



Australian Government

A U S T R A L I A N
A P P R E N T I C E S H I P S

Your Life. Your Career. Your Future.

Water Industry

Practice Aptitude Quiz

Practice Aptitude Quiz

Part 1: About this quiz

Use this quiz to prepare for an Apprenticeship in the Water industry

This quiz:

- Is NOT a formal assessment tool or pre-requisite for any job application
- Shows key learning standards for the Water industry
- Has been developed with the help of industry leaders, TAFE and high schools

Quiz details

This quiz will:

- Take approximately 45 minutes to complete
- Ask you numeracy and literacy questions specific to the Water industry
- Assess your literacy and numeracy at a Year 11 standard
- Allow you to use a calculator
- Share correct answers at the end

Who should take this quiz?

You should complete this quiz if you:

- Are thinking about starting an Apprenticeship in the Water industry
- Want to practise for a formal aptitude test

Need help with your literacy and numeracy skills?

If you want to improve your literacy and numeracy skills, reach out to any of the below:

- Australian Apprenticeship Support Network providers
- Your Registered Training Organisation when you start training
- Reading Writing Hotline:
1300 655 506
www.readingwritinghotline.edu.au
- Careers advisers and your teachers (if you're in high school)

More information about the Water industry

Visit www.yourcareer.gov.au/industries/d/electricity-gas-water-waste-services

On this page you'll be able to:

- See the most popular Water industry occupations
- Get general information and statistics about the industry
- Search for Water industry courses

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How to use this quiz

This is an interactive form that can be filled out on your computer.

You can either:

- Fill it out on your computer; OR
- Print it out; OR
- Write your answers down on paper as you go.

Use the answers section at the end of the quiz to see how you went.

How to complete this quiz on your computer

1. Download and save the quiz onto your computer
2. Open the file from your computer
3. Fill in the form using a keyboard and mouse

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Part 2: The Quiz

Section 1: Language and Literacy

1. There are five spelling errors in the paragraph below:

Maintanance skedules for water meter repairs are very important. Regular attention is needed for the replacement of worne parts and for correct reading of the dails.

Write the correct spelling of the misspelt words below:

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____

2. Which of the following words completes these sentences? Select the correct response.

a. Joni was positive she was outside when she _____ the sensor alarm go off.

- has heard heard will hear hears

b. We were concerned when we saw _____ teams were involved in the evacuation.

- when who's what which

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- c. Brad discovered that the technical plans could be drawn _____ on a computer.
- more easy really easy more easily easy

- d. The hydrographic team will be leaving their office on Saturday, spending two days working in Alice Springs and then _____ due in Adelaide on Wednesday morning.
- their they there they're

3. Which of the following sentences are correct? Select the correct answer.

- a.
- i. She said, "water is often polluted downstream."
 - ii. She said, "Water is often polluted downstream."
- b.
- i. Mark Paxon, the vice president of crystal water improved profits significantly.
 - ii. Mark Paxon, the Vice President of Crystal Water, improved profits significantly.
- c.
- i. I live in the north–eastern part of the state where the rainfall is higher.
 - ii. I live in the North eastern part of the state where the rainfall is higher.
- d.
- i. My entire team, of Bill, Angie, Tom, and Rashi, worked overtime yesterday.
 - ii. My entire team of Bill, Angie, Tom, and Rashi, worked overtime yesterday.
 - iii. My entire team of Bill Angie Tom and Rashi, worked overtime yesterday.
 - iv. My entire team of Bill, Angie, Tom and Rashi worked overtime yesterday.

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e.

- i. If you lodge your interest now you are likley to be involved in the tendor process.
- ii. If you lodjge your intarest now you are likely to be involved in the tender process.
- iii. If you lodge your interest now you are likely to be involved in the tender process.
- iv. If you lodge your intrest now you are likely to be envolved in the tendar process.

f.

- i. Your supervisor wanted to know when you will be here.
- ii. Your supervisor wanted to know when you will be here.

g.

- i. The recent climatic conditions have contributed to the stream's algae problems.
- ii. The recent climatic condition's have contributed to the streams' algae problems.
- iii. The recent climatic conditions' have contributed to the streams algae problems.

h.

- i. The supervisors schedule confirmed he's attending a meeting at 2pm.
- ii. The supervisor's schedule confirmed his attending a meeting at 2pm.
- iii. The supervisor's schedule confirmed he is attending a meeting at 2pm.

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4. **Correctly punctuate the following paragraphs by rewriting the paragraph in the space below them:**
- a. The majority of protozoa in freshwater are natural aquatic organisms and are of no significance to health they generally feed on other micro-organisms such as bacteria cyanobacteria or algae the greatest diversity of protozoa is found in open surface waters including water supply sources but some species can colonise piped water supplies
- b. A hazard has the potential to cause you or others injury or ill-health damage to property or harm to the environment it is everyones job to look out for hazards

Practice Aptitude Quiz

5. Read the following article about SunWater's fishway project and answer the questions that follow:

In June 2004, SunWater began construction of the Clare Weir Fishway on the Burdekin River. The new fishway replaced the existing fishladder at the weir, completed in 1991, which was based on an American design and was not ideally suited to Australian native fish.

SunWater worked closely with DPI Fisheries to investigate the effectiveness of the existing fishladder in allowing fish species such as barramundi and long-finned eels to continue their upstream migration at the weir and found that a new fishway was needed to ensure fish stocks survived and bred on either side of the Clare Weir. Some of this information was gathered from a Barramundi Fish Tagging Program completed in the rainy season of 2002 by the Burdekin Fish Restocking Association.

A feasibility study commenced in August 2003 to investigate viable alternatives for modifying the fishway and concluded that a fishlock system would be the most successful option for fish migration and breeding in this area.

This type of fishway has already proven to be very effective at the Neville Hewitt Weir on the Dawson River, Eden Bann Weir on the Fitzroy River, Ned Churchward Weir on the Burnett River and Dumbleton Weir on the Pioneer River. The fishlock works by attracting fish into a chamber by using an artificial flow. A door to this chamber closes periodically and the chamber is then raised hydraulically to the higher water level above the wall so that the fish can be released.

This passage was taken from <https://www.sunwater.com.au/>

a. Who did SunWater work closely with on this project?

Neville Hewitt

DPI Fisheries

Ned Churchward

Burdekin Fish Restocking

b. In what year did the construction of the new replacement fishway begin?

1991

2003

2004

2009

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c. What were the main reasons for SunWater's decision to construct a new fishway?

The current fishladder was not effective

They wanted to allow barramundi and long-finned eels to continue their migration

To ensure fish stocks survived and bred on either side of the Clare Weir

All of the above

d. Using your own words, briefly describe why the new fishway could be considered more effective:

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6. Match the controls with the hazards. Write your answers in the table below:
(Hint: there may be more than one Control for a hazard)

Hat

Protective boots

Sunscreen

Manual handling guidelines

Long sleeved shirt

Personal flotation device

Work in groups or pairs

Protective face mask and gloves

Hazards	Risk	Risk Minimisation Controls
a. Chemical Exposure	Injury	
b. Sun/Weather Exposure	Sunburn	
c. Manual handling	Injury	
d. Falling into water	Drowning	
e. Dropped object	Foot Injury	

Practice Aptitude Quiz

Section 2: Numeracy

Part A: complete the following without a calculator

1. Calculate the answers to the following:

a. $73.03 + 58.23 + 23.99 + 79.38$

b. $4 + 7 - 2 + 3$

c. $3 + 5 \times 2 - 7$

2. Select the smallest fraction from the choices below:

$\frac{1}{4}$

$\frac{27}{32}$

$\frac{18}{64}$

$\frac{7}{8}$

3. Select the correct answer for the following equation: $3^3 \times 3^4$

3^7

9^{12}

9^7

3^{12}

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4. Manipulate the following equations so that they Y is the subject:

a. $D - J = U - Y$

b. $H + 2(R - 3) = K \times Y$

c. $Y(E + 7) = T - E$

5. An operator is instructed to reduce the flow rate in the plant by 10%. If the current flow rate is 7540 kL per day, calculate what the new flow rate should be.

Part B: use a calculator for this section

6. A circular water tank has a diameter of 7.56 m and is 4 m high. Calculate the following measurements:

Include units in your answers. Use π as 3.14. Round to two decimal places.

a. Circumference of the tank in metres

b. Volume of the tank, if filled with water to the brim in cubic metres.

c. There are 1000 litres to 1 cubic metre. How many litres does this tank hold when half-full?

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7. Express the following as a decimal:

a. $\frac{2}{10}$

b. $\frac{4}{5}$

c. $\frac{2}{3} \times \frac{4}{7}$

8. Apply the equation below to calculate the fluoride concentration (F mg/L) in the final treated water:

$$F_{\text{mg/L (treated water)}} = \frac{(M \times K \times P \times 100)}{+C_{\text{nw}}}$$

A dry feeder uses 2 kg of NaF ($M = 2000\text{g}$) in one day to treat 1 ML ($V_t = 1000000\text{L}$) of water. The purity (K) of the NaF is 98% ($K = 0.98$) and the P value for NaF is 45.3%. The natural fluoride concentration C_{nw} in the raw water was found to be 0.1 mg/L. What is the calculated fluoride concentration in the final treated water? Show your working out:

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ANSWERS

Section 1: Language and Literacy

1. a. Maintenance b. schedules c. important d. worn e. dials
2. a. heard b. which c. more easily d. they're
3. a. ii. b. ii. c. i. d. iv. e. iii.
f. ii. g. i. h. iii.
4. a. The majority of protozoa in freshwater are natural aquatic organisms and are of no significance to health. They generally feed on other micro-organisms such as bacteria, cyanobacteria or algae. The greatest diversity of protozoa is found in open surface waters, including water supply sources, but some species can colonise piped water supplies.
b. A hazard has the potential to cause you or others injury or ill-health, damage to property, or harm to the environment. It is everyone's job to look out for hazards.
5. a. DPI Fisheries b. 2004 c. All of the above
d. Answer should include: assessor to check for accuracy in response using information in passage, general comprehensibility, accuracy of vocabulary, grammar, spelling and punctuation.
6. a. Protective face mask and gloves
b. Sunscreen, Long sleeve shirt, Hat
c. Manual handling guidelines
d. Personal flotation device, Work in groups or pairs
e. Protective boots

Section 2: Numeracy

Part A: without a calculator

1. a. 234.63 b. 12 c. 6
2. a. $\frac{1}{4}$
3. a. 3^7
4. a. $Y = U - D + J$ b. $Y = \frac{H + 2(R - 3)}{K}$ c. $Y = \frac{T - E}{E + 7}$
5. 6786kL/day

Part B: with a calculator

6. a. 23.74 m b. 179.46 m³
c. 89,730 L
7. a. 0.2 b. 0.8
c. 0.38
8. 887.88 mg/L