Your notes

GCSE Food Preparation and Nutrition: revision notes

Cooking food and heat transfer

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Why food is cooked

- To make it safe, by killing harmful bacteria.
- To develop flavour, improve texture and make it look appealing.
- To make it easier to digest, and to help preserve it.

Heat transfer

- **Conduction**: heat passes through solids, from particle to particle, such as through a metal pan to the food.
- **Convection**: heated liquids or gases rise and cooler ones sink, making currents, such as in boiling water or an oven.
- **Radiation**: heat travels as infrared waves directly to the food's surface, such as under a grill or when toasting.
- Most cooking uses more than one method; a microwave oven uses microwaves that make water molecules vibrate.

Cooking methods

- Water-based: boiling, simmering, **poaching**, **steaming**, **blanching** and braising. Steaming keeps more water-soluble vitamins than boiling.
- Dry heat: baking, roasting, grilling, toasting and dry-frying. Grilling lets fat drip away.
- Fat-based: shallow frying, stir-frying and deep-fat frying. Stir-frying is quick and keeps vegetables crisp and full of vitamins.

Choosing a method

- Consider the food, the texture and flavour wanted, the time available, and health (less added fat, and more vitamins kept).

- Example: grilling a burger instead of frying it reduces fat; **steaming** broccoli keeps its colour and vitamin C.

Key terms

Conduction	Heat passing through a solid from particle to particle.
Convection	Heat transferred by currents in a liquid or gas.
Radiation	Heat transferred by infrared waves.
Steaming	Cooking food in the steam from boiling water.
Poaching	Cooking food gently in liquid just below boiling.
Braising	Browning food, then cooking it slowly in a little liquid in a covered pan.
Blanching	Briefly boiling food, then cooling it quickly in cold water.

Quick questions

Cover the answers and test yourself: remembering is what makes it stick.

1. Which method of heat transfer happens through a metal pan?
2. Which method of heat transfer does a grill use?
3. Which method of heat transfer moves heat around water in a pan?
4. Which cooking method keeps the most vitamin C in vegetables?
5. Why is grilling healthier than frying?
6. What is blanching?
7. What is poaching?
8. Which is a reason for cooking food?

Answers

1. Conduction
2. Radiation
3. Convection
4. Steaming
5. Fat drips away and no extra fat is added
6. Briefly boiling food, then cooling it quickly in cold water
7. Cooking gently in liquid just below boiling
8. To kill harmful bacteria

What to do next

Practise 10 questions on this topic

Try 4 exam questions, with mark schemes

Read the lesson, one step at a time

Free revision for GCSE and KS3 at lycolearn.co.uk. Some notes are for one exam board only, and say so in brackets.

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