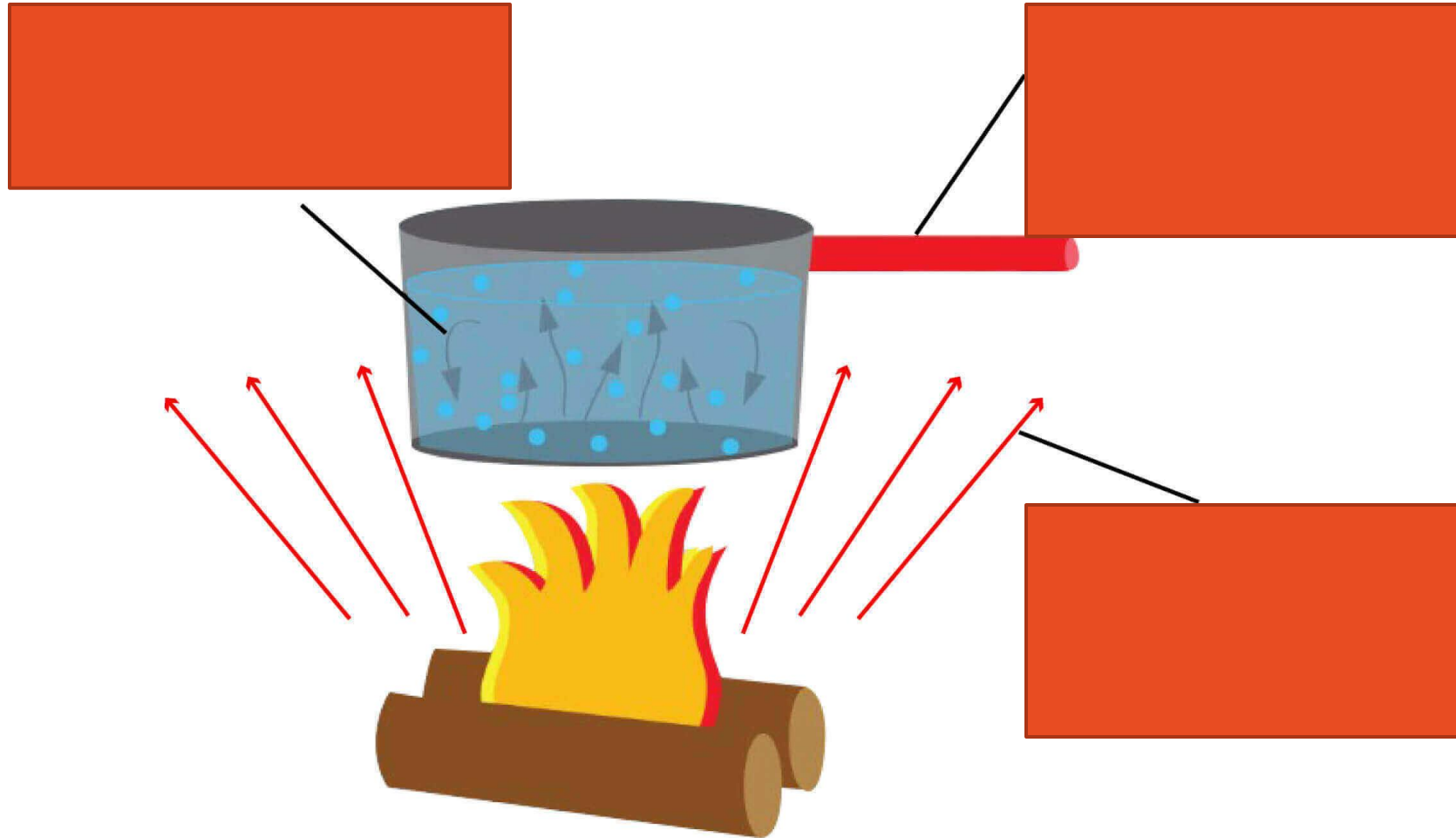


Starter:

1. Cooking food helps to make food safe to eat by killing pathogenic bacteria. True/False [1 mark]
2. Dry-frying increases the amount of fat in food. True/False [1 mark]
3. Explain how cooking affects the shelf life of food. [1 mark]
4. Identify one way in which cooking would affect the texture of: meat, tomato-based sauce, sponge cake. [3 marks]

Draw and explain what is happening at each section of this heat transfer diagram



Revision- Cooking Food and Heat Transfer

Learning Objectives:

Recall information about nutritional needs

Address any misconceptions

Apply knowledge to exam questions

In depth look- Cooking Food

- ▶ Why?
 - ▶ To make food safe to eat
 - ▶ Improve flavour of food
 - ▶ Improve appearance and smell
 - ▶ Improve texture
 - ▶ Improve shelf life
 - ▶ Variety to diet
- ▶ Give 3 examples of foods that you could cook via each heat transfer method

In depth look- Appropriate cooking methods

▶ Cooking with water

- ▶ Blanching
- ▶ Boiling
- ▶ Braising
- ▶ Poaching
- ▶ Simmering
- ▶ Steaming

▶ Cooking with dry heat

- ▶ Baking
- ▶ BBQ/chargrill
- ▶ Stir-frying
- ▶ Grilling

▶ Cooking with fat

- ▶ Roasting
- ▶ Shallow frying
- ▶ Stir-frying
- ▶ Deep frying

▶ Conserving nutrients

- ▶ Steaming (water soluble vitamins)
- ▶ Barbecuing
- ▶ Dry frying (no additional fat added)

Poaching

Grilling

Stir-frying (little fat is added)



Plenary- Exam question

Describe the difference between convection and radiation and provide an example of their use in cooking.

(4 marks)

Mark Scheme

The answer may include a reference to:

(1 mark for each correct description, sub max. 2 marks, and 1 mark for each correct example, sub max. 2 marks. Maximum 4 marks)

- Convection is an indirect way of transferring heat.
- In convection, water or oil is needed as a medium to transfer the heat from heat source to food.
- Examples of foods which use convection include steamed vegetables, baked cakes, simmered stews, etc.
- Radiation is an indirect way of transferring heat through heat waves.
- Radiation requires no medium to transfer the heat from heat source to food.
- Radiation is used to make grilled steak and vegetables, baked cakes and to microwave foods, for example.
- Accept other suitable answers.

Plenary- Exam question

Assess how deep-frying may affect the nutritional value of foods.

(3 marks)

[illegible]

Discuss three cooking methods which are beneficial for health.

(6 marks)

[illegible]

Mark Scheme

The answer may include a reference to:

(1 mark for each correct statement, max. 3 marks)

- Deep-frying increases the amount of fat in food as the fat is absorbed by foods.
- Deep-frying causes vitamin loss due to high temperatures used (most vitamins are highly sensitive to heat).
- During deep-frying, harmful substances may be produced (e.g. trans fats, acrolein) as the chemical molecules in food react to heat.

The answer may include a reference to:

(1 mark for each cooking method and 1 mark for explaining why it is good for health, max. 6 marks)

Method	Reason
Boiling	Low in calories, may help to retain micronutrients (especially if the liquid is used)
Steaming	Low in calories, prevents vitamin loss as the vitamins do not dissolve in liquid
Dry-frying	Low in calories, helps to maintain energy balance
Grilling	Helps to decrease the amount of fat in food as the fat from food melts and leaks out
Stir-frying	Low in calories, prevents vitamin loss due to short cooking time

Accept other suitable answers.