

Take This

Your school canteen menu/ lunch order form



Years 7-8

GEOMETRY

Design a range of food packaging options and evaluate these. List criteria, eg.: *quirky (or aesthetic) appeal, ease of manufacture, functionality (fitness for purpose), economy to produce (ref. cost if known), robustness (strength), ability to be recycled.* Together decide on a scale for each criterion, eg. 1 (low) – 5 (high).



Have students bring to class at least one empty food package. Students sort and classify these on the basis of their geometric properties. Eg. triangular prism, 5 faces, 9 edges, 6 vertices etc. Each student evaluates at least 3 packages, using the scale applied to each of the appropriate criterion above.

GEOMETRY

Make available a range of cardboards and paper, and scissors, tape, glue etc. Pose a specific problem. eg. Using these materials, design a package for:

- 2 triangular sandwiches of x dimensions
- a vegetarian wrap of x dimensions
- 4 pieces of sushi of x dimensions

When construction is complete, have students evaluate the designs of at least two classmates, using criteria above. Record these and clearly describe/recognise geometric features that influence the decision.

STATISTICAL INVESTIGATIONS AND LITERACY

Have students use the statistical inquiry cycle to carry out investigations related to the school canteen/tuck shop. Students gather multivariate data, sort and display in in multiple ways, looking for patterns and variations. State percentages or ratios as appropriate

For example, students pose questions such as:

- What canteen foods are preferred by boys and girls in our school?
- Are canteen users in our school making healthy drink/food choices?
- Does our school canteen stock vegetarian/ethnic food options that meet the needs of the students in our school?
- Are there adult volunteers in our school community who would be available at specified times/on certain days to make alternative healthy canteen food options?

Students should interpret and present their results, recognising that their samples can vary (depending on the season, daily temperature, availability of particular food items/options, availability in any term/year of adult volunteers etc.).

Have students evaluate statements made by others about their statistical investigation process and finds.

On the basis of their findings, have students make recommendations to BoT/ PTA/canteen manager/principal as appropriate.

Objectively evaluate their own investigation process and findings, and that of others. Communicate their findings.

MEASUREMENT AND NUMBER

On the basis/as part of their investigation, have student pairs research an alternative healthy food item that the canteen 'could' stock. Have them apply precise measurement skills to making the item from a recipe. For example, students research and make:

- sushi, including 'correctly' cooking sushi rice.
- vegetable soup, using appropriate weights of vegetables
- lentil dhal and rice

Students apply their multiplicative strategies and proportional reasoning as they:

- prepare a budget for the costs of the ingredients of their chosen food item.
- prepare a chart showing quantities and costs as the recipe is scaled up for multiples of the original serving numbers (in response to indicative demand).
- calculate total daily/weekly/monthly/annual expenditure by a student/students on particular food items.
- calculate calories intake/week/month of a student consuming particular (alternative) food items.

Make comparisons and present alternatives.

ALGEBRA

Within the context of canteen food, pose problems that require students to calculate arithmetic expressions precisely using order of operations and recognise the importance of these when using a calculator. Eg. There were 15 items left in the canteen after lunch. Which of these equations could apply?

$$((4 \times 4) - 4) \div 4 = \square \quad 4 \times 4 - 4 \div 4 = \square$$

$$4 \times (4 - 4) \div 4 = \square \quad 4 \times (4 - 4 \div 4) = \square$$