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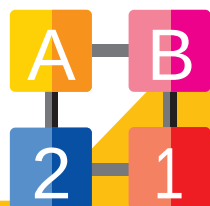
B-BBEE status: Level 1

WORDS OR NUMBERS?

WHAT'S
YOUR
STRENGTH?
WORDS OR
NUMBERS?



Here's a fun quiz
to discover your strength –
whether you're more word-smart
(verbal/language) or number-smart
(logical/maths).



MAKE YOUR CHOICE.

1 WHEN GIVEN A SCHOOL PROJECT, YOU PREFER ...

- A Writing an essay or creating a story.
- B Solving equations or making charts.

2 WHICH SUBJECT DO YOU ENJOY MORE?

- A English, History, Foreign Languages.
- B Maths, Science, Computer Programming.

3 WHEN WORKING ON A TEAM, YOUR ROLE IS USUALLY:

- A The one who writes ideas and explains them.
- B The one who organises data and calculates solutions.

4 WHICH SOUNDS LIKE MORE FUN?

- A Telling a story or jokes.
- B Figuring out a tricky maths/ puzzle problem.

5 IN YOUR FREE TIME, YOU ENJOY ...

- A Reading, writing or lively conversations.
- B Solving puzzles, playing strategy games or analyzing data.

6 WHEN YOU HEAR A NEW WORD, YOU:

- A Look it up to make sure you know what it means.
- B Try to figure out its meaning and how to use it correctly.

7 IF YOU HAD TO EXPLAIN SOMETHING COMPLICATED, YOU WOULD:

- A Use a story or an example.
- B Use a drawing to illustrate it.

8 YOU REMEMBER THINGS BEST WHEN YOU:

- A Read about them or hear someone explain.
- B See numbers, patterns or step-by-step processes.

9 IF YOU HAD TO PLAY A BOARDGAME, WHICH WOULD YOU CHOOSE?

- A Scrabble.
- B Monopoly.

10 WHICH WOULD YOU MOST LIKELY PICK UP?

- A A book.
- B A calculator.



IN YOUR FREE TIME, YOU

QUIZ RESULTS:

• MOSTLY A'S: YOU'RE WORD-SMART!

You enjoy languages and love expressing yourself through words. Writing, storytelling and communication are your strengths. Careers in journalism, law, teaching or creative writing might be a great fit!

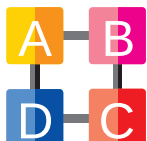
• MOSTLY B'S: YOU'RE NUMBER-SMART!

You think logically, enjoy solving problems, and see patterns easily. Maths, coding, science or finance could be great career paths for you!

• A MIX OF BOTH:

You have balanced strengths! You can express yourself well with words but also think logically with numbers. Careers in business, research or technology might suit you!

THE TELLTALE SIGNS



SIGNS YOU'RE VERBALLY SMART (WORD-ORIENTED THINKER)

- You learn best by listening, reading or discussing ideas.
- You enjoy playing with words — jokes, puns or creative writing.
- You're good at explaining things clearly.
- You find it easy to remember facts, quotes or new words.
- You do well in subjects like English, History or Foreign Languages.
- You love reading books, writing essays, stories or having interesting conversations.



SIGNS YOU'RE NUMERICALLY SMART (NUMBER-ORIENTED THINKER)

- You love solving puzzles, maths problems or logic games.
- You think in patterns and like organising information.
- You enjoy breaking things down into steps or formulas.
- You naturally see connections between numbers, graphs and data.
- You like science, coding or problem-solving activities.
- You do well in maths, science or technology-related subjects.



CAN
YOU BE
BOTH?

ABSOLUTELY! Some people are balanced and use both verbal and numerical thinking. For example, a great scientist might need both logical math skills and strong communication skills to explain discoveries.



Shakespeare might seem like old-school reading, but his plays and poems still deal with real-life issues that we face daily. His characters faced the same issues teens do today, just in castles instead of classrooms.

Love, jealousy, power, identity, betrayal, and so much more. Shakespeare is still speaking our language. Or rather – we are still speaking his!

from Quills to TIKTOK



Romeo and Juliet

Love, Family Conflict and Peer Pressure

Theme: Forbidden love, the impact of hate, and the pressure to choose between loyalty to family or to yourself.

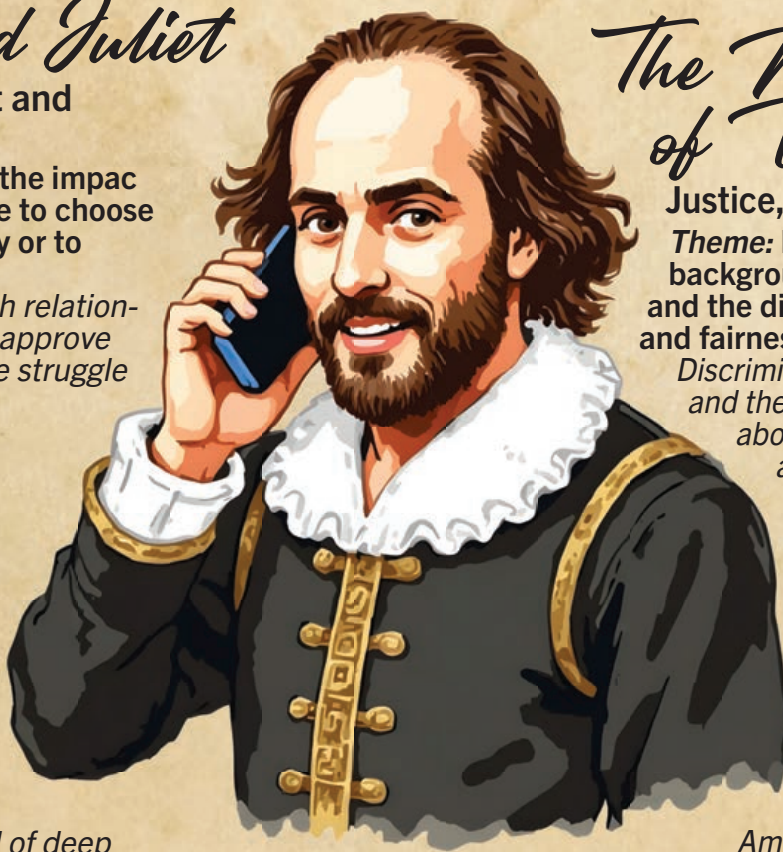
Teenagers still deal with relationships that parents don't approve of, peer pressure and the struggle to make independent choices. Being impulsive doesn't always pay off.

Hamlet

Identity, Mental Health and Revenge

Theme: Struggling with inner conflict, grief, and trying to find out what's real or fake.

