

# Breakfast Decisions

**You need** ★ a classmate

## TECHNOLOGY

Technologies such as refrigeration and kitchen appliances, as well as improvements in transport, have vastly increased the range of foods available to us.

### Activity One

Elspeth likes to have a different breakfast every day. Today, she has these options to choose from:

Toast	Cereal	Smoothies
white, brown, multigrain, fruit bread	muesli, oats, wheat biscuits	bananas, raspberries, apricots
honey, peanut butter, jam	milk, yoghurt	ice cream, yoghurt

1. If Elspeth uses 1 fruit and 1 base (yoghurt or ice cream), how many different smoothies can she make?
2.
  - a. How many different cereal combinations can Elspeth make using 1 type of cereal and 1 liquid?
  - b. How many if she adds a fruit (from the smoothie list) to her cereal?
3. When Elspeth has toast, she uses only 1 spread on each piece.

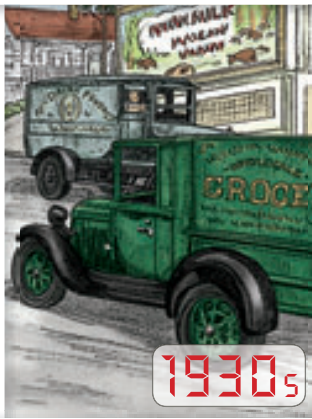
My favourite toast is multigrain with jam.

- a. How many different toast options does Elspeth have?
  - b. Find a rule that you could use to work out the number of combinations for any number of pieces of toast and any number of spreads.
  - c. Use your rule to find the number of combinations for 3 types of toast and 7 spreads.
4. If Elspeth uses 1 or more fruits with 1 base, how many different smoothies can she make?

The blender mixes up all the ingredients, so apricot and banana is the same as banana and apricot.

5. Elspeth decides to have 1 piece of toast with 1 spread and 1 bowl of cereal with no fruit. How many combinations can she make?





6. a. Discuss Elspeth's question with a classmate.  
 b. In real life, how do most people choose what to have for breakfast?

### Activity Two

Elspeth is putting on a Sunday morning breakfast bonanza to raise funds for her school netball team. She designs this mix-and-match menu:

Item	Price	Choose from:
1 piece of toast	\$1.00	white, brown, multigrain, fruit bread
2 pieces of toast	\$1.50	white, brown, multigrain, fruit bread
Spread	\$0.50	honey, peanut butter, jam
Cereal with milk	\$3.00	muesli, oats, 2 wheat biscuits
Smoothie base	\$2.00	yoghurt, ice cream
Fruit	\$1.00	bananas, raspberries, apricots

1. Using the menu, what is the price of:  
 a. 1 piece of toast with peanut butter and jam?  
 b. 2 pieces of toast, 1 with honey and 1 with peanut butter and jam?  
 c. 1 piece of toast with jam, muesli with milk, and a banana-apricot ice cream smoothie?  
 d. What might you buy if you had \$5 to spend?
2. With a classmate, decide on 2 breakfasts that you would enjoy and work out the cost of each.

#### Focus

Exploring combinations