

## Take This

Plan a visit to the local supermarket/s



Years 7-8

## GEOMETRY AND MEASUREMENT

Investigate the relationship between packet size/container and contents.

Make available to students several unopened grocery items in cardboard packets (for example, a box of: cornflakes, teabags, soap powder, fruit bars, Rice Risotto, tissues, spice, and in screw top cylindrical containers such as dried yeast, Pringles chips, Vegemite, etc.).

- Have student pairs select a cuboid and cylindrical item (noting the stated contents), accurately measure its dimensions, estimate, and apply formula to find the volume of each container ( $\text{cm}^3$ ).
- Have students open the packet and (within reason), quantify the volume of the contents and the volume of spare space within the package/container.

## GEOMETRY AND MEASUREMENT

Students share product measures, calculate percentage of unfilled space for each product, and draw a conclusion about container size, content and packaging strategies. If appropriate, relate mass and  $\text{cm}^3$  measures.

Using their measurements of the volume of contents in their two containers, students should now design nets for, and make containers that will precisely hold the contents, with no empty space in the container.

## MEASUREMENT

### Length, area and time

As students investigate store design features that maximize customer flow, and product sales, state hypotheses related to design elements of the local supermarket. Prove or disprove these through making and analyzing measurements: Eg:

- The space between the aisles, and checkouts, is directly related to the size of the supermarket trolleys.
- Tempting bulk specials located at the ends aisles, are placed at a similar (trolley) height throughout the store.
- Shelving design maximises the number of products on display.

Investigate car park features that maximise traffic flow/minimize damage to vehicles, the average time a car spends in the car park (customer turnover. State hypotheses. Prove or disprove these through making and analysing vehicle and parking/turning measurements.

## STATISTICAL INVESTIGATIONS AND LITERACY

Introduce and discuss the food price index (FPI) that measures the rate of price change of food and food services purchased by households. Explain that calculations of increases or decreases in food prices are based on a **basket of representative food items** being tracked.

Have students pose an investigative questions such as, *Are our food prices rising?*, plan and conduct their own investigation. For example, ahead of the supermarket visit, students write a shopping list of 20 – 30 items most commonly purchased by their families. On the supermarket visit, they record on their list, the current prices for each item. In class, sort items into food types, calculate % spent on each category fruit/veggies, meat/poultry/breakfast (including bread), dairy, other. Communicate information on a data display. Repeat with the same list in 4/8/12 weeks, noting changes to individual items and changes to percentages spent. Present comparative data. Students answer their original question in context, make conclusions that generalize their findings, critique the validity of their investigation and suggest further areas for investigation.

## NUMBER AND ALGEBRA

As part of ongoing numeracy learning, apply additive, and multiplicative strategies to whole numbers, ratios and fractions and additive strategies to decimals to:

- Investigate pricing of 'bargain products'. Choose a product, eg, cheese. Systematically record weight and price of all (cheese) products. Record these and calculate unit prices. Order the products from least to most expensive.
- Agree upon and list 20 basic grocery items. Compare prices/item and total price of all items in at least two local supermarkets. Present findings.
- Plan a simple meal. List ingredients. Research cost of each and total cost of a meal for 4 people. Work with peers to rank meals from most to least expensive. Calculate cost per person.
- List at least 10 popular food items. From the nutrition information on each package, record for each item, the average quantity per serving of saturated fats, sugars and sodium. Compare and present results.
- Have students use this information to evaluate the comparative 'healthfulness' of (above) meals, totaling fats, sugars and sodium content for each meal.