Hamlet's journey is full of deep emotions and things teens often experience like confusion, and self-doubt. He explores depression and mental health long before people were open about its importance.



The Merchant of Venice

Justice, Prejudice and Mercy

Theme: Being judged for your background, religion, or beliefs, and the difference between law and fairness.

Discrimination and bias still exists, and the play opens conversations about tolerance, forgiveness, and justice.

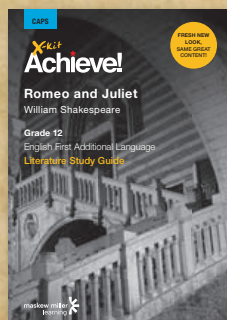
Macbeth

Ambition, Power and Guilt

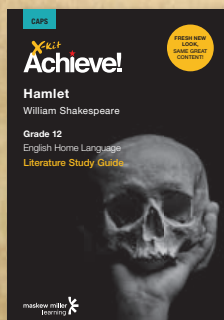
Theme: The dangerous side of ambition and how it can lead to your downfall.

Ambition is often encouraged, but Macbeth shows what can happen when people are prepared to do anything to get ahead!

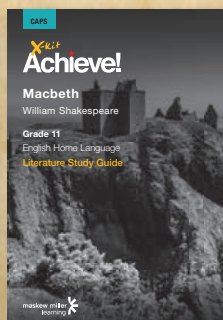
Lying, and cheating to win, or look good, at all costs. (Think politics and social media fame.)



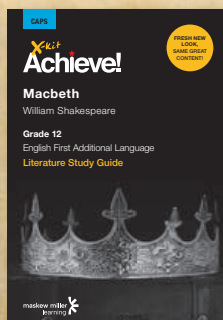
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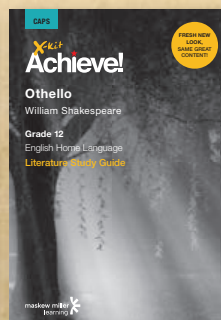
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Get past the old-fashioned words and Shakespeare could be a Netflix scriptwriter.



ARE YOU A team player?

When it comes to sport we all differ. Some prefer to be challenged individually, while others prefer to be part of a group where there is strength in the support of other players.

**WHERE DO YOU STAND?
DO YOU PREFER TO PLAY SOLO
OR DO YOU HAVE TEAM SPIRIT?**

1 HOW DO YOU FEEL ABOUT GROUP ASSIGNMENTS AT SCHOOL?

- A** I love it! Working together towards a common goal is exciting.
- B** I prefer doing things on my own and having control over my own performance.

2 WHEN IT COMES TO COMPETITION, HOW DO YOU PREFER THE SPOTLIGHT?

- A** I'm okay with sharing the spotlight with others and celebrating as a team.
- B** I like the idea of being responsible for my own success or failure.

3 DO YOU ENJOY BEING PART OF A BIG SOCIAL GROUP?

- A** Yes! I enjoy being social and like making new sporting friends.
- B** I prefer small groups and like to focus on my personal growth.

4 WHAT MOTIVATES YOU MORE?

- A** The idea of working as a unit and achieving something together.
- B** Being able to set personal goals and improve at my own pace.

5 WHEN YOU THINK ABOUT A SPORT'S PRACTICE, WHAT SOUNDS BEST?

- A** Drills and activities that involve teamwork.
- B** Exercises where I can focus on my individual technique and progress.

6 HOW DO YOU HANDLE PRESSURE IN A GAME OR MATCH?

- A** I thrive with teammates supporting me. We win or lose together.
- B** I work best when I don't have to worry about others' performance.

7 DO YOU PREFER TO SOLVE PROBLEMS WITH OTHERS OR BY YOURSELF?

- A** Two heads are better than one. Brainstorming with others is good.
- B** I prefer figuring things out on my own and working at my own pace.

MOSTLY AS: YOU'RE A TEAM SPORT ENTHUSIAST!

You thrive when you can collaborate and build strong relationships with teammates. Sports like soccer, basketball, or volleyball may be perfect for you. These allow you to enjoy the support of others.

MOSTLY BS: YOU'RE AN INDIVIDUAL SPORT COMPETITOR!

You like to focus on your personal growth, and goals. You like to take responsibility for your own performance and success. Sports like swimming, tennis, gymnastics, or running could be for you.



9 IS A MAGIC NUMBER

If you multiply any number by 9 and add the digits of the results, they will always add up to 9.

Eg: $9 \times 7 = 63$ ($6 + 3 = 9$)

$9 \times 18 = 162$ ($1 + 6 + 2 = 9$)

5 THINK OF A NUMBER

- Multiply by 2
 - Add 10
 - Divide by 2
- Subtract the original number.
No matter what – you will always get 5.

KNOWING NUMBERS

37 MULTIPLY 37 BY ANY MULTIPLE OF 3 AND YOU WILL GET AN INTERESTING REPEATING PATTERN.

$37 \times 3 = 111$
 $37 \times 6 = 222$
 $37 \times 9 = 333$
 $37 \times 12 = 444$



25 THE 25 SHORTCUT

To multiply a number by 25, just divide it by 4 and add two zeroes.

Eg: $25 \times 16 = 16$ divided by 4 = 4

Add 00 = 400

$25 \times 28 = 28$ divided by 4 = 7

Add 00 = 700

11 MULTIPLYING THE NUMBER 11 WITH ANY NUMBER BETWEEN 10 AND 18: Simply add the sum of the digits to get the middle number.

Eg: $11 \times 15 = 1(1 + 5) 5 = 165$

$11 \times 18 = 1(1 + 8) 8 = 198$

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FINGER MULTIPLICATION TABLES

Multiply by 9 using your fingers

Place both hands in front of you with fingers and thumbs extended.

To multiply 9 by a number, fold down that number finger, counting from the left.

EXAMPLES: To multiply 9 by 5, fold down the fifth finger from the left. Count fingers on either side of the 'fold' to get the answer. In this case, the answer is 45.

To multiply 9 times 6, fold down the sixth finger, giving an answer of 54.

8 REASONS WHY Business STUDIES GIVES YOU THE EDGE

IT WILL TAKE YOU TO THE NEXT LEVEL

1 PREPARES YOU FOR THE DIGITAL ECONOMY

SA is undergoing digital transformation. Business Studies will prepare you for e-commerce, digital marketing, and tech integration in business. This is an area in HIGH demand!

2 DEMAND FOR ENTREPRENEURS AND INNOVATORS

SA needs job creators. With a background in business studies you will have the edge when starting your own business.

3 FINANCIAL LITERACY

Understanding MONEY teaches you budgeting, investing, and financial planning. This helps you make good decisions – personal and otherwise!

