**Year 9: Gastronomy Week of 20th April**

LO: To describe micro-organisms and identify conditions they need to multiply.

**Task 1: Complete the Do Now.**

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| The 4C’s of food hygiene and safety are… |
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| Bacteria is… It can be dangerous because… |
|  |
| To avoid bacteria from being in high risk foods we must… |
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| Fish is a better source of protein than red meat because… |
|  |
| Fibre is important in the body for… |
|  |
| Saturated fats are unhealthy because… more specifically… |
|  |

**Task 2: Complete the sentences starters. They will be easier to complete if you have watched the short video.**

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| Harmful bacteria are called… |
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| Harmful bacteria thrive in foods such as… |
|  |
| The conditions needed for bacteria to thrive in are… |
| 1)2)3)4)5) |
| The temperature they multiply most rapidly in is… |
|  |
| The temperature where bacterial growth begins to slow is… |
|  |
| When the temperature is below -18 degrees bacteria… |
|  |
| To prevent food poisoning we should… |
|  |

**Task 3: Read the following information on the ideal conditions that micro-organisms need to multiply.**

**Suitable Conditions Needed by Micro-Organisms**

**A suitable temperature:**

Most micro-organisms grow and multiply most rapidly when the temperature is warm. It cannot be too hot or they will be destroyed. If the temperature is too cold, their growth will slow down until it stops, then they become dormant, like in the freezer. This can be controlled by cooking food for long enough at high enough temperatures, never leaving food in a warm place for a long time and storing leftover food properly.

**A supply of moisture:**

Micro-organisms need water for all their biological processes. If there is not enough moisture in the food supply, they cannot grow. To control this, foods can be preserved by drying them (dried fruit, dried soups). You can also preserve food with high concentrations of sugar or salt, this helps to remove water from the micro-organisms through osmosis.

**A supply of food:**

Micro-organisms need nutrients and energy from food to enable them to grow and multiply. To prevent micro-organisms from coming in contact with foods, food should be covered and stored away from sources of micro-organisms such as animals, flies and dirt.

**Enough Time:**

It takes time for micro-organisms to grow and multiply, and the more suitable the conditions, the quicker they will do so. Most micro-organisms multiply every 10-20 minutes. To help control this you can store, cook and cool foods thoroughly and correctly. You can also be sure to use food by its use-by date.

**The right pH (acidity or alkalinity):**

If conditions are too acidic or too alkaline, this may affect whether they can grow and multiply. In order to control this, food can be preserved in acids, like chutneys, this will prevent micro-organisms from growing and multiplying.

**Task 4: Complete the table below using the information from the reading.**

|  |  |  |
| --- | --- | --- |
| Suitable Conditions Needed: | Reason: | How to Control their Growth and Multiplication: |
| A Suitable Temperature |  |  |
| A Supply of Moisture |  |  |
| A Supply of Food |  |  |
| Enough Time |  |  |
| The Right pH |  |  |

**Task 5: Complete the practice questions using the sentence starters. Look back at the previous slides in the powerpoint if you need help.**

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| Three types of micro-organisms that can spoil foods are… |
|  |
| Micro-organisms make food unfit and unsafe to eat by… |
|  |
| Personal hygiene is important when preparing food because… for example… |
|  |
| Micro-organisms are found… more specifically… |
|  |
| High risk foods are… They include foods such as… |
|  |
| It is important to wash and dry our hands often when cooking food because… |
|  |

**Task 6: Complete the practice questions using the sentence starters. Look back at the previous slides in the powerpoint if you need help.**

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| The danger zone is… The temperatures in the danger zone are… |
|  |
| It is important that food is stored at the correct temperature because… for example… |
|  |
| Ambient temperature means… A food that is stored at ambient temperature would be… this is because… |
|  |
| A red chopping board is used for… whereas a green chopping board is used for… this is because… |
|  |
| Different chopping boards should be used for root vegetables and green, leafy vegetables because… |
|  |

**Task 7: Complete the exam question in full sentences. If you need sentence starters to help you, go to the last slide of the powerpoint.**

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| How would you prepare a beef burger safely? Outline and explain all the steps you would need to take in order to not cause food poisoning. |
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