1.   Food provenance: food source and supply   ●

1)   Match the food sources with the way they are obtained.

Venison
Oysters
Beef
Lettuces
Olives
Pork
Carrots
Sunflowers
Pumpkins
Lamb
Salmon

Reared

Grown

Caught

2)   Using the words below, explain the difference between organic farming and conventional farming.

pesticide	antibiotic	genetically modified	fertiliser	crops

....

....

....

....

3) Fill in the gaps in the passage below using the keywords provided.

| organic (x2) | cage | barn (x2) | free-range (x3) | cages | enriched cage |

Eggs can be produced in various ways. The most popular method of egg farming in the United Kingdom is

_____ production, where hens are kept in tight _____, placed

on top of each other.

The second most popular method is _____ production, in which hens can move freely

around the _____.

Animal welfare activists claim that _____ egg production is better both for the birds

and consumers. _____ hens are allowed outside at least for a part of the day and

have much more room than the hens in _____ or _____

production. _____ eggs are labelled as 1.

_____ eggs come from hens which are fed _____ feed only,

and are labelled as 0

4) Complete the graph to list the advantages and disadvantages of intensive farming.

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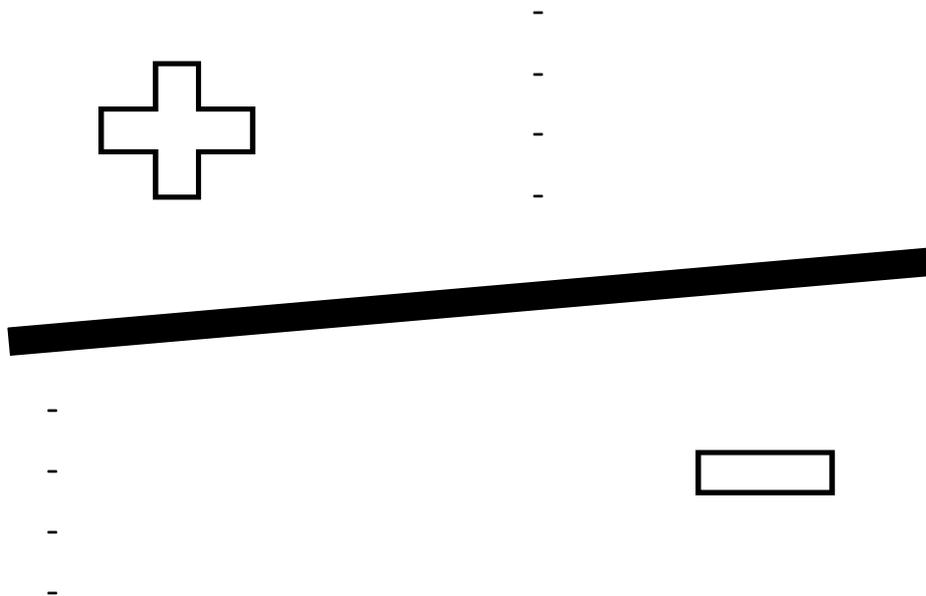
5) Complete the diagram below to indicate three advantages and three disadvantages of buying seasonal, locally produced food.
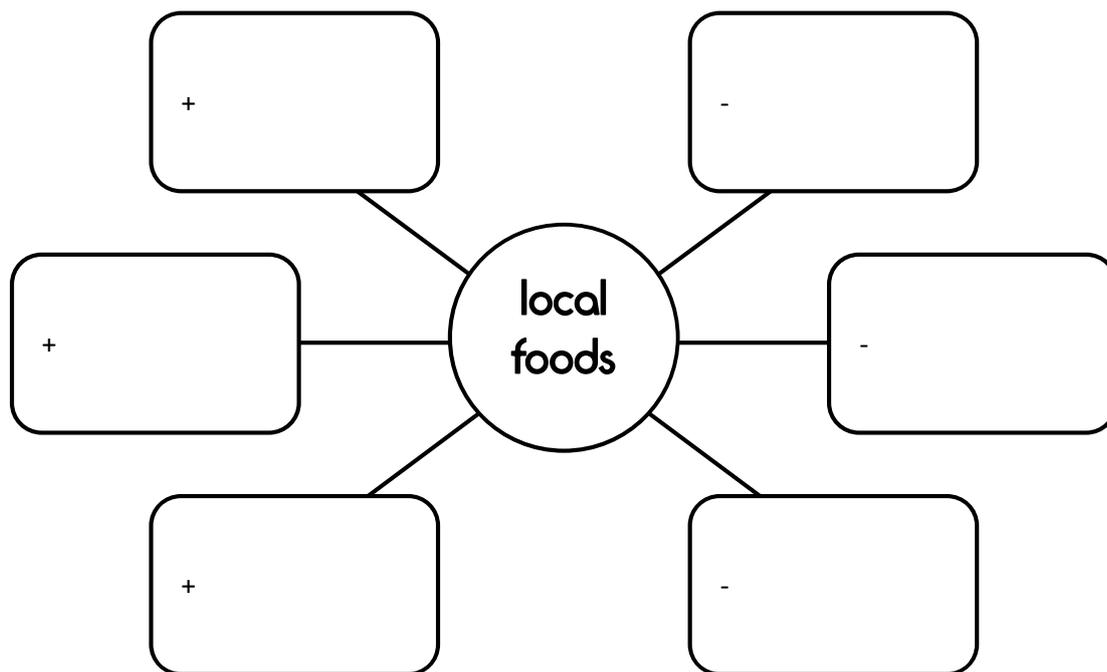
```
  +                                -

            +   local   -
                foods

  +                                -
```