4 SUPPORTS NATIONAL DEVELOPMENT GOALS

SA needs boosting! We need sustainable practices to reduce inequality and narrow the digital divide - Business Studies promotes this.

5 IMPROVES CRITICAL THINKING AND PROBLEM-SOLVING

Business Studies encourages students to analyse, strategise, and think ahead, essential skills for success.

6 PRACTICAL REAL-WORLD LEARNING

Business Studies includes case studies, which gives insight into the 'real deal' in the workplace.

7 OPENS DOORS TO A WIDE RANGE OF CAREERS

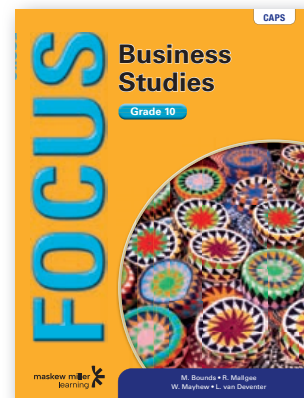
It builds a solid understanding in many areas – accounting, economics, law, marketing, management, and logistics.

8 BOOSTS EMPLOYABILITY

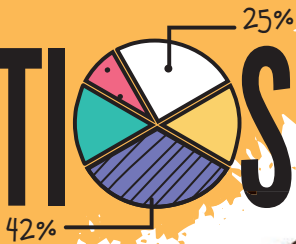
It makes you employable! Employers value business-savvy employees who know what's important.



THESE SKILLS
ARE VALUABLE ANYWHERE IN THE WORLD!

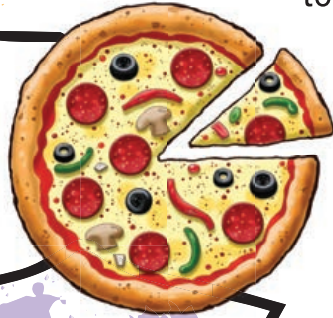


RATIOS



A ratio is a way to compare two or more quantities. It tells us how much of one thing there is, compared to another. For example, if you are making fruit juice and mix 2 cups of orange juice with 3 cups of water, the ratio of orange juice to water is 2:3.

WORK OUT THESE RATIOS.



PIZZA PARTY RATIO

At a pizza party, there are 18 cheese pizzas and 12 pepperoni pizzas.

- What is the ratio of cheese to pepperoni pizzas?
- If the same ratio is kept, how many cheese pizzas would there be if there were 20 pepperoni pizzas?

PICS ON SOCIAL MEDIA

Alex posts 15 landscape photos and 10 portrait photos on his photography page.

- What is the ratio of landscape to portrait photos?
- If he wants to maintain the same ratio but increase his total posts to 75, how many more of each type should he post?



MUSIC PLAYLIST MIX

Jake's playlist has 40 pop songs, 25 rock songs, and 15 rap songs.

- What is the ratio of pop to rock songs?
- What is the ratio of rap to total songs?
- If he adds 20 more pop songs while keeping the other numbers the same, will the ratio of pop to total songs change?



VIDEO GAME WINS

Jake plays a video game and wins 12 out of 20 games.

- What is the ratio of wins to total games played?
- If he continues at this win rate, how many games will he win out of 60?



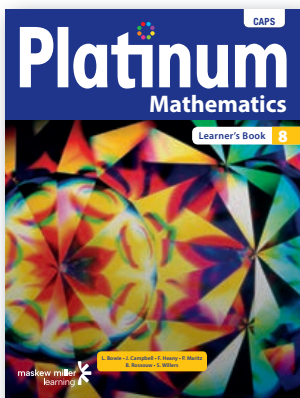
SMOOTHIE INGREDIENTS

A smoothie recipe calls for 4 cups of strawberries, 2 cups of yoghurt and 6 cups of milk.

- What is the ratio of strawberries to yoghurt to milk?
- If you double the recipe, what will the new ratio be?

WHY ARE RATIOS USEFUL?

- Cooking & recipes:** If a cake recipe says to use 2 cups of flour for every 1 cup of sugar (2:1), you can double or halve the recipe and keep it the same.
- Maps & scale drawings:** A map might use a scale of 1:1 000, meaning 1 cm on the map represents 1000 cm in real life.
- Sports & statistics:** A football team winning 3 games and losing 2 has a win-to-loss ratio of 3:2.



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The A-Z of TRUE OR FALSE

Look carefully at these statements and say which is TRUE or FALSE.

a ANTIBIOTIC: <i>A DRUG USED TO KILL BACTERIA</i> T F	b BIODEGRADABLE: <i>a substance that can be broken down by microscopic organisms</i> T F	c CARBON DIOXIDE: <i>A colourless, odourless gas that lets plants thrive</i> T F	d DURABLE: LASTING A SHORT TIME T F	e ECOLOGY: <i>The study of living things and their environment</i> T F
f FAUNA: <i>All the animals living in a particular area</i> T F	g GEOLOGY: <i>the study of the composition and structure of the earth</i> T F	h HUFF: <i>to be thrilled</i> T F	i IMMUNE SYSTEM: <i>a system of the body that fights diseases</i> T F	j JUPITER: <i>the largest planet in the solar system</i> T F
k KINETIC ENERGY: <i>the energy a body generates through movement</i> T F	l LINEAR MOVEMENT: <i>movement along a straight path (forwards or backwards or up and down)</i> T F	m MAGMA: <i>hot, molten rock under the earth's surface</i> T F	n NOCTURNAL: <i>animals that are more active during the day</i> T F	o OMNIVORE: <i>animals that only eat plants</i> T F
p PRODIGY: <i>to be wasteful</i> T F	q QUIRK: <i>a strange mannerism</i> T F	r RESPIRE: <i>TO SEEK REVENGE</i> T F	s SATURN: <i>the sixth planet from the sun</i> T F	t TOXIC: <i>poisonous and harmful substances</i> T F
u ULTRASOUND: <i>high frequency waves that humans cannot hear</i> T F	v VERTEBRATE: <i>an animal with no backbone or spine</i> T F	w WATT: <i>a unit for measuring power</i> T F		
x XYLOPHONE : <i>MUSICAL INSTRUMENT</i> T F	y YOKE: <i>a very funny anecdote</i> T F	z ZANY: <i>bright and colourful</i> T F		

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GET IT TOGETHER

challenge

PREPOSITIONS shows the relationship between two things (noun, place, person or thing). They usually tell where, when or how things are related.

CONJUNCTIONS are joining words that show the relationships between clauses or words (the cause or result of something).

