

Simplex and the science of making a better burger

Curriculum Context Statement – Middle Years

This task involves applying knowledge and skills in the area of linear equations/functions/relations. In particular, it involves:

- Transposing linear functions from 'general' form to 'gradient-intercept' form
- Working with and graphing linear inequalities
- Determining the intersection points of linear graphs
- Substituting into linear functions
- Applying the above in a 'real world' context

These mathematical behaviours form part of the Australian Curriculum – Mathematics.

In particular:

- Solve problems involving linear equations, including those derived from formulas (ACMNA235)
- Solve linear inequalities and graph their solutions on a number line (ACMNA236)
- Solve linear simultaneous equations, using algebraic and graphical techniques, including using digital technology (ACMNA237)

Curriculum Context Statement – STEM

The context of this mathematics can be connected with themes of sustainability and environmental science. In particular, with the Australian Curriculum – Science element

- Global systems, including the carbon cycle, rely on interactions involving the biosphere, lithosphere, hydrosphere and atmosphere (ACSSU189)

Curriculum Context Statement – Senior Years

This mathematical content and its application features in the Year 11 'General Mathematics' courses of the Australian Curriculum – Senior Secondary and the state-adopted variants as shown below:

Jurisdiction	Course title	Aspect	Topic
NSW	Mathematics Standard	MS-A2	Linear relationships
Queensland	General Mathematics	Unit 1 – Topic 3	Linear equations and their graphs
South Australia	General Mathematics	Topic 5.1	Linear functions and graphs
Tasmania	General Mathematics	Foundation	Linear equations and their graphs
Victoria	General Mathematics	Area of Study 1	Linear relations and equations
Western Australia	Mathematics Applications	Topic 2.3	Linear equations and their graphs