6) Food products can be classified into various categories depending on their origin, use in cooking, etc.
   i)   Match the vegetables with the parts of the plant they come from.

fruit	kale
seed	asparagus
flower	sweetcorn
leaves	leek
stem	radish
root	tomato
bulb	potato
tuber	broccoli

   ii) From the beef cuts below, circle those which are suitable for grilling.

blade	fore rib	sirloin	rump	silverside
skirt	shin	leg	thin rib	brisket

iii)   Complete the table to classify various types of fish.

Category	Examples
	cod, mackerel, salmon
	carp, pike, trout
	sea bream, turbot
	sardines, tuna
	cod, sea bass, sole
	herring, salmon, trout

Exam-style Question
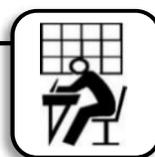
1)   Fruits can be classified according to their type or culinary use. Identify **two** fruits of each type listed below.
   a)   Stone fruits
   b)   Berries
   c)   Exotic fruits

(3 marks)

2)   Suggest **four** benefits of buying fish from sustainable fish farms.

(4 marks)

Extension Task

Consider what food products are characteristic of winter, and design a three-course meal consisting only of these seasonal foods.

Use the Extension Task worksheet to help you.

Extension Task worksheet

Food products characteristic of winter:

Vegetables	Fruit	Meat and other animal-derived products

My seasonal dish: ....

Ingredients of my dish:

....

....

....

....

....

....

Preparation and cooking instructions:

....

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....

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....

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1.   Food provenance: food source and supply ■

1) List three food ingredients that are:

Reared   ....

Grown   ....

Gathered   ....

Caught   ....

2) Explain the difference between organic farming and conventional farming.

....

....

....

....

3) Describe different methods of egg production. Use the keywords below to help you.

| Free range | Organic | Cage | Barn |

....

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4) Discuss the advantages and disadvantages of intensive farming.

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5) State three advantages and three disadvantages of buying seasonal, locally produced food for individuals and communities.

....

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....

6) Food products can be classified into various categories depending on their origin, use in cooking, etc.
   i) Vegetables can be classified according to the part of the plant they come from. For each category below, give two examples of a vegetable from that category.

   a) **fruit** ....

   b) **seeds** ....

   c) **flowers** ....

   d) **leaves** ....

   e) **stems** ....

   f) **roots** ....

   g) **bulbs** ....

   h) **tubers** ....

   ii) Meat is often classified according the body part of the animal it comes from, or the proportion of elastin and collagen in the tissue. Name two pork cuts which are high in collagen.

   ....

   ....

   iii) Complete the table to identify two species of fish belonging to each category.