CONJUNCTIONS CHALLENGE

CHOOSE THE CORRECT CONJUNCTION TO COMPLETE EACH SENTENCE

- ☐ he was very rich, he lived a simple life. *A Because B Although C If*
- She didn't go to school today ☐ she was feeling sick. *A since B unless C while*
- He kept talking ☐ the teacher asked him to stop. *A because B even though C although*
- I will call you ☐ arrive at the airport. *A before B since C as soon as*
- ☐ you work hard, you won't pass the exam. *A If B Unless C Even though*
- ☐ he was late, he still stopped to buy a coffee. *A While B Though C Until*
- We stayed inside ☐ it was raining heavily. *A because B until C if*

PREPOSITION CHALLENGE

FILL IN THE MISSING PREPOSITIONS

- The increase ☐ pollution has become a major concern.
- He was accused ☐ stealing the money.
- She insists ☐ doing everything her own way.
- There is no point ☐ arguing about it.
- His parents discouraged him ☐ dropping out of college.
- She has a great passion ☐ photography.
- The delay ☐ the flight was due to bad weather.

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Are you a **PLANNING PRO?**

TEST HOW WELL YOU PLAN AHEAD IN YOUR DAILY LIFE!

1 HOW DO YOU KEEP TRACK OF IMPORTANT DATES AND TASKS?

- A I use a planner, App, or calendar regularly
- B I sometimes write things down
- C I sometimes forget and need reminding

2 HOW DO YOU AVOID DOUBLE-BOOKING WHEN MAKING SOCIAL PLANS?

- A I check my schedule first and plan carefully
- B I usually remember what I've already committed to
- C I often double-book and let people down

3 HOW OFTEN DO YOU RUN LATE FOR SCHOOL OR SOCIAL EVENTS?

- A Rarely. I'm usually early or on time
- B Sometimes
- C Often. I struggle with time management

4 IF YOU HAVE A SCHOOL EVENT, SPORTS MATCH, AND A PARTY ALL IN ONE WEEKEND, DO YOU...

- A Plan ahead and prioritize time
- B Try to fit it all in, but it doesn't always work out
- C Just go with the flow - and hope for the best!

5 HOW OFTEN DO YOU USUALLY THINK ABOUT YOUR EDUCATION AND FUTURE CAREER?

- A Regularly: I constantly research and plan for it
- B Sometimes: when it crosses my mind
- C Future? I'm just surviving this week!

6 WHEN IT COMES TO LONG-TERM GOALS LIKE EXAMS (OR SAVING MONEY) DO YOU ...

- A Set clear goals and make a plan to achieve them
- B Think about them, but don't always plan properly
- C Don't really think about long-term stuff

7 DO YOU CHECK IN WITH YOUR TO-DO LISTS DURING THE WEEK?

- A Yes, daily or every few days
- B Occasionally
- C I don't really set goals or make lists

8 THE NIGHT BEFORE SCHOOL, DO YOU...

- A Pack your bag, and check the next day's schedule
- B 'Sort of' check things, but often miss something
- C Panic in the morning because cos I forgot something

SCORING :

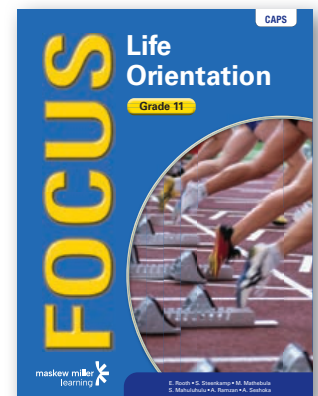
**Mostly A's:
THE PLANNER**

Planning is your superpower! You're organized, forward-thinking, and rarely caught off guard.

**Mostly B's:
THE HALF-PLANNER**
You've got some planning skills, but you sometimes leave things too late. With more structure, you'll be unstoppable.

**Mostly D's:
THE NON-PLANNER**
You prefer to live in the moment but that causes chaos. Even a little planning can reduce stress.

To achieve goals – one has to plan.





BEING 'COOL' IS IMPORTANT BECAUSE BY LOWERING TEMPERATURE, THE ACTIVITY OF BACTERIA AND ENZYMES SLOWS DOWN.

Bacteria is responsible for food spoilage and decay, so refrigeration extends shelf life, prevents illness, and protects sensitive materials by keeping them cool.

- * Fridges are a key part of modern science, health, and daily life.
- * In 100 years, from using natural cooling methods like snow and cool places, to preserve food – we now take sophisticated smart fridges and freezers for granted.

HOME REFRIDGERATORS

The first home refrigerators only appeared in the early 1900s and by 1925 became widely available.

So ... when you are raiding the fridge at night for your midnight ice cream snack, spare a thought for those who had to wait for the outside temperature to drop if they wanted a cool drink!

HOW A FRIDGE WORKS

A cooling cycle moves heat from the inside of the fridge to the outside. It uses a refrigerant that changes between a liquid and a gas.

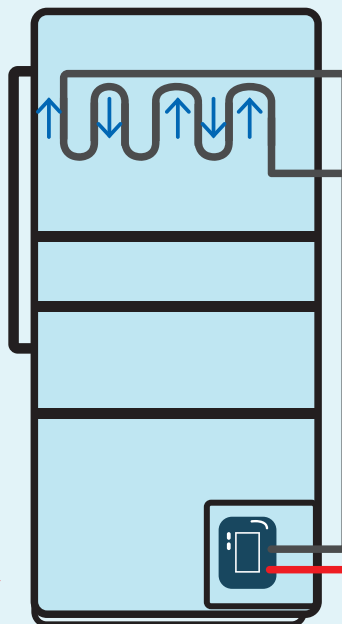
HERE'S HOW THE CYCLE WORKS:

1 EVAPORATION (Cooling): Inside the fridge, the refrigerant evaporates, turns into gas, by absorbing heat. This cools the air inside the fridge.

2 COMPRESSION: The gas is compressed by a compressor motor, making it hot and high-pressure.

4 EXPANSION: The refrigerant goes through an expansion valve, cools down again and gets ready to absorb more heat.

3 CONDENSATION: The hot gas moves through coils at the back of the fridge and releases heat into the air as it turns back into a liquid.



**THE SKILL OF
ESTIMATION
CAN SAVE YOU
MONEY.**

USE ESTIMATION TO SOLVE PROBLEMS

Being able to estimate quantities is an important skill as we do not always have calculators with us when we have to make important decisions.

GUESTIMATE

Example:

Xolani buys six loaves of bread at R9.70 each at a supermarket.

The till mistakenly registers nine loaves of bread for R87.30.

Xolani calculated the estimated amount as $6 \times R10 = R60$.

Xolani asked the cashier to check it as it cannot be more than R60.

TILL BUSTED!



Example:

Sandile bought 48 large pies at R58 each. He estimated the total price of the pies. He calculated the actual price and compared it with the estimated answer.

Solution

A $48 = 50$ and $58 = 60$

Estimated price of the pies:
 $50 \times 60 = R3\ 000$

B Actual price:
 $48 \times R58 = R2\ 784$

ANSWERS ARE CLOSE.



