. Refrigerating removes warmth Freezing removes warmth & moisture



Key temperatures

72°C: kills bacteria. Cook or reheat high risk foods to this temperature
5-63°C: the danger zone - bacteria multiply quickly.
37°C: optimum temperature for bacteria multiplication.
0-5°C: chilling/ fridge: slows bacteria multiplication, extends shelf life
-18°C: freezing - stops bacteria multiplying (until defrosted) and extends shelf life of foods & preserves nutrients.

High-Risk Foods - foods which bacteria multiply most in due to high moisture and protein. They have a short shelf life. Meats, fish and poultry; dairy foods; gravy, stocks and sauces; cooked rice
Ambient Foods - can be safely stored at room temperature - Flour; sugar; tinned food; crisps, pasta

'Use By' Date: Unsafe to consume after this date
'Best before' date: Safe to consume after the date but quality not as high. i.e. crisps not as 'crisp'

Cover foods to prevent contamination
 Storing food in the fridge - keep meats at the bottom to prevent juices/blood dripping onto ready to eat foods.

Food Poisoning

Food contaminated with pathogenic bacteria causes severe illness & possibly death. The following are common bacteria responsible for food poisoning:



| Pathogenic Bacteria | Source | Symptoms | Onset time |
|-----------------------|--|---|------------|
| Salmonella | Raw poultry, meat, eggs | Diarrhoea, abdominal pain, vomiting | 12-36 hrs |
| Campylobacter | Raw poultry, meat, eggs, sewage | Diarrhoea, abdominal pain, fever | 46-60 hrs |
| Staphylococcus Aureus | Humans - skin, hair, nose, mouth, cuts.(coughing/sneezing) | Abdominal pain, vomiting, chills | 1-6 hrs |
| E.Coli | Sewage, water, raw meat, muddy vegetables | Abdominal pain, fever, diarrhoea, vomiting, kidney damage | 12-24 hrs |

Preservation

Slowing the rate of food spoilage can occur by minimising bacteria activity, i.e. removing moisture or oxygen, reducing the temperature or changing pH levels.

| Method | Explanation | Example |
|---------------------|---|--|
| Heat | Heating kills most microorganisms | Pasteurised milk, cooked food, canned food |
| Freezing | Microorganisms cannot multiply without warmth | Frozen meats, fish, ready meals. |
| Drying | Microorganisms need air to reproduce | Noodle pots, coffee, gravy granules |
| Removin g air (O2): | Most microorganisms need oxygen to reproduce. Food is sealed in cans, MAP & vacuum packaging. | Food in cans and jars, sandwiches, crisps, vacuum packed meats and fish. |
| Chemical s | (salt, sugar, vinegar & smoke) Changing the pH level of the food to create a hostile environment for the microorganism. | Pickles (make too acidic), salted meats, smoked fish, chutneys, jam |

Key Words

- Spoilage** - When food deteriorates to the point where it is not edible
- Microorganisms** - bacteria, yeast, mould, fungi.
- Enzyme** - Found in foods, speed up the process of decay.
- Danger zone** - where bacteria multiplies most:- 5 - 63°C.
- High risk** - foods which bacteria multiply most in - high moisture & protein. i.e. Meats, fish, dairy, gravy, cooked rice
- Ambient** - foods can be safely stored at room temperature - Flour; sugar; tinned food; crisps, pasta
- Use by** - Unsafe to consume after this date
- Best before** - Safe to consume after the date but quality not as high. i.e. crisps not as 'crisp'
- Contamination** - spoiled because they contain microorganisms, e.g. bacteria, that make them unfit for consumption
- Cross contamination** - Transferring bacteria from one source to another, E.g. cutting raw chicken, then lettuce.
- Pathogenic** - bacteria which cause disease (unsafe)
- Preservation** - Slowing the rate of food spoilage can occur by minimising bacteria activity, increasing shelf life.
- Vacuum packaging** - a method of packaging that removes air from the package to extend shelf life
- MAP packaging** - (Modified atmosphere packaging) a way of extending shelf life of fresh food. substitutes air with gas



Summary

Bacteria causes food poisoning when given the conditions moisture, time, warmth and food.
 The key temperatures:
 72°C (killed), 5-63°C (danger zone), 0-5°C (slows multiplication - fridge) and -18°C (bacteria 'dormant' or asleep - freezer)
 The 3 types of contamination are physical, chemical and biological.
 Cross contamination is transferring bacteria from one source to another
 The 4 Cs to prevent contamination are clean, cook, chill and cover.
 Food can be preserved to slow food spoilage by removing the conditions bacteria need (i.e. warmth, moisture, oxygen and pH)

