GROWING SMARTER

GROW SMART

An initiative by

GROWTHPOINT PROPERTIES

www.growsmart.org.za

SECTION 2

1 ENTREPRENEURSHIP

2 MATHEMATICS

3 EXPERIMENT

4 NATURAL SCIENCE

5 GENERAL KNOWLEDGE

6 SOCIAL SCIENCE

7 LANGUAGE

8 LIFE ORIENTATION

WILD ANIMALS TURNED URBAN

Many species have relocated to the cities to adapt their behaviours to survive.
Let's go on an adventure and spot some wildlife in these cities.

MUMBAI LEOPARDS

Due to the highly concentrated population in Mumbai, leopards have lost about 85% of their range in their natural habitat. Mumbai's leopards have been known to wander around residential areas, schools and slums.

BERLIN WILD BOARS

Did you know? Berlin is known as Boar Capital thanks to around 440 000 trees. This green European city is a magnet for wildlife. The boars still forage for their usual acorns, beechnuts, maize, and insect larvae.

JAPAN SIKA DEER

Oddly enough, it's not a strange sight to spot a deer roaming the streets of Nara, Japan. The sika deer are known to locals as frequent visitors in their gardens. The deer is not only a national treasure but also rooted in Japanese mythology.

BLACK BEARS

Black bears in North America are highly intelligent and have become more resourceful since city living has increased among them. They have also become more nocturnal compared to their peers living in the wild. Ecological processes have decreased as more black bears leave the wild, as they play an important role when it comes to seed dispersal and the decomposition of logs.

CAPE TOWN PENGUINS

Have you ever spotted the African penguins in Betty's Bay or at Boulders Beach in Simon's Town? They are world-famous and can be both, heard and smelt when visiting them. They weren't always spotted in coastal towns as they were more accustomed to island life and bred off the South African and Namibian coasts.

LONDON PEREGRINES

When visiting London, you will be sure to spot a Peregrine falcon soaring amongst the city's highest skyscrapers. Just like the Mumbai leopards, they have lost half of their territory and were almost extinct. Now, there are currently 30 breeding pairs, and it seems that they have adapted well to the urban lifestyle.

Source: getaway.co.za

OODLES OF WORDS

How many can you use in a sentence?

grammatically	imperial	irresistible
hectic	improper	journal
hillside	inaccessible	laborious
hindrance	infamous	legacy
hoax	institute	liaison
humdrum	insufficient	magnitude
hypocrisy	interval	molecular
idiom	irreconcilable	morbid

RANDOM ACTS OF SELF-KINDNESS

We always emphasise how important it is to show kindness towards others, but it is also important to show kindness towards yourself. You are an awesome person, so you should appreciate it too!

Show kindness to yourself by doing some of the following:

- [ ] Watch your favourite TV show
- [ ] Spend the afternoon colouring or drawing
- [ ] Read your favourite book
- [ ] Listen to your favourite song and dance
- [ ] Play outside
- [ ] Take a deep breath and do stretches

Source: Choose Gratitude Journal

WORLD QUIZ

1. How many primary colours are there?

2. What do you call a house made of ice?

3. Which is the largest animal in the world?

4. Which is the most sensitive organ in our body?

5. How much of the Earth's surface is covered by water?

6. Who discovered electricity?

7. Which is the instrument used to measure blood pressure?

8. Who was the founder of Microsoft?

ANSWERS: 1. Three (red, yellow, blue); 2. Igloo; 3. Blue Whale; 4. Skin; 5. 71%; 6. Benjamin Franklin; 7. Sphygmomanometer; 8. Bill Gates

BRAIN TEASERS

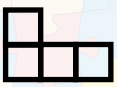
Solve the problems using any strategy.
You must be able to explain your reasoning in getting the answer.

1. Give the next number in the sequence 1, 3, 6 …

(A) 10 (B) 1 (C) 13 (D) 18 (E) 9

2. All the figures below consist of the same four squares of area size. Which figure has the smallest perimeter?

A 

B 

C 

D 

3. The local shop is offering a full 1-litre coke for every 7 empty bottles brought into the shop. What is the greatest number of full cokes you could get if you brought in 49 empty bottles?

(A) 5 (B) 6 (C) 7 (D) 8 (E) 9

4. Because his animals were crowded in the rectangular cattle section, Old MacDonald decided to double the width and triple the length of the cattle section. How many times is the newer section bigger than the old one?

(A) 6 (B) 2 (C) 10 (D) 12 (E) 20

ANSWERS: 1. A; 2. A; 3. C; 4. A

THE BUSINESS CYCLES

A country's economic activity fluctuates over time and influences the economic growth. This is what we call a business cycle.

A business cycle has four periods, namely the expansion, a peak, a contraction, and a trough.

THE EXPANSION PERIOD

During this period the economy's output, meaning production, and employment increases. More workers are hired to produce the additional goods and services demanded by consumers and businesses.

THE PEAK PERIOD

Here employment and output have reached a temporary maximum. The economy is at the top of the business cycle.

THE CONTRACTION PERIOD

Eventually economic growth slows down and output and employment tend to decrease due to consumer and business demands not being as high as it used to be.

THE TROUGH PERIOD

Here business cycles hit rock bottom. If the contraction period becomes too severe, a country can slip into a recession. Economists define a recession as six consecutive months of declining output and increased unemployment. For example, in the 1930's The Great Depression saw unemployment soaring over 25% in America as the national output dropped and many companies went out of business. Luckily a recession doesn't last forever. After the trough period we kickstart the business cycle again and jump into the expansion period.

WHAT FACTORS AFFECT THE DIFFERENT PERIODS?