GUESTIMATE THIS:

Andy needs 13 lever arch files and 9 x 20-sleeve plastic folders.

The files cost R18.95 and the plastic sleeves cost R19.95.

- 1 Use estimation to work out what it will cost.
- 2 What is the actual price?
- 3 What is the difference between the two?



GUESTIMATE THIS:

Sihle is ordering new dresses for her shop. Each dress costs R249.99 and Sihle orders 23 dresses.

- 1 Use estimation to calculate the amount the dresses will cost.
- 2 Use a calculator to find the exact amount the dresses will cost.
- 3 Compare the estimated answer with the actual answer.



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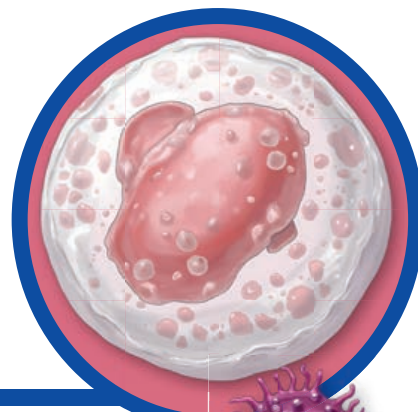
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WHAT ARE STEM CELLS?

STEM CELLS ARE SPECIAL CELLS IN YOUR BODY THAT HAVE THE UNIQUE ABILITY TO BECOME MANY DIFFERENT TYPES OF CELLS.

Think of them as 'blank slates' that can turn into skin cells, muscle cells, nerve cells, or even blood cells. They help your body grow, repair damage, and replace old or dead cells.



WHY ARE STEM CELLS IMPORTANT?

Your body constantly needs new cells. A cut, a break, a burn – all require repairing. Stem cells are the 'healers'.



THERE ARE TWO MAIN TYPES OF STEM CELLS:

1 EMBRYONIC STEM CELLS – Found in early-stage embryos, these can become any type of cell in the body.



2 ADULT STEM CELLS – Found in different tissues (like bone marrow or the brain), these can turn into some, but not all, cell types.



STOP,
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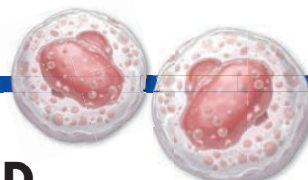
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HOW ARE STEM CELLS USED IN MEDICINE TODAY?

Stem cells treat diseases and injuries.

+ BONE MARROW TRANSPLANTS (Stem cell transplants). Doctors have been using stem cells for decades to treat blood disorders like leukaemia (blood cancer) and sickle cell disease. Bone marrow contains hematopoietic stem cells (HSCs), which can create new blood cells. In a bone marrow transplant, doctors replace damaged blood cells with healthy ones from a donor.



+ GROWING NEW SKIN FOR BURN VICTIMS

For people with severe burns, doctors can use stem cells to grow new sheets of skin in a lab. These can then be transplanted onto the patient's body, helping them heal faster.

+ REPAIRING SPINAL CORD INJURIES

Stem cell therapy is being tested to help people with spinal cord injuries regain movement.

+ TREATING BLINDNESS

Some types of blindness happen when the cells in the eye stop working. Scientists have been able to use stem cells to replace damaged eye cells and restore sight.



an **APPLE** a day ...



* For any **RUST** to occur – you need moisture, oxygen and certain iron enzymes.

WHY DOES AN APPLE RUST?

When an apple is cut or bruised, its cells are damaged, and this exposes its enzymes to oxygen. This reaction produces brown-coloured melanin, making the apple look rusty or discoloured. This is called enzymatic browning.

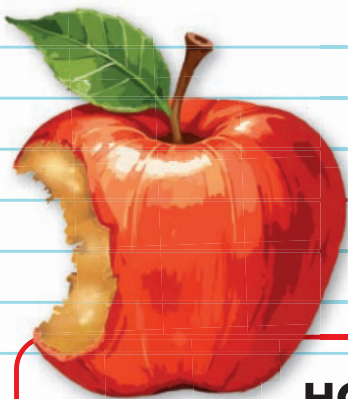
HERE'S HOW IT WORKS SCIENTIFICALLY:

Exposure to oxygen – When you cut or bite an apple, you break its cells, exposing the inside to oxygen in the air.

Enzyme activation – The apple contains an enzyme called polyphenol oxidase (PPO). When this enzyme comes into contact with oxygen, it starts a reaction.

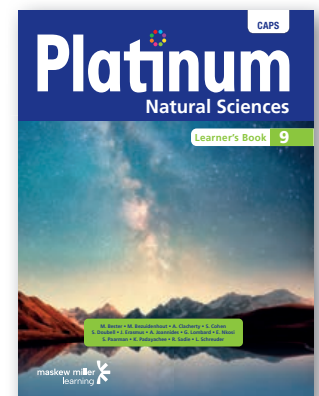
Oxidation of polyphenols – PPO helps turn polyphenols (natural compounds in apples) into *o*-quinones, which then react further to form brown pigments (melanin).

Browning effect – The melanin gives the apple its brown colour, similar to how rust forms on iron when it reacts with oxygen and water.



HOW TO SLOW IT DOWN:

- 🍏 **Lemon juice** – Contains ascorbic acid (Vitamin C), which slows oxidation by reacting with oxygen first.
- 🍏 **Cold storage** – Slows down enzyme activity.
- 🍏 **Water or honey water** – Reduces oxygen contact, preventing browning.





DANCE!

**STAY FIT • FEEL GOOD
• MAKE FRIENDS**

*DANCING ISN'T JUST ABOUT
LOOKING COOL, IT'S A TOTAL MIND,
BODY, AND SOCIAL WORKOUT.*

● PHYSICAL BENEFITS

Full-Body Workout: Stronger muscles, better posture, and a solid core.

Cardio Boost: Heart and lungs get fitter without boring exercise.

Flexibility: Big moves and stretches keep you bendy and injury-free.

Balance & Coordination: Move smoother, stand taller.

Healthy Bones & Joints: Perfect for growing bodies.

● EMOTIONAL BENEFITS

Stress Buster: Shake off school pressure and worries.

Happy Brain Chemicals: Endorphins = instant mood lift.

Express Yourself with confidence: Say it with movement, not words.

Mind-Body Connection: Be in the moment, clear your head.

● SOCIAL BENEFITS

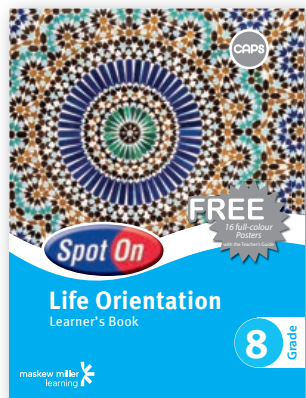
Shared with Friends: Connect on the dancefloor.

