The role of cereals in a healthy balanced diet

**Key message:** Investigate the role of cereals and cereal products in a varied diet. Comment on the importance of carbohydrates in the diet and how cereal and grain dishes can contribute.

**Objectives**

- Explain the concept of energy balance and how this can be achieved.
- Use a nutrition analysis programme to calculate the energy and nutrients provided by a dish (or dishes) in relation to a specific diet.

**Resources**

- Energy balance presentation
- Nutrients presentation
- Meal planning challenges
- Meal planning worksheet

**Introduction**

- Ask the class to get into pairs and take it in turns of explaining the concept of energy balance to each other in a pair. Once they have agreed on an explanation between them, ask for volunteers to share their explanation with the class.
- Watch the following video on the science behind on energy balance and ask the pupils to make notes on any key points they would like to add to their explanation.
- Task pupils with creating an exciting poster which helps them remember the concept of energy balance, using pictures, text and graphs. These can be used for a class display.

**Activity ideas**

- Use the PowerPoint presentation Energy balance to recap on the principles of energy balance and prompt them to suggest strategies to achieve this.
- Challenge the pupils to help organise and run an ‘Energy balance’ week for the whole school. Pupils should research strategies which can encourage people to maintain energy balance. Pupils could work in small groups to coordinate different activities:
  - Running a whole school assembly on the concept on energy balance;
  - Promoting active travel, encouraging pupils to walk or bike to school for the week;
  - Working with the canteen to create healthy lunch options;
  - Bring in healthy breakfast options and have a class breakfast;
  - Organise extra physical activity sessions at lunchtime.
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Pupils should consider how they are going to evaluate the success of their 'Energy balance' week e.g. pupil lunch choice survey before and during the week, how pupils traveled to school before and after the week, interviews with other pupils in the school. Pupils should collect and evaluate their data and write up a final report.

- Remind pupils that as well as being concerned with our energy intake, we need to ensure that we are getting the correct amount of nutrients. Use the PowerPoint presentation Nutrients to recap the functions and sources of macronutrients and micronutrients.
- Explain to the pupils that we are not having enough of some micronutrients in the UK diet. Provide pupils with the latest National Diet and Nutrition Survey report online and task them with identifying some micronutrients of concern for different age groups in the UK diet. Challenge pupils to select a micronutrient of concern for a particular age group (e.g. teenagers, older adults) and create an information leaflet about their micronutrient aimed at their target group. The leaflet could include general information on healthy eating, the function of the micronutrient, sources of the micronutrient, recommended and current intakes of the micronutrient, ways to include more of that micronutrient in the diet and recipes which are high in that micronutrient.
- Use the Meal planning challenges and Meal planning worksheets together to challenge pupils to create with different meal plans for people who require different diets. They should aim to meet the recommended dietary reference values (DRVs). Once pupils have created one meal plan they should use a nutritional analysis program (http://explorefood.foodafactoflife.org.uk/ is a free nutritional analysis program) to compare their meal plan to the DRVs.

Round up

Recap the learning by questioning the pupils:

- What is energy balance?
- What are some strategies for achieving energy balance?
- What are nutrients?
- What are some nutrients of concern in the UK diet?
- How do people’s nutritional needs change throughout their lifetime?
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Extension ideas

- Challenge pupils to design and create a recipe focused on a particular micronutrient (e.g. iron). They can then carry out nutritional analysis on their recipes.
- Ask pupils to work in small groups to come up with a short quiz on nutrients (keeping questions and answers separate). They should then swap with another group and complete their quiz. Encourage them to discuss their answers.
- Task pupils with creating a visual timeline of how nutrient requirements change throughout different life stages.

Fact file

By 2050 the prevalence of obesity is predicted to affect 60% of adult men, 50% of adult women.