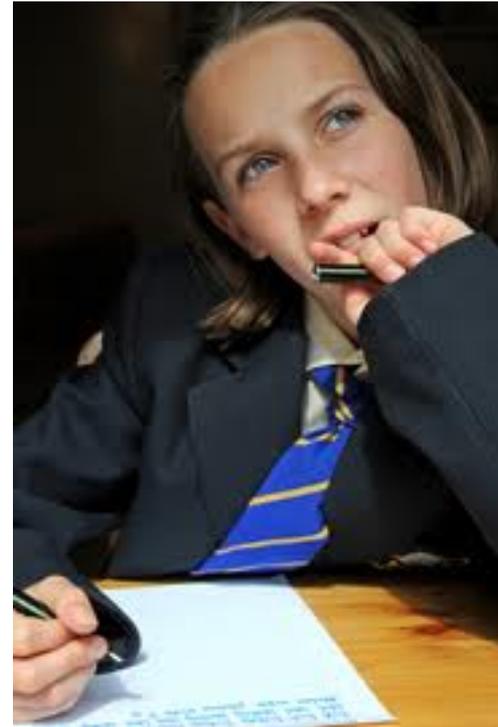
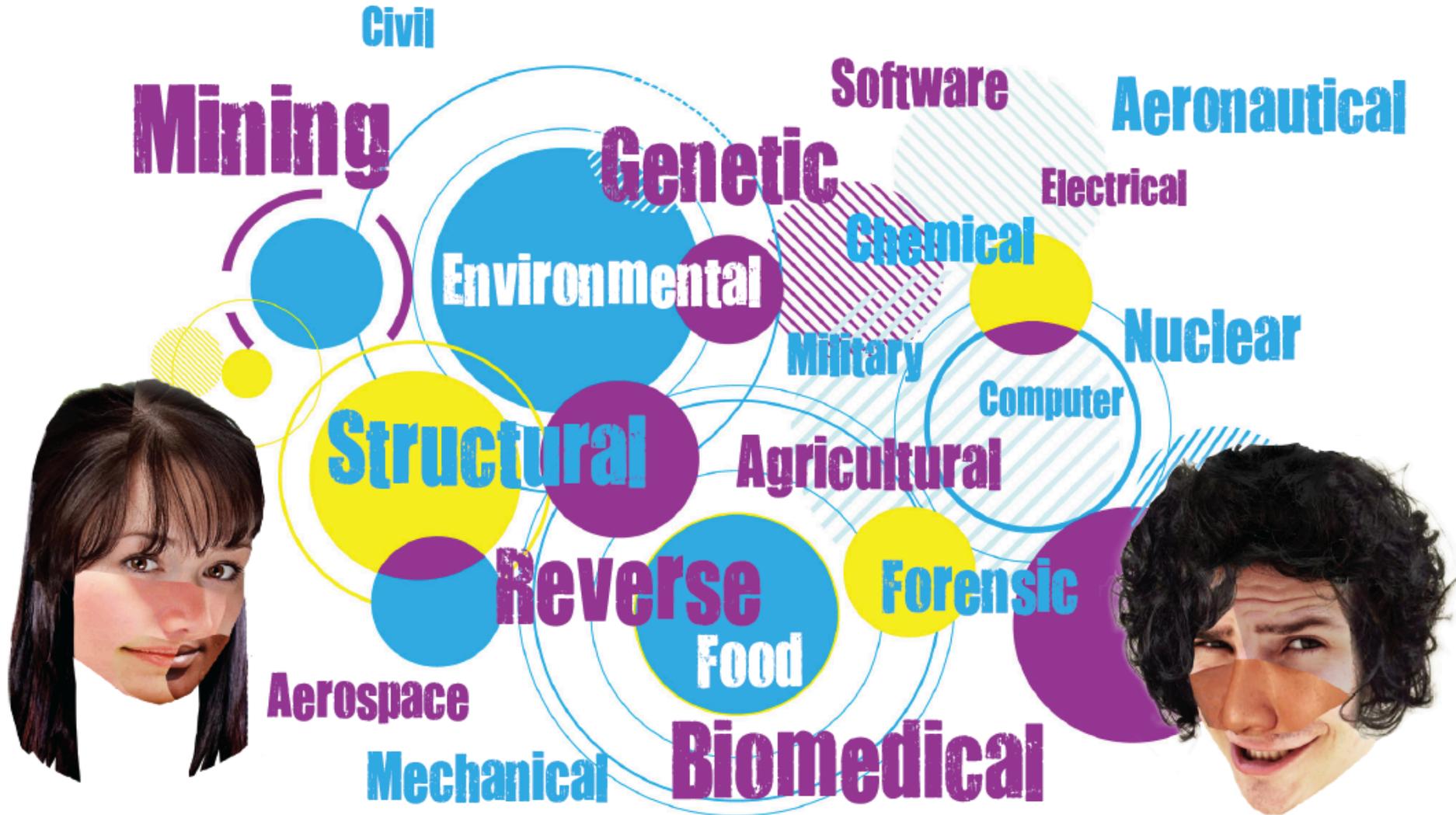


Why Study Advanced Mathematics at Montrose Bay?