Universal Language: Everyone loves to dance!

● GOING SOLO

Dancing keeps you fit, lifts your mood, and you don't only have to do it in company.

**So when the
music starts,
don't just
listen ...
MOVE!**



ROMAN NUMERALS

People used numbers long before there was a need to write them. Over time, people started writing them in different forms.

ROMAN NUMERALS are a numbering system developed by the Romans over two thousand years ago.

The Romans used a combinations of letters from the Latin alphabet to represent values. Some theories suggest that Roman numerals originated from hand signals. The numerals I, II, and III resemble single fingers, while V represents an open hand with the thumb extended.

Roman numerals are still very much in use today and are commonly seen on clock faces, in book chapters, movie sequels, and to denote important events like the Olympic Games.

ROMAN NUMERALS

I	II	III	IV	V	VI	VII	VIII
1	2	3	4	5	6	7	8
IX	X	L	C	D	M		
9	10	50	100	500	1000		

Monarchs and popes often have Roman numerals following their names to indicate their position in a sequence, such as Queen Elizabeth II or Pope John Paul II.

Roman numerals were the standard numbering system throughout Europe until the late Middle Ages, highlighting their long-standing influence.

- **Roman numerals have no symbol for zero.**

STOP,
SCAN & STUDY!

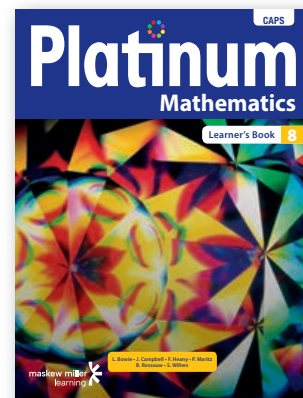


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Solve the soldier sudoku

V		I	II		VI
III	II			V	I
I	V	V	V	I	II
V	I	II	I	V	I
IV	I			V	III
II		II	V		V



THERMOSPHERE

- Top layer before space
- Very hot because it absorbs lots of solar energy
- Auroras (northern/southern lights) happen here
- Satellites orbit the Earth in this layer
- International Space Station is in the middle of the Thermosphere.

MESOSPHERE

- Middle layer
- Where meteors burn up
- Very cold – the coldest layer
- Hardly any air to breathe

STRATOSPHERE

- Above the troposphere
- Jets often fly here
- Contains the ozone layer (which protects us from UV rays)
- Weather balloons
- Temperature increases with height

TROPOSPHERE

- Closest to the Earth's surface
- Gets colder as you go higher
- Where weather happens (clouds, rain, storms)
- Contains most of the air we breathe
- Flight space

How HIGH?

**WITHOUT THE ATMOSPHERE,
LIFE ON EARTH WOULDN'T BE POSSIBLE**

The atmosphere is the layer of gases that surrounds the Earth and acts as a sunscreen. It protects us from harmful rays from the Sun, helps keep the planet warm, and gives us the oxygen we need to breathe.



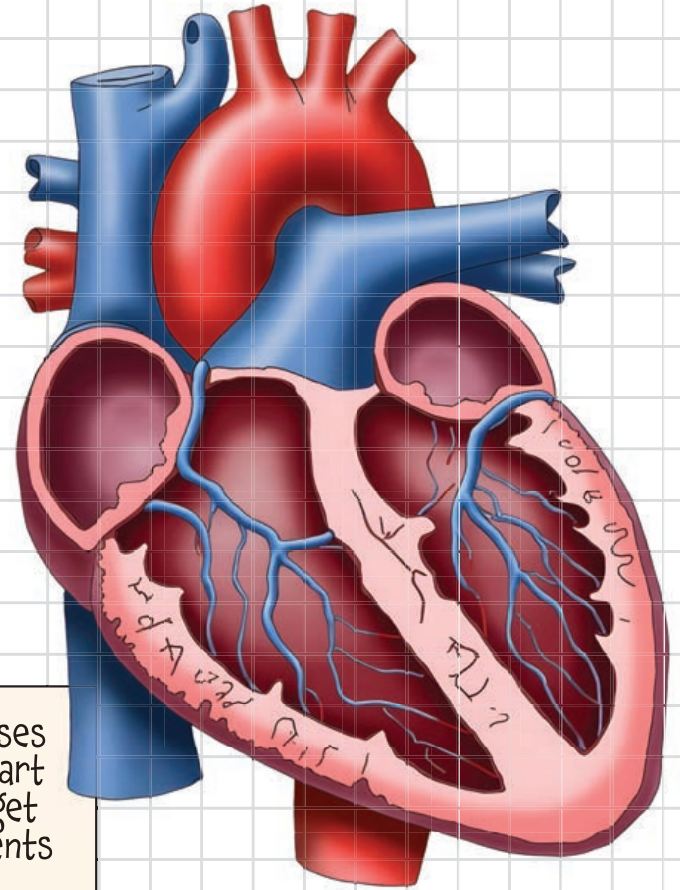


The human body consists of several complex systems and our lives depend on them all working together. Each system performs a special function but the **HEART IS THE STAR OF ALL THE SYSTEMS.**

Take this 2 heart

THE HEART HAS:

- **2 sides, right and left.**
They are separated by a septum.
- **4 chambers – 2 upper** (atria) **and 2 lower** (ventricles).
- **4 valves**, which open and close allowing the blood to pass through the chambers in one direction.



THE HEART FACTS

♥ The heart pumps blood throughout the body within blood vessels. This process is called circulation. Oxygenated blood circulates from the lungs to the left side of the heart.



♥ Exercise increases heart rate. The heart works harder to get oxygen and nutrients to the working muscles.

♥ Stimulants such as caffeine or adrenalin increase the heart rate.

♥ **YOUR HEART RATE IS THE NUMBER OF TIMES YOUR HEART BEATS PER MINUTE. THE QUICKER YOUR HEART BEATS, THE HARDER AND FASTER YOUR HEART MUSCLE IS CONTRACTING TO CIRCULATE BLOOD THROUGHOUT THE BODY.**

STOP,
SCAN & STUDY!



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♥ Fear or stress can also cause the release of hormones that make the heart pump faster. This prepares for defence or escape.

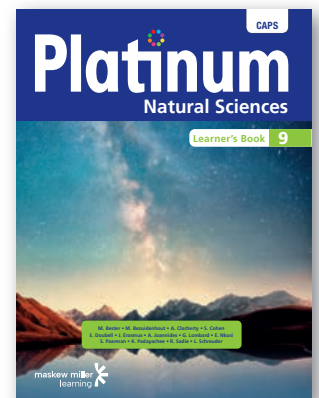


♥ Around the world, heart attacks peak on Xmas and New Year's day!