Category	Examples
saltwater fish	
freshwater fish	
flatfish	
round fish	
lean fish	
oily fish	

Exam-style Question

1) Fruits can be classified according to how many flowers they developed from.
   Name **one** example of each type of fruit listed below.
   a) Simple fruits
   b) Aggregate fruits

   (2 marks)

2) Evaluate the factors for and against fish farms in helping the sustainability of food.

   (8 marks)

Extension Task

List some examples of seasonal foods and design three meals characteristic of each season of the year.

Answers

1. Food provenance: food source and supply

1) ●■ Higher ability to provide similar answer to lower-ability worksheet

   - Reared – beef, pork, lamb, salmon and oysters in fish farms
   - Grown – lettuce, carrots, sunflowers, olives, pumpkin
   - Caught – venison, wild salmon and oysters
   - **(■ only)** Gathered – mushrooms, stinging nettles, thyme, various herbs and berries

   Or any other relevant examples.

2) ●■ Higher ability to provide similar answer to lower-ability worksheet

   Organic farming does not allow the use of **pesticides**, **antibiotics**, **fertilisers** or **genetically modified** elements (such as animal feed). They can be used in conventional farming in order to obtain high yield **crops**.

3) ●■ Higher ability to provide similar answer to lower-ability worksheet

   Eggs can be produced in various ways. The most popular method of egg farming in the United Kingdom is **enriched cage** production, where hens are kept in tight **cages**, placed on top of each other. The second most popular method is **barn** production, in which hens can move freely around the **barn**. Animal welfare activists claim that **free-range** egg production is better both for the birds and consumers. **Free-range** hens are allowed outside at least for a part of the day and have much more room than the hens in **cage** or **barn** production. **Free-range** eggs are labelled as 1. **Organic** eggs come from hens which are fed **organic** feed only, and are labelled as 0.

4) ●■ Higher ability to provide similar answer to lower-ability worksheet

   Advantages:
   - It is cheaper to rear large numbers of animals in one place than it is to rear them on many smaller farms
   - Less land is used (which helps maintain sustainability)
   - Fewer people are needed to run the farm
   - The price of food is lower and more affordable

   Disadvantages:
   - Need to invest a lot of money to start a farm
   - Increased risk of an epidemic
   - Animal welfare standards are not met
   - Fights and injury among animals are possible

   Or any other relevant answer.

5) ●■ Higher ability to provide similar answer to lower-ability worksheet

   Advantages could include:
   - Cheaper
   - Fresher
   - Nutrient rich
   - Sold unpacked so the waste amount is smaller
   - Support and empower local farmers
   - Reduces the need for transportation and lowers the carbon footprint
   - May provide a greater variety in a diet over longer periods of time (e.g. instead of eating bananas all year long, one would be able to try different foods in different seasons)

   Disadvantages could include:
   - Limited choice of ingredients at a given time (only certain plants produce fruit at a given time of the year)
   - Boredom when preparing meals (as all must be made with the same ingredients)
   - May be more expensive, especially if labelled as organic, or due to weather conditions (e.g. floods)
   - May not always be available due to weather conditions and climate change (e.g. due to droughts)
   - As pesticides, etc. may be used less often, the produce is more prone to diseases and pests, so the yield may be lower, and the fruit and vegetables may be more expensive and less readily available as a result
   - In times of low yields, fewer jobs would be created as only a few people would be needed to harvest and transport the produce
   - Only a limited selection of plants can be planted in a given climate / geographical zone due to sunlight availability, soil type and condition, etc., so there may be a less variety in each season

6) i) ●
   - fruit – tomatoes
   - seeds – sweetcorn
   - flowers – broccoli
   - leaves – kale
   - stems – asparagus
   - roots – radishes
   - bulbs – leeks
   - tubers – potatoes

   i) ■
   - fruit – tomatoes, courgettes, pumpkins, melons
   - seeds – sweetcorn, green peas, beans
   - flowers – broccoli, artichokes, cauliflowers
   - leaves – kale, lettuces, cabbages, spinach, watercress, parsley
   - stems – asparagus, celery, kohlrabi
   - roots – radishes, beetroots, parsnips, celeriac
   - bulbs – leeks, garlic, onions, fennel
   - tubers – potatoes, yams, Jersualem artichokes

   Other suitable examples can be accepted.

   ii) ●   forerib, sirloin, rump, silverside

   ii) ■   trotters, hocks, head

   iii) ●■   Higher ability to provide similar answer to lower-ability worksheet

Category	Examples
saltwater fish	cod, mackerel, salmon
freshwater fish	carp, pike, trout
flatfish	sea bream, turbot
round fish	sardines, tuna
lean fish	cod, sea bass, sole
oily fish	herring, salmon, trout

   Other suitable answers (examples) can be accepted.