Future Careers!



What is STEM?

S = Science

T = Technology

E = Engineering

M = Mathematics

Human Biology and Health

Audiologist *In Demand!*
Biomedical Engineer *In Demand!*
Cardiovascular Technologist or Technician *In Demand!*
Certified Diabetes Educator *In Demand!*
Certified Registered Nurse Anesthetist (CRNA) *In Demand!*
Chiropractor
Cytotechnologist *In Demand!*
Dental Hygienist *In Demand!*
Emergency Medical Technicians & Paramedic *In Demand!*
Endocrinologist *In Demand!*
Epidemiologist
Health Educator *In Demand!*
Hematologist *In Demand!*
Medical & Clinical Laboratory Technician
Medical Social Worker *In Demand!*
Neurologist *In Demand!*
Nuclear Medicine Technologist
Occupational Therapist *In Demand!*
Optometrist *In Demand!*
Pathologist *In Demand!*
Pharmacist *In Demand!*
Physical Therapist *In Demand!*
Physician
Physician Assistant *In Demand!*
Registered Nurse
Respiratory Therapist
Science Writer
Speech-Language Pathologist

Genetics and Genomics

Bioinformatics Scientist *In Demand!*
Cytogenetic Technologist *In Demand!*
Genetic Counselor

STEM JOBS ARE IN DEMAND. The increasingly global economy of innovation in which we live is driving the demand for the knowledge, skills, and abilities STEM workers possess.



Life Science

Agricultural Inspector
Agricultural Technician
Animal Breeder
Animal Trainer
Anthropologist
Athletic Trainer *In Demand!*
Audiologist *In Demand!*
Biochemist *In Demand!*
Bioinformatics Scientist *In Demand!*
Biological Technician
Biologist
Biology Teacher *In Demand!*
Biomedical Engineer *In Demand!*
Cardiovascular Technologist or Technician *In Demand!*
Certified Diabetes Educator *In Demand!*
Certified Registered Nurse Anesthetist (CRNA) *In Demand!*
Chiropractor
Cytogenetic Technologist *In Demand!*
Cytotechnologist *In Demand!*
Dental Hygienist *In Demand!*
Dietitian or Nutritionist
Emergency Medical Technicians & Paramedic *In Demand!*
Endocrinologist *In Demand!*
Epidemiologist
Genetic Counselor
Health Educator *In Demand!*
Hematologist *In Demand!*
Marine Biologist
Medical & Clinical Laboratory Technician

Behavioral and Social Science

Marriage & Family Therapist *In Demand!*
Medical Social Worker *In Demand!*
Political Scientist
Psychologist
Sociologist

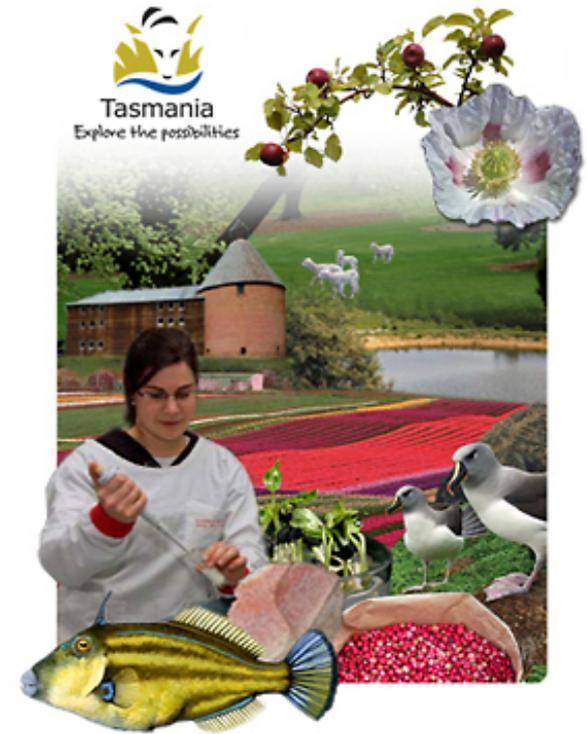
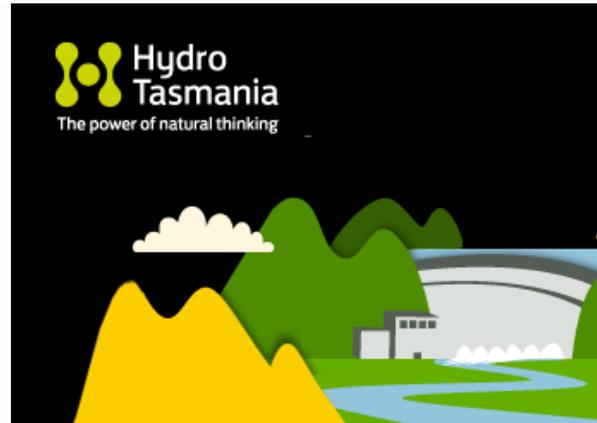
Interdisciplinary Science