WANNA KNOW YOUR HEART RATE?

Find your pulse. Count the number of beats in 20 seconds. Multiply by 3 to get the number of beats per minute.

♥ **TAKE CARE OF YOUR HEART HEALTH THROUGH A HEALTHY LIFESTYLE.**





BACTERIA:

BACTERIA are single-celled microorganisms that lack a nucleus and have a simple cellular structure.

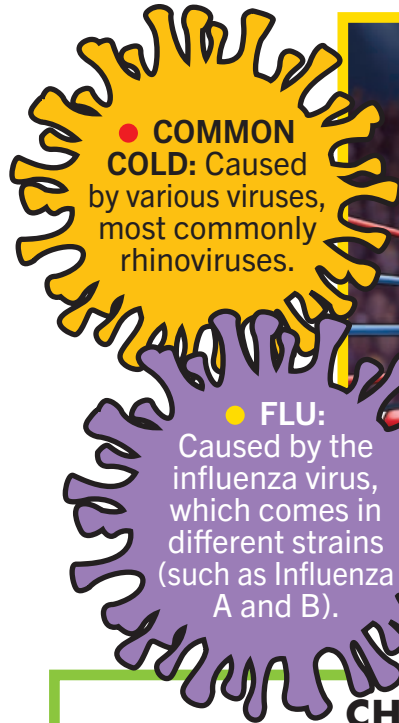


VIRUS:

A **VIRUS** is a microscopic infectious agent that can only reproduce inside the living cells of a host organism.

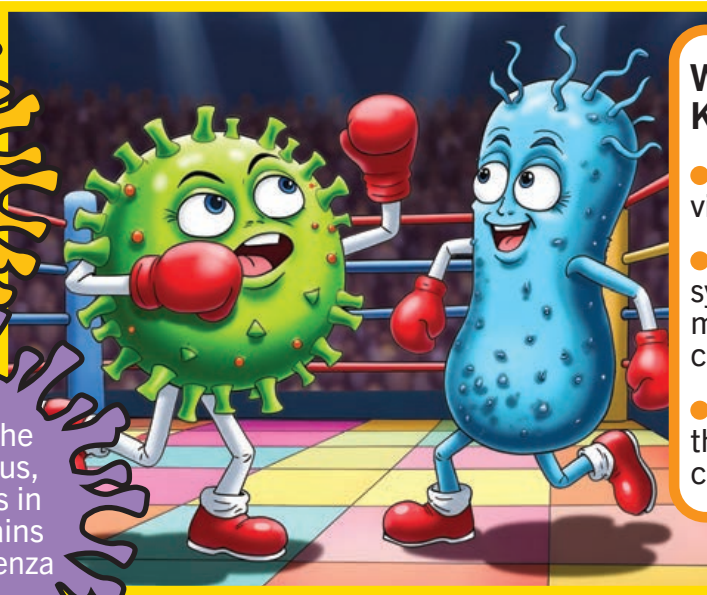


COLDS AND FLU ARE CAUSED BY VIRUSES, NOT BACTERIA.



● **COMMON COLD:** Caused by various viruses, most commonly rhinoviruses.

● **FLU:** Caused by the influenza virus, which comes in different strains (such as Influenza A and B).



WHY IS IT IMPORTANT TO KNOW THE DIFFERENCE?

- Antibiotics do not work on viruses: they kill bacteria.
- Treatments focus on flu symptom relief. Over-the-counter meds help manage sore throats, chest infections etc.
- Prevention: Vaccines exist for the flu but not for the common cold.



CHARACTERISTICS OF BACTERIA

- ✗ Bacteria are unicellular and consist of one cell only.
- ✗ They have cell walls made of protein, a complex carbohydrate and fat molecules.
- ✗ Most bacteria are saprotrophs and feed on dead organic matter.
- ✗ They produce enzymes, which digest the food outside the cell.
- ✗ They reproduce asexually by one cell splitting into two to form new cells.



**STOP,
SCAN & STUDY!**

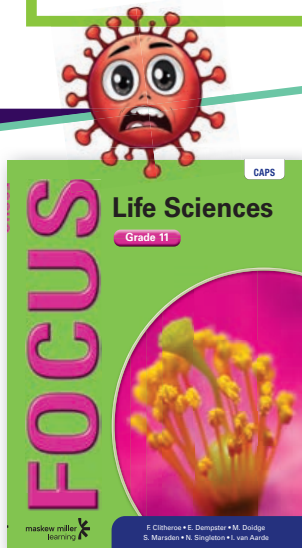


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CHARACTERISTICS OF A VIRUS

- ✗ Viruses have a very simple structure.
- ✗ Viruses are smaller than even the smallest cells and have no nucleus.
- ✗ The protein coat of a virus is called a *capsid*. The capsid protects the DNA and helps the virus to enter its specific host.
- ✗ A virus cannot reproduce on its own. Viruses only reproduce when they infect the host cells of other organisms.
- ✗ The proteins of the virus capsid stick to proteins on the surface of the host cell. It then injects its nucleic acid into the cytoplasm of the host cell. It takes over the functioning of the host cell and multiplies.



Take this basic behaviour quiz to see if you have what it takes!

WOULD YOU BE A GOOD MANAGER?

1 HOW DO YOU HANDLE CONFLICT BETWEEN FRIENDS?

- A Listen to both sides and try to find a fair solution.
- B Pick a side and defend your friend.
- C Avoid getting involved because it's not your problem.

4 YOUR GROUP PROJECT ISN'T GOING WELL BECAUSE OF A LAZY TEAMMATE. WHAT DO YOU DO?

- A Have a conversation with them and make it fair.
- B Complain to the teacher right away.
- C Do all the work yourself to avoid drama.

6 YOUR FRIEND IS UPSET AFTER FAILING A TEST. HOW DO YOU RESPOND?

- A Encourage them and suggest better study methods.
- B Tell them it's just one test and not to worry.
- C Change the subject because you don't know what to say.

8 HOW DO YOU HANDLE CRITICISM?

- A I usually see it as an opportunity to improve.
- B I get defensive but try to listen to the feedback.
- C I take it personally and feel discouraged.

2 A NEW STUDENT JOINS YOUR CLASS. WHAT DO YOU DO?

- A Introduce yourself and help them feel welcome.
- B Hover close by and wait for them to approach you first.
- C Ignore them; they'll figure it out.



9 HOW DO YOU REACT WHEN YOU SEE SOMEONE IS BEING TREATED UNFAIRLY?

- A Speak up and try to help resolve the situation.
- B Feel bad - but don't get too involved.
- C Think 'I'll walk away. It's none of my business'.