Exam-style Question
1) ●   1 mark for each correct pair of fruits (up to 3 marks).
   a. **Stone fruits:** plums, apricots, cherries, nectarines, peaches
   b. **Berries:** strawberries, gooseberries, raspberries, blueberries
   c. **Exotic fruits:** bananas, pineapples, papayas, passionfruit, kiwi fruit
   Other suitable answers may be accepted.

2) ●   1 mark for each correct from (max. 4 marks):
   - Sustainable fish farms care about animal welfare so the fish are treated better
   - The consumer knows how the fish were reared, fed and caught
   - It is easier to control diseases and fish feed and avoid accidental eating of fish which are ill or high in heavy metals
   - Sustainable fish farms help to protect the natural environment
   - Sustainable fishing helps to protect wild species
   - Sustainable fishing prevents species extinction
   - Sustainable fishing helps to cease overfishing of natural fisheries
   - Sustainable fish farms provide jobs for many people around the world

   More healthy or better quality **should not** be accepted due to lack of reliable data.

   Any other suitable answer may be accepted.

1) ■   1 mark for each correct example (up to 2 marks)
   a) **Simple fruits:** banana, cranberry, tomato, apricot, olive
   b) **Aggregate fruits:** pineapple, strawberry, raspberry, blackberry
   Other suitable answers can be accepted.

2) ■

There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated, showing a clear understanding and evaluation of the factors for and against fish farms. Specialist terms are used appropriately and correctly.	**Band 3** 6–8 marks
There is a line of reasoning presented with some structure that is, for the most part, relevant and supported by some evidence showing an understanding and evaluation of the factors for and against fish farms. Some specialist terms have been used, although not always appropriately.	**Band 2** 3–5 marks
The information is basic and communicated in an unstructured way. The candidate shows limited understanding and evaluation of the factors for and against the use of fish farms. Answer may be ambiguous or disorganised.	**Band 1** 1–2 marks
No answer given, or answer is incorrect/irrelevant.	0 marks

Indicative content:
Arguments for the use of fish farms:
- Health of the stock
- Management of the farm
- Avoiding waste
- Protects species diversity
- Reduction in food waste and food packaging
- Fish farms may produce as many fish as are needed to feed the growing population
- The number of fish may be easily controlled and adjusted
- The fish farms need to undergo strict controls to make sure all standards are met
- The quality of fish is better controlled, so the fish people eat is safe and healthy
- Fish farms are environmentally friendly so don't affect the availability of other food sources, e.g. from plants
- Fish farms require only limited space, so there is more room to grow plants or rear other animals
- Fish farms only use the necessary resources, so there are more resources left for future use
- The waste products are disposed of in a controlled way, so create no pollution to the environment

- Impact on the ecosystem
- Only using the resources needed
- Enables fair wages and prices
- Welfare of stock is ensured

Arguments against the use of fish farms:
- Only chosen fish species can be reared
- The fish are fed synthetic feed, which affects their flavour and nutritional value
- Fish farms may be overcrowded, which could affect animal welfare and health
- Animals can be treated with antibiotics as a prevention, and traces of antibiotics could be still in the fish people eat
- The fish tanks may be dirty and polluted from too much feed, excrement and dying fish
- Nutritional value of the fish may be lower than those which live in the wild
- may be more costly to run due to all the hygiene and safety requirements
- They can only be placed in certain locations, i.e. where they are unlikely to affect the naturally occurring species
- They may incur higher cost of transportation and produce a higher carbon footprint as not all countries with access to the sea will be able to run fish farms

- Low variety in diet

Other correct responses may be accepted.