Chapter 6: Food Commodities

Meat/Offal/Poultry

Spot test 1 (1 min)

1. Give four reasons why meat should be included in the diet:
   i. ______________________________________________________________________
   ii. ______________________________________________________________________
   iii. ______________________________________________________________________
   iv. ______________________________________________________________________

2. Classify meats and give two examples in each class.

<table>
<thead>
<tr>
<th>Protein</th>
<th>Carbohydrates</th>
<th>Fat</th>
<th>Vitamins</th>
<th>Minerals</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Spot test 2 (30 secs)

Complete the table below by filling in the missing percentages of nutrients found in meat:

Quick quiz (5 mins)

1. Give an example of a meat that is classified as offal.
2. What is game?
3. Name a nutrient which is lacking in meat.
4. Name one vitamin that is present in meat.
5. What type of lipids are in meat?
6. Name a mineral found in red meat.
7. List one factor that causes toughness in meat.
8. Name one method of tenderising meat.
9. What does collagen convert to after an animal is slaughtered?
10. Name a proteolytic enzyme that can be used to tenderise meat.
Quick questions (30 secs)

True or false:

1. Shin beef is a tender cut of meat.  
2. Duck has a high fat content.  
4. Skinless chicken fillets are low in fat.  
5. There is no carbohydrate in any type of meat.  
6. Collagen changes to gelatine in moist heat.

Ten-question test on meat (30 mins)

1. i. Which nutrient is lacking in meat?  
   ii. What should be served with meat to provide this nutrient?

2. Draw and label a diagram of the structure of meat.

3. (a) List the factors that cause toughness in meat.
   (b) Suggest three ways of tenderising meat.
      i.  
      ii.  
      iii.  
4. Write an informative note on **two** of the following: (10)
   i. Offal
   ii. Extractives
   iii. Game

5. Compile a set of guidelines for buying, storing and cooking meat. (12)
   (a) **Buying** meat:
   1. 
   2. 
   (b) **Storing** meat:
   1. 
   2. 
   (c) **Cooking** meat
   1. 
   2. 

6. Write an informative note on the following: (16)
   i. Bord Bia’s Quality Assurance Scheme
ii. Beef compulsory labeling scheme

7. (a) State three reasons for cooking meat: (6)
   i. 
   ii. 
   iii. 

   (b) Explain three effects of cooking on meat. (9)
   i. 
   ii. 
   iii. 

8. (a) List three methods of preserving meat. (6)
   i. 
   ii. 
   iii. 

   (b) Name three meat products. (6)
   1. 
   2. 
   3. 

9. What group of people do not include meat in their diet? __________________________ (3)

10. Explain the term ‘cross contamination’. (6)

Total /100
Teacher’s comment:
Fish

Spot test (1 min)

1. Insert the following types of fish into the correct category:

<table>
<thead>
<tr>
<th>Salmon/cod/lobster/herring/sole/crab</th>
<th>White Fish</th>
<th>Oily Fish</th>
<th>Shell Fish</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Fish</td>
<td>Oily Fish</td>
<td>Shell Fish</td>
<td></td>
</tr>
</tbody>
</table>

2. Fish cooks in less time than meat – why is this?

3. What type of fat is contained in oily fish?

   Why does white fish contain no fat?

Quick note (1 min)

1. Write a note on omega oils.

Quick ten-question quiz (5 mins)

1. Why does fish spoil easily?
2. List two effects of cooking on fish.
3. Give two rules to follow when buying fresh fish.
4. Give two reasons for including fish in the diet.
5. Suggest two suitable methods of cooking fish.
6. Outline three methods of preserving fish.
7. What nutrient is contained in the bones of tinned fish?
8. Why is this nutrient important in the diet?
9. List four fish products
10. Explain why fish is important in the diet of a person with high cholesterol.
Eggs

Spot test 1 (2 mins)
1. Draw and label a diagram of an egg.

Spot test 2 (30 secs)
1. Fill in the missing percentages in the composition of an egg:

<table>
<thead>
<tr>
<th>Protein</th>
<th>Carbohydrates</th>
<th>Fat</th>
<th>Vitamins</th>
<th>Minerals</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>12%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Quick quiz (10 mins)
1. Name one nutrient missing from eggs.
2. Name one food that should be combined with eggs to provide this nutrient
3. What type of fat is present in eggs?
4. What type of protein is present in eggs?
5. List four items of information you would expect to find on an egg carton.
6. State two effects of cooking on eggs.
7. Why should babies and pregnant women avoid eating raw eggs?
8. Describe one method of checking an egg for freshness.
9. Name three properties of eggs.
10. Suggest one practical application for each.
Five-question test (15 mins)