3 YOU'RE ASSIGNED TO TRAIN A 'WEAKER' STUDENT ON A TASK. HOW DO YOU HANDLE IT?

- A Explain and demonstrate it, then check if they understand.
- B Give a good explanation and let them figure it out.
- C Avoid the responsibility and hope someone else takes it on.

5 HOW DO YOU FEEL ABOUT PUBLIC SPEAKING?

- A I enjoy it and am relatively confident.
- B I get nervous but can do it if necessary.
- C I avoid it if I can.

7 HOW DO YOU FEEL ABOUT SCHOOL RULES AND POLICIES?

- A They are necessary to keep things fair.
- B Some rules are okay, but hard to stick to.
- C Some rules are annoying and should just be ignored.

10 HOW DO YOU HANDLE A BIG SCHOOL WORKLOAD?

- A Get organised.
- B Get stressed out but eventually finish everything.
- C Panic and rush at the last minute.

POINTS: A=3 POINTS B=2 POINTS C=0 POINTS

25-30 Points:

FUTURE MANAGER SUPERSTAR!

You have the leadership, communication, and problem-solving skills needed to be a great manager. Keep developing these skills, and you'll be on your way!

15-24 Points:

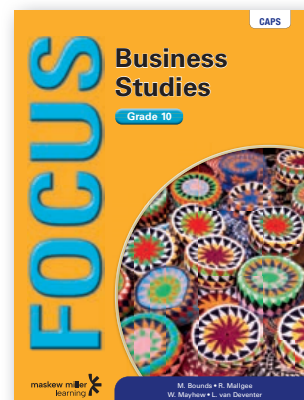
POTENTIAL MANAGER PRO

You have some natural management skills but need to refine them. Work on your communication and be more positive about your leadership role in a group, and you could excel in this field!

0-14 Points:

MANAGEMENT MIGHT NOT BE YOUR THING

You prefer being a strong team player. Your strengths may be 'softer people skills' and you prefer to work alongside people rather than lead them.



The VOCAB **EDGE**

A GOOD VOCAB
DEFINITELY GIVES
YOU THE EDGE.

If you have a
good vocabulary, you
communicate better, which
is a huge confidence booster.
A good vocabulary makes you
sound smarter, while using the
correct words shows that you're
thoughtful and informed.
Whether it's a book, videos,
or a movie, a rich vocabulary
helps you understand
better.

* SUGGESTION ON HOW TO GET THE VERBAL EDGE:

Research shows that reading
improves your vocabulary.

If you come across a
word that you don't fully
understand – look it up,
or ask someone.

DO THIS TEST TO SEE IF YOU HAVE THE **EDGE**.

Each question gives the word, and two possible definitions.

WHICH ONE IS CORRECT?

1 METICULOUS

- A Very careful and precise
- B Always late and disorganised

2 AMBIGUOUS

- A Having more than one meaning
- B Easy to understand and clear

3 TEDIOUS

- A Long, boring, and repetitive
- B Very interesting and exciting

4 INEVITABLE

- A Cannot be avoided
- B Fun but risky

5 RESILIENT

- A Able to recover quickly
- B Easily discouraged

6 FRUGAL

- A Careful with money
- B Always spending recklessly

7 ELATED

- A Extremely happy
- B Calm and emotionless

8 ADVERSITY

- A A time of difficulty or trouble
- B A fun and exciting journey

9 BENEVOLENT

- A Kind and generous
- B Angry and cruel

10 SKEPTICAL

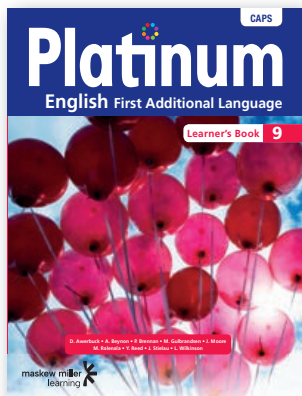
- A Doubtful or questioning
- B Easily convinced

11 VERSATILE

- A Able to do many different things well
- B Only good at one thing

12 SUBTLE

- A Delicate or not obvious
- B Loud and clear



ANSWERS: All answers are A.

1 What's the highest number you can get when you roll two six-sided dice and multiply the numbers?

2 If it takes 5 machines 5 minutes to make 5 gadgets, how long would it take 100 machines to make 100 gadgets?

3 A triangle has one angle that is 90° , and another that is 45° . What is the third angle?

4 Nina has six siblings who were born two years apart. Kevin the youngest is 7 years old, while Nina is the oldest. How old is Nina?

5 THERE IS A PATCH OF LILY PADS ON A LAKE. EVERY DAY THE PATCH DOUBLES IN SIZE. IF IT TAKES 48 DAYS FOR THE PATCH TO COVER THE ENTIRE LAKE, HOW LONG WOULD IT TAKE FOR THE PATCH TO COVER HALF THE LAKE?

MATHS riddles & BRAIN TEASERS to blow your mind

6 There are 12 kids in a class. 6 kids are wearing socks, 4 are wearing shoes and three are wearing both. How many kids have bare feet?

7 Mr Kim has five sons. Each of his sons has a sister. How many children does Mr Kim have?

8 Tom was asked to paint numbers on the doors of a block of flats. There are 100 flats in the building. How many times will he have to paint the number 8?

9 IF YOU MULTIPLY ME BY ANY OTHER NUMBER - THE ANSWER WILL ALWAYS BE THE SAME. WHAT NUMBER AM I?

10 When Pam was 8, her sister was half her age. Now Pam is 14. How old is her sister?

11 I am between 1 and 5, I am less than 4 and more than 2. What am I?

12 The number 5 is transformed to be 11. The number 7 is transformed to be 15. The number 9 is transformed to be 19. What happens to the number 12?

STOP,
SCAN & STUDY!

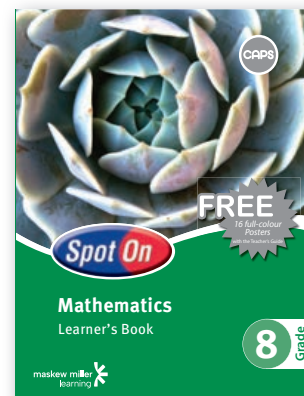


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ANSWERS:

1 $6 \times 6 = 36$, 2 5 minutes (Each machine makes 1 gadget in 5 minutes), 3 Sum of angles in a triangle = 180° So, $180 - 90 - 45 = 45^\circ$, 4 $7 + 2 + 2 + 2 + 2 + 2 + 2 = 19$, 5 1, 2, 3, 6, 5, 7, 6 (they each have the same sister), 8 20, 9 10, 10 Pam's sister is 4 years younger. So she is ten, 11 3, 12 25. The formula: A times 2 and then +1.



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