Patent Lawyer *In Demand!*
Science Writer
Technical Writer

This is just a small sample of career choices, with more in engineering, technology, architecture, surveying and other fields!

Focusing on STEM studies can only broaden your life choices in College, University, and beyond.

A few of Tasmania's employers looking for graduates with STEM training...



The Department of Primary Industries, Parks, Water and Environment (DPIPWE)

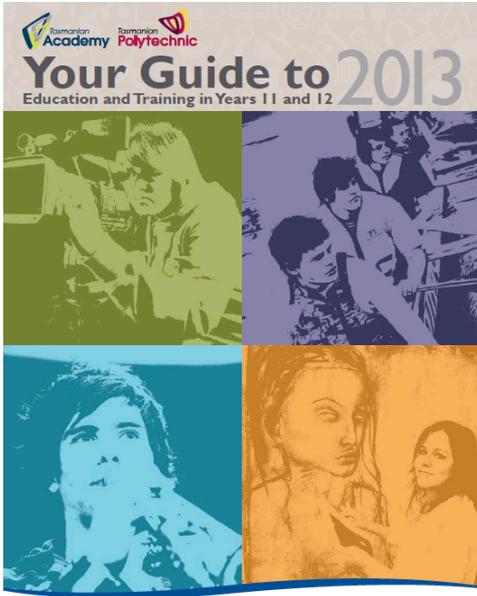
Type a word or phrase to search for, or a webpage address, title, or bookmark



Search

International Antarctic Institute

Advanced mathematics in high school provides a jump on mathematics in college.