1. Match the following culinary uses of eggs with the correct description. (8)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Binding</td>
<td></td>
<td>Eggs trap air when whisked, e.g. meringue</td>
</tr>
<tr>
<td>(b) Emulsion</td>
<td></td>
<td>Brushing scones with beaten egg to produce golden colour</td>
</tr>
<tr>
<td>(c) Aeration</td>
<td></td>
<td>Egg yolk holds oil and vinegar together, e.g. mayonnaise</td>
</tr>
<tr>
<td>(d) Glazing</td>
<td></td>
<td>Holding soft or minced food together, e.g. hamburgers</td>
</tr>
</tbody>
</table>

2. (a) Name the natural emulsifier found in eggs? (3)

(b) Name one commercial food that uses this emulsifier. Explain its action. (9)

3. Explain what this symbol means on a carton of eggs. (8)

4. Explain the grading system used for the sale of eggs in Ireland. (6)

5. Give details of the new egg labelling system introduced in 2005. (16)
Total /50

Teacher's comment:
Milk and Milk Products

Spot test 1 (2 mins)

1. List four sources of milk:
   i. ____________________________  
   ii. ____________________________  
   iii. ____________________________  
   iv. ____________________________  

2. State the average composition of whole milk.

3. List two proteins found in milk:
   i. ____________________________  
   ii. ____________________________  

4. What type of fat is found in milk?

Quick questions (30 secs)

True or false:

1. Milk contains the milk sugar lactose. ✔️ True  ❌ False
2. Milk lacks vitamin D. ✔️ True  ❌ False
3. Pasteurisation disperses fat globules evenly in milk to improve its flavour. ✔️ True  ❌ False
4. Sterilised milk is heated to 110°C for 30 seconds. ✔️ True  ❌ False
5. Roller and spray drying are processes used to dehydrate milk. ✔️ True  ❌ False
6. Sugar is added to evaporated milk. ✔️ True  ❌ False

Spot test 2 (2 mins)

Complete the following table in relation to the heat treatments of milk:

<table>
<thead>
<tr>
<th>Method</th>
<th>Temperature</th>
<th>Time</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pasteurisation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ultra-Heat Treatment (UHT)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sterilisation</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Quick quiz (10 mins)
- List two guidelines to follow when buying milk.
- Name three types of milk on sale in shops.
- Explain what is meant by curdling.
- Name one department or agency responsible for enforcing legislation governing milk production.
- List four milk products.
- List five culinary uses of milk
- Why is butter unsuitable for frying?
- Describe briefly how cream is separated from milk
- Name three classes of yoghurt.

Spot test 3 (2 mins)
Outline the stages in the manufacture of butter or yoghurt.
**Cheese**

**Spot test 1 (2 mins)**

1. Fill in the table below (three examples of each).

<table>
<thead>
<tr>
<th>Hard</th>
<th>Semi-hard</th>
<th>Soft</th>
<th>Processed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Name one type of cheese from each country.

<table>
<thead>
<tr>
<th>Irish</th>
<th>British</th>
<th>French</th>
<th>Italian</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Swiss</th>
<th>Greek</th>
<th>Dutch</th>
<th>Spanish</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Spot test 2 (10 mins)
Outline the steps in the manufacture of cheese.

<table>
<thead>
<tr>
<th>Process</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td></td>
</tr>
</tbody>
</table>
Spot test 3 (30 secs)
State five culinary uses of cheese and give one example in each case.

<table>
<thead>
<tr>
<th>Culinary use</th>
<th>Example (dish)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
</tr>
</tbody>
</table>
Alternative Protein Foods

Spot test 1 (2 mins)
1. Classify alternative protein foods and give examples of each type.

<table>
<thead>
<tr>
<th>Protein foods sources</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Fill in the missing information on the table below on the composition of soya beans.

<table>
<thead>
<tr>
<th>Protein</th>
<th>Lipids</th>
<th>Vitamins</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Spot test 2 (10 mins)

Fill in the missing words

1. The most common protein alternative is made from ____________, which are ____________. Soya bean protein is used because it has a ____________ biological value.

2. Name six products made from soya beans:
   i. ____________ ii. ____________
   iii. ____________ iv. ____________
   v. ____________ vi. ____________

3. Outline the steps in manufacturing textured vegetable protein (TVP).
   i. ____________
   ii. ____________
   iii. ____________
   iv. ____________
   v. ____________
   vi. ____________
   vii. ____________
   viii. ____________
4. List two advantages and two disadvantages of TVP in the diet.

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. List four dishes that you could use TVP in:
   i. ___________________________  ii. ___________________________
   iii. ___________________________  iv. ___________________________

Spot test 3 (5 mins)

1. Fill in the missing words in the sentences below:
   Micro-organisms such as ___________, ___________, ___________, and ___________ are being developed as a source of edible protein. They can be grown ___________ and ___________ in an inexpensive medium e.g. ___________ or ___________ waste. The protein is called ___________.

