

# SCIENCE OF THE SNOWY SCHEME

## with Kirsten Banks

### GOING UNDERGROUND

#### Multiple choice questions

1

Where are Kirsten and Cameron?

CIRCLE ANSWER

Guthega Power Station

Blue Mountains Power Station

Tumut 1 Power Station

2

How far underground is this power station?

CIRCLE ANSWER

3,000 metres

366 metres

30 metres

3

How much power is generated at Tumut 1 Power Station?

CIRCLE ANSWER

3,030 megawatts approx

330 megawatts approx

30 megawatts approx

#### Why build underground?

Use the word bank below to complete the description

two | low | Tumut 1 | energy | surface | tunnel | stable | water

Tumut 1 Power Station is situated between two dams in the Snowy Mountains. To generate as much energy as possible out of the water, the power station was positioned as low as it could be. The surface rock was loose and unstable. This geological fact contributed to the decision to tunnel in and construct the power station on stable bed rock.



Tumut 1 Power Station

## Multiple choice questions | Tumut 1 Power Station

1

How many generators?

CIRCLE ANSWER

45

4

14

2

Situated near which town?

CIRCLE ANSWER

Cabramurra

Canberra

Tumut

3

Generates enough power for approximately how many homes?

CIRCLE ANSWER

300

30

30,000

5

How is Tumut 1 Power Station connected to the surface?

CIRCLE ANSWER

Tunnel

Tubes

Track

6

Tumut 1 Power Station is situated between how many dams?

CIRCLE ANSWER

Three

Two

Four

7

What colour are the generators?

CIRCLE ANSWER

Blue

Green

Orange

### Did you know?

#### Rock bolting

During construction of the Snowy Scheme, Snowy workers of the time further developed the technique of rock bolting. This provided a safer and cheaper alternative to concrete-lining for supporting rock in tunnel walls. Rock drill designs and drilling techniques also influenced the design of the modern-day masonry drill bit.



Rockbolts

## Design your own interconnected tunnel system

**Hint** - label your map either side view or top view

### Use the symbols in the legend to create your map

— RIVER



UNDERGROUND POWER STATION

— TUNNELS



POWER OR PUMPING STATION

■ WATER STORAGE

**Top view (TV)** The top view is projected on the horizontal plane - a birds eye view

**Side view (SV)** The side view is projected on the profile plane

### My map of an interconnected tunnel system

Students to design their own tunnel system