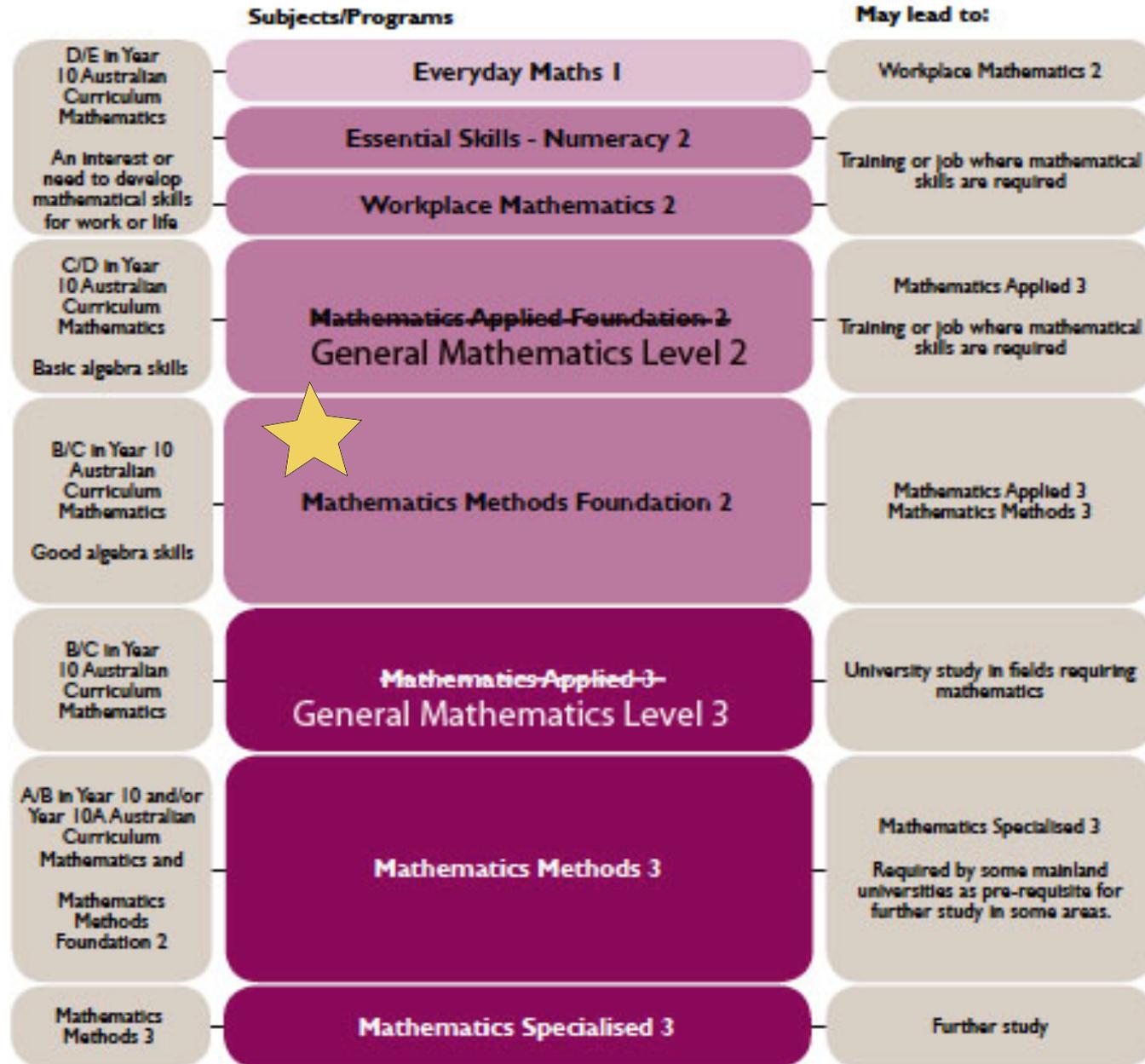
Department of Education



Year 9: Advanced Maths Elective (one term)

Year 10: TQA Maths level 2 (full year for college credit).

Year 11: TQA Maths level 3



So why make the effort in High School?



We Can Do It!



science

technology

engineering

mathematics



A few of the the things we will explore in General Mathematics.

INTRODUCTION

Matrices:

A matrix is a rectangular array of numbers in rows and columns.

$$\begin{bmatrix} 12 & 10 \\ 11 & 15 \end{bmatrix}$$

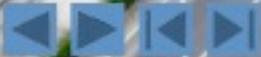


Geelong	12	10
Hawthorn	11	15



Networks:

A network is formed by objects that are connected.