2. Outline the steps involved in producing mycoprotein foods.
   i. ___________________________
   ii. ___________________________
   iii. ___________________________
   iv. ___________________________
   v. ___________________________
   vi. ___________________________
   vii. ___________________________
Cereals
Spot test 1 (5 mins)
1. Explain the following words associated with cereals:
   Staple food
   ________________________________
   Gluten
   ________________________________
   Milling
   ________________________________
   Conditioning
   ________________________________
   Blending
   ________________________________
   Fortification
   ________________________________

2. Fill in the missing information on the table below on the composition of wheat.

<table>
<thead>
<tr>
<th>Lipids</th>
<th>Vitamins</th>
<th>Minerals</th>
</tr>
</thead>
<tbody>
<tr>
<td>12%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Spot test 2 (5 mins)
1. Write a concise note on the contribution cereals make in the diet.
   ________________________________
   ________________________________
   ________________________________
   ________________________________
   ________________________________
   ________________________________
   ________________________________

Spot test 3 (2 mins)
Summarise the nine steps involved in the milling of wheat.

1.
2.
3.
4.
5.
6.
7.
8.
9.

Spot test 4 (1 min)
Give three examples of products made from each of the cereals below.

<table>
<thead>
<tr>
<th>Cereal</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td></td>
</tr>
<tr>
<td>Rice</td>
<td></td>
</tr>
<tr>
<td>Maize/corn</td>
<td></td>
</tr>
<tr>
<td>Oats</td>
<td></td>
</tr>
<tr>
<td>Rye</td>
<td></td>
</tr>
<tr>
<td>Barley</td>
<td></td>
</tr>
</tbody>
</table>
Fruit and Vegetables

Spot test 1 (5 mins)

1. Fill in **two** examples of fruit in each classification in the table below.

<table>
<thead>
<tr>
<th>Berries</th>
<th>Citrus</th>
<th>Dried</th>
<th>Hard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stone</th>
<th>Tropical</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. List **two** guidelines for buying, storing and preparing fruit.

**Buying**

i. 

ii. 

**Storing**

i. 

ii. 

**Preparing**

i. 

ii. 

3. Explain how fruits ripen.

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

How can we speed up the ripening process?

__________________________________________________________________________________

__________________________________________________________________________________

How can we slow down the ripening process?

__________________________________________________________________________________

__________________________________________________________________________________
Spot test 2 (2 mins)

1. Give four classifications of vegetables and two examples of each:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Fill in the table below on the minerals found in vegetables.

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Function</th>
<th>Effects of a deficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iron</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. What in vegetables can inhibit the absorption of iron or calcium in the body


Spot test 3 (2 mins)

Fill in the table below on the effects of processing on fruit and vegetables:

<table>
<thead>
<tr>
<th>Process</th>
<th>Suitable vegetables</th>
<th>Suitable fruit</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freezing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canning</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Quick quiz (10 mins)

- Explain how vitamin C is lost during the preparation of fruit and vegetables.
- List two things we could do to ensure we minimise this vitamin loss.
- Explain the term ‘al dente’ in relation to the cooking of vegetables.
- What is irradiation in relation to fruit and vegetables?
- List three pieces of information that should be found on vegetable labelling.
- Explain the term ‘legume’.
- List four different pulse vegetables.
- List four types of nuts and give a culinary use for each.

Spot test 4 (5 mins)

1. What is organic produce?

2. Name two groups in Ireland that award organic certification.
   i. __________________________________________________________
   ii. ________________________________________________________

3. Write an informative note on Bord Bia’s Origin Green initiative.
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
Fats and Oils

Spot test 1 (5 mins)

1. Explain the difference between visible and invisible fats.

2. Classify fats and give three examples of each type.

<table>
<thead>
<tr>
<th>Type</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. According to the food pyramid, how many servings of fats and oils should you have daily?

What type of fat should it be?

Spot test 2 (2 mins)

1. Identify a different culinary use for each of the following.

<table>
<thead>
<tr>
<th>Product</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butter</td>
<td></td>
</tr>
<tr>
<td>Dairy spread</td>
<td></td>
</tr>
<tr>
<td>Suet</td>
<td></td>
</tr>
<tr>
<td>Lard</td>
<td></td>
</tr>
<tr>
<td>Olive oil</td>
<td></td>
</tr>
<tr>
<td>Rapeseed oil</td>
<td></td>
</tr>
<tr>
<td>Block margarine</td>
<td></td>
</tr>
</tbody>
</table>
2. Give an example of a suitable fat or oil for each purpose below.

<table>
<thead>
<tr>
<th>Product</th>
<th>Type of fat or oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spreading</td>
<td></td>
</tr>
<tr>
<td>Creaming</td>
<td></td>
</tr>
<tr>
<td>Shortening</td>
<td></td>
</tr>
<tr>
<td>Anti-staling</td>
<td></td>
</tr>
<tr>
<td>Frying</td>
<td></td>
</tr>
</tbody>
</table>

**Spot test 3 (2 mins)**
Outline the steps involved in the manufacture of margarine.

- Step 1
- Step 2
- Step 3
- Step 4
- Step 5
- Step 6