Stages 3 & 4

Engineering
Activity 4

SCIENCE OF THE SNOWY SCHEME *with Kirsten Banks*

GRAVITY

Multiple choice questions

1

Which asset did Kirsten Banks visit to talk about gravity?

CIRCLE ANSWER

- (Murray 1 Power Station)
- Jindabyne Pumping Station
- Discovery Centre, Cooma

2

What is the head difference (approximately) between the upper reservoir and the lower reservoir?

CIRCLE ANSWER

- 500cm
- 500km
- (500m)

3

What is the name given to the white pipes?

CIRCLE ANSWER

- Sausages
- (Penstocks)
- Tubes

Circle true or false

Gravity is the force responsible for allowing hydro electricity to be generated

(True) | False

Gravity is the force applied to convert potential energy to kinetic energy

(True) | False

The force of gravity enables the water to run through the turbines to generate renewable electricity

(True) | False

How far does the water travel?

Insert the correct numbers

12km | 1.5km

From the upper reservoir to the top of the penstocks at the Murray 1 valve house is approximately 12km and from the top of the penstocks at the Murray 1 valve house to Murray 1 Power Station water travels in the penstocks approximately 1.5km .

Murray 1 Power Station

Multiple choice questions

1

The penstocks are always full of _____ during normal operation .

CIRCLE ANSWER

Steam

Water

Air

Sharks

2

The flow rate of the water through the penstocks is _____ .

CIRCLE ANSWER

24,000 litres per second

24 litres per second

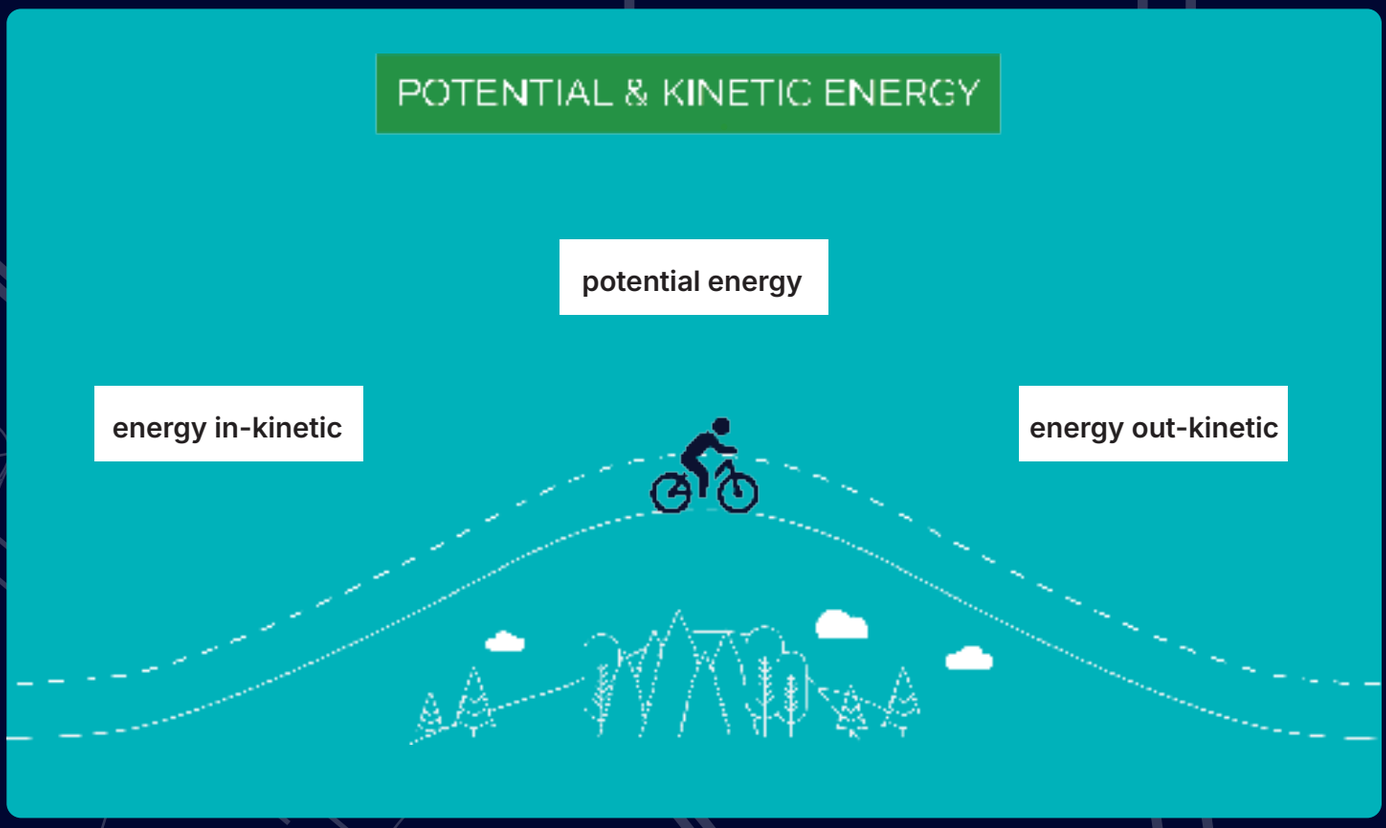
24 sharks per second

240 litres per second

Potential and kinetic energy

Label the diagram using the word bank below

Energy in-kinetic | Potential energy | Energy out-kinetic




Murray 2 penstocks

Personal research box

Write a list of other ways you see gravity at work in your school and home

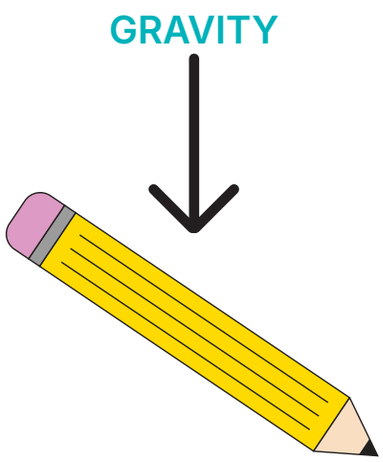
Example - water running from an open tap

1. Dropped dinner plate
2. Kicking a ball
3. Dropping a pencil
4. Dropping your phone
5. Throwing a frisbee

Instructions- Choose two examples from your list to draw and label

Hint - include the label 'gravity' with indicating arrows

Example one



Example two