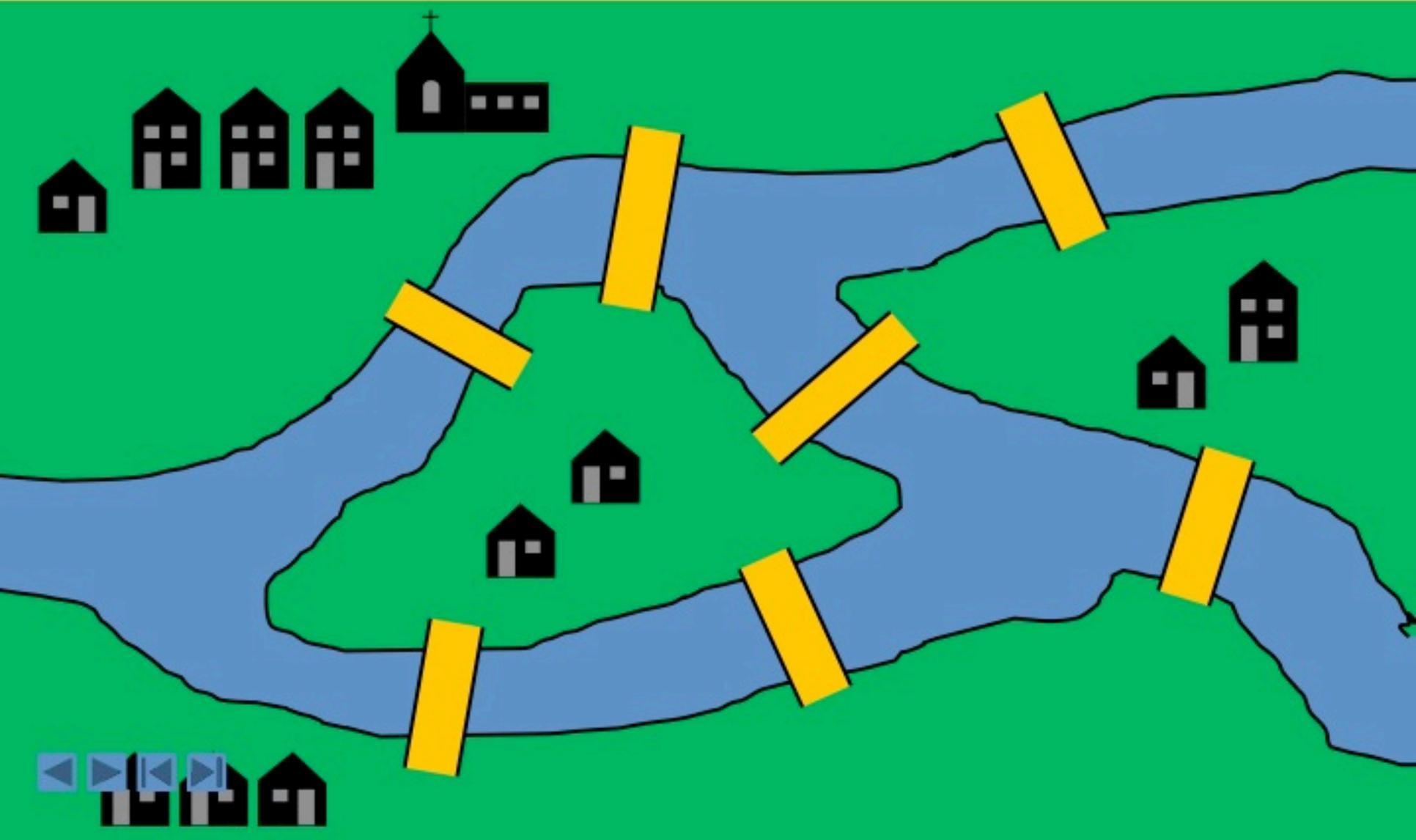
Road network



Social network

The Konisberg bridge problem

Is it possible to make a tour of the town of Konisberg : starting and finishing in the same place and crossing each bridge just once?



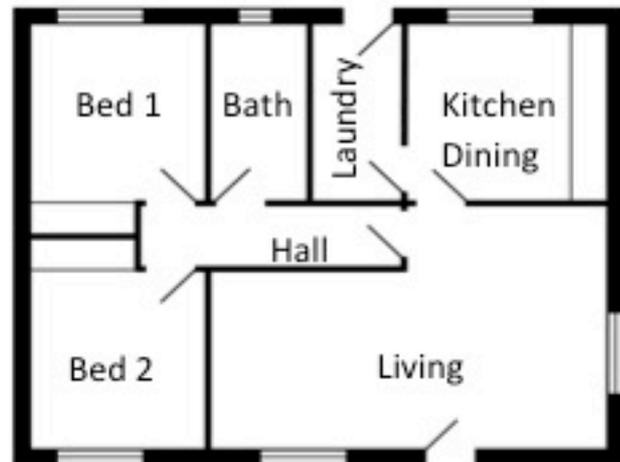
Shortest path in a network

What is the shortest path between two points in a network?

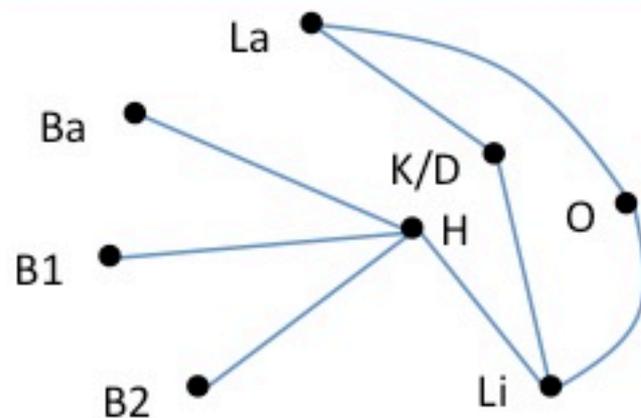


An **access network** is used to show the connections of rooms in a building. Access networks are particularly useful in the planning of evacuation procedures for large buildings and stadiums.

 Draw an access network for the house plan below.



In an access network the rooms are the vertices. The edges show that two rooms are connected by a doorway.



The dining/lounge and laundry both have access outdoors and so have been connected to an 'outside node' O.