

ICAS PRACTICE BOOKLET · YEAR 7

Ready for the challenge.

A practice booklet for Year 7 students
getting ready to sit ICAS Paper E.

My name

My school

My year level

Sitting date

[icasassessments.com](https://www.icasassessments.com)

Hello, Year 7 student.

This booklet is yours. Write in it, circle things, work out problems in the margins. It's here to make ICAS feel familiar before you sit Paper E, so the real questions feel like ones you've seen before.

A few things to know.

- ▶ ICAS Paper E is your first secondary-level ICAS paper. The reasoning is more sophisticated and the calculations more involved — but the format is the same multiple-choice paper you have always sat.
- ▶ The English paper rewards careful reading. The Maths and Science papers reward careful working. You have time — use it.
- ▶ Questions are arranged roughly easiest to hardest. Knock off the early questions confidently and you build momentum for the back half.
- ▶ There is no penalty for guessing. Always pick an answer.
- ▶ Higher certificates at Paper E level open doors — many students reference their ICAS results in scholarship and academic applications later. Take it seriously, but enjoy the challenge.

How long does this booklet take?

About 45 minutes to work through the practice questions, plus a few more minutes to check your answers at the back. You don't have to do it all in one sitting — split it across two or three days if you like.

How an ICAS question works.

Every ICAS question has three parts. Spot them as you read.

1. The stimulus.

A short text, table or scenario you have to read or look at first. Don't skim it — you'll need to come back to it.

2. The question.

What you actually need to answer. Underline the key word — it tells you whether to compare, calculate, infer, predict, or just identify.

3. The answer choices.

Usually four, sometimes five. Only one is the BEST answer. If two look close, find what makes them different — the difference is what the question is testing.

You'll sit ICAS online.

ICAS is done on a computer or tablet. As well as picking from A/B/C/D, you might click a word in a sentence, click a spot on a picture, drag items into groups, or type a short answer into a box. The thinking is the same — just the way you tap in your answer is different. Your teacher will show you the practice screens before sitting day.

A strategy worth remembering.

If you don't know an answer straight away, cross out the choices you know are wrong first. Then choose the best from what's left. ICAS has no penalty for wrong answers — always pick something.

WARM-UP · ENGLISH · PAPER E

Reading.

Read the passage below carefully. Then have a go at the questions on the next page.

One in a thousand.

It's a balmy evening. The half-moon is highlighting phosphorescence as the waves lap onto the sandy shore. I have walked this beach many times, waiting for a female loggerhead to lay her eggs. When she does, I relocate the eggs up onto the sand dunes, so the king tides do not inundate the nest and destroy it. I see a movement in the dunes, then a rippling, reflected in the moonlight, as a run of hatchlings emerge from a nest.

It has been about eight weeks since the eggs were laid. The hatchlings, guided by instinct, scramble towards the horizon and the oncoming water. The night protects them from predators: foxes, birds and wild dogs. As the cool wavelets meet them, their front flippers change from an alternating gait to a breaststroke action. It's a magical moment. With the outgoing tide, the hatchlings frantically swim, their little noses poking above the water. Then, the water foams around them and they are gone.

One in a thousand hatchlings survive. Sharks, crocodiles and sea birds will take their fill. Others are caught in longline fishing nets or run over by fast boats. They need to swim for at least three days out to the East Australian Current, which carries them south before they journey across the Pacific Ocean to South America. During this time they do not eat. Later they will feed on floating algae and plankton. After 30 years the turtles will return to the shores of their birth to breed and renew the cycle of life, completing a round trip of 20,000 kilometres.

Question 1 · Paper E · Q1 · Text Comprehension – Writer's Aim

What is the writer's aim in the first two sentences?

- (A) to paint a picture of the setting
- (B) to outline essential information
- (C) to make note of specific data for a report
- (D) to describe a rare scientific observation

My answer: _____

ENGLISH QUESTIONS · PAPER E

Working through the passage.

Three more questions on the passage you just read. Refer back to it as often as you need.

Question 2 · Paper E · Q2 · Vocabulary – Word in context

Which word could best replace ‘inundate’, as it is used in the text?

- (A) flood
- (B) occupy
- (C) attack
- (D) overcome

My answer: _____

Question 3 · Paper E · Q3 · Vocabulary – Phrase in context

The phrase ‘guided by instinct’ tells readers that loggerhead turtles

- (A) learn their habits from their parents.
- (B) continue to thrive despite challenges.
- (C) use their memories to direct their actions.
- (D) possess a natural sense of survival.

My answer: _____

Question 4 · Paper E · Q7 · Text Comprehension – Title meaning

The title ‘One in a thousand’ refers to the chances of a hatchling

- (A) emerging from the nest.
- (B) making it to the sea.
- (C) returning as an adult to breed.
- (D) being saved by conservationists.

My answer: _____

WARM-UP · MATHEMATICS · PAPER E

Numbers and patterns.

Three questions to start. Read each one twice before you choose an answer.

Question 5 · Paper E · Q7 · Number & Arithmetic – Percentage

Saira had \$500. She spent 25% of this money on clothes and saved the rest. How much money did Saira save?

(A) \$375

(B) \$350

(C) \$150

(D) \$125

My answer: _____

Question 6 · Paper E · Q13 · Number & Arithmetic – Percentage

It is now possible to make an artificial arm using a 3-D printer. This has reduced the cost of an artificial arm from \$40,000 to just \$400. What is the new cost as a percentage of the old cost?

(A) 0.01%

(B) 0.1%

(C) 1%

(D) 10%

My answer: _____

Question 7 · Paper E · Q16 · Measures & Units

Pam climbed 300 steps. Each step is 20 cm high. How high did she climb?

(A) 6 m

(B) 60 m

(C) 600 m

(D) 6000 m

My answer: _____

CHALLENGE · MATHEMATICS · PAPER E

Stretch yourself.

These come from the harder half of the paper. Take your time. Working in the margin is encouraged.

Question 8 · Paper E · Q17 · Number & Arithmetic – Decimals

$A = 1.1 + 2.2 + 3.3 + 4.4$ and $B = 1.1 - 2.2 - 3.3 - 4.4$. What is the difference between A and B?

- (A) 0
- (B) 2.2
- (C) 19.8
- (D) 22

My answer: _____

Question 9 · Paper E · Q20 · Algebra & Patterns

Tina is writing a number pattern: 2, 8, 14, 20, 26, 32, 38, ... If she continues the pattern, which of these numbers should Tina write?

- (A) 138
- (B) 144
- (C) 152
- (D) 160

My answer: _____

Question 10 · Paper E · Q21 · Number & Arithmetic – Factors

Vinh is making bunches of flowers using roses and lilies. She has 36 roses and 60 lilies. All of the flowers must be used to make identical bunches. What is the largest number of bunches she can make?

- (A) 6
- (B) 12
- (C) 18
- (D) 36

My answer: _____

WARM-UP · SCIENCE · PAPER E

Observing and reasoning.

ICAS Science wants you to think carefully — not to recite facts. Read the scenarios slowly.

Question 11 · Paper E · Q3 · Interpreting – Data table

Sam has diabetes, a disease that makes his body unable to control the glucose level in his blood. Sam's doctor wants to show Sam which foods to avoid to keep his blood glucose level below 7.5. For four days Sam recorded what he ate for lunch and measured his blood glucose level 1 hour after eating.

Day 1: bread with peanut butter — glucose 9.5.

Day 2: bread with chicken — glucose 8.4.

Day 3: crackers with peanut butter — glucose 7.3.

Day 4: crackers with chicken — glucose 6.9.

Which food should Sam avoid eating the most?

- (A) bread
- (B) crackers
- (C) chicken
- (D) peanut butter

My answer: _____

Question 12 · Paper E · Q6 · Predicting & Concluding – Life Science

Most adult mammals have four types of teeth: incisors for cutting food; canines for tearing food; premolars for crushing food; molars for grinding food. Carnivores are meat-eating mammals. They mainly cut and tear meat and crush bones. They rarely grind their food.

Mammal W: incisors 3, canines 1, premolars 3, molars 1.

Mammal X: incisors 0, canines 0, premolars 3, molars 3.

Mammal Y: incisors 3, canines 1, premolars 2, molars 4.

Mammal Z: incisors 1, canines 0, premolars 0, molars 3.

Which of the mammals listed is most likely a carnivore?

- (A) W
- (B) X
- (C) Y
- (D) Z

My answer: _____

CHALLENGE · SCIENCE · PAPER E

Reading data.

These questions ask you to read a small table or data set, then reason about what it shows — and what it does not.

Question 13 · Paper E · Q9 · Observing & Measuring – Data

The protein content (in grams) of 100 g of milk for different mammals is: cow 3.3 g; human 1.3 g; goat 3.1 g; sheep 5.4 g.

How many grams of protein are there in 200 g of goat's milk?

- (A) 3.1
- (B) 3.3
- (C) 6.2
- (D) 6.6

My answer: _____

Question 14 · Paper E · Q14 · Predicting & Concluding – Food web

In an Antarctic food web, phytoplankton are eaten by krill; krill are eaten by fish, penguins and squid; fish are eaten by killer whales; penguins are eaten by seals; seals are eaten by killer whales.

A change in temperature has caused the number of krill to decrease rapidly.

Which of the following is most likely to happen?

- (A) The number of phytoplankton will decrease.
- (B) The number of penguins will increase.
- (C) The number of seals will not be affected.
- (D) The number of squid will decrease.

My answer: _____

Question 15 · Paper E · Q26 · Reasoning & Problem Solving – Formula

The volume of blood pumped out by the left ventricle of the heart in one beat is called the stroke volume. The volume of blood pumped out by the left ventricle of the heart in one minute is called the cardiac output.

Cardiac output = stroke volume × pulse rate.

An athlete has a cardiac output of 4.8 litres (L) of blood per minute and a pulse of 60 beats per minute.

What is this athlete's approximate stroke volume?

- (A) 0.8 mL
- (B) 0.288 mL
- (C) 80 mL
- (D) 288 mL

My answer: _____

Strategies for sitting day.

Six pieces of test-craft that earn extra marks. Read them the night before.

1. Read every question twice — once for the gist, once for the trap word. ICAS Paper E often hinges on a single qualifier ("not", "least", "most likely", "best").
2. In English, the right answer is always supported by something specific in the passage. If you cannot point to evidence, you are guessing.
3. In Maths, work in the margin. Two-step and three-step problems are deliberate — you cannot eyeball them.
4. When two options look similar, find the difference between them. The difference is what the question is testing.
5. Mark and move. If a question takes more than two minutes, circle it and continue. Come back when you have a complete pass through the paper.
6. Always pick an answer. No penalty for guessing — a guess has a 25% chance; a blank has 0%. Always something is better than nothing.

On the morning.

Eat a real breakfast — protein, carbs and water. ICAS is delivered online: your teacher will show you the device and the sitting screen before you start. Bring a pencil and scrap paper for working out. Walk in knowing you have prepared. Take three slow breaths before the first question.

Answers — part 1.

Check your answers. Read the "Why" column — it shows the thinking. Tally how many you got right at the bottom, but don't stress about the score — every question you understood is a win.

Q	Subject	Answer	Why
1	English	(A)	The opening sentences are atmospheric — moonlight, phosphorescence, waves on the shore. The writer is setting the scene, not delivering facts.
2	English	(A) flood	"Inundate" means to overwhelm with water — the king tides would flood the nest. "Flood" is the closest direct substitute.
3	English	(D)	The hatchlings have never been to the sea before but know exactly which way to head. That is a natural sense of survival, not a learned habit or memory.
4	English	(C)	The text says the turtles return to breed after 30 years — only one in a thousand makes it that far. The title refers to long-term survival to adulthood.
5	Maths	(A) \$375	25% spent → 75% saved. 75% of \$500 = \$375.
6	Maths	(C) 1%	$\$400 \div \$40,000 = 0.01 = 1\%$.
7	Maths	(B) 60 m	$300 \times 20 \text{ cm} = 6000 \text{ cm} = 60 \text{ m}$.
8	Maths	(C) 19.8	$A = 1.1 + 2.2 + 3.3 + 4.4 = 11$. $B = 1.1 - 2.2 - 3.3 - 4.4 = -8.8$. Difference $A - B = 11 - (-8.8) = 19.8$.

Answers — part 2.

Q	Subject	Answer	Why
9	Maths	(C) 152	The pattern adds 6 each time, starting at 2. The n th term = $2 + 6(n-1)$. $152 = 2 + 6 \times 25$ — yes, integer n . The other options don't give integer n .
10	Maths	(B) 12	Largest number of identical bunches uses GCD(36, 60). $36 = 2^2 \times 3^2$; $60 = 2^2 \times 3 \times 5$. GCD = $2^2 \times 3 = 12$. So 12 bunches, each with 3 roses and 5 lilies.
11	Science	(A) bread	Compare days with the same protein but different starches: bread with chicken (8.4) vs crackers with chicken (6.9). Bread spikes glucose higher. Same comparison with peanut butter confirms: bread raises Sam's glucose more than crackers.
12	Science	(A) W	Carnivores need canines for tearing meat and few molars (which are for grinding). W has 1 canine and only 1 molar. X and Z have NO canines, so cannot tear meat. Y has 4 molars — far too many for a carnivore.
13	Science	(C) 6.2	100 g of goat's milk contains 3.1 g of protein. Double the milk (200 g) gives double the protein = 6.2 g.
14	Science	(D)	Squid depend on krill for food. Fewer krill means fewer squid. Phytoplankton (the krill's food) will increase, not decrease. Penguins eat krill too, so they will decrease, not increase. Seals depend on penguins, so they will be affected.
15	Science	(C) 80 mL	Stroke volume = cardiac output $\div$ pulse = $4.8 \text{ L} \div 60 \text{ beats} = 0.08 \text{ L per beat} = 80 \text{ mL per beat}$.

See you on sitting day.

Read each question twice. Underline the key word. Eliminate wrong answers first.

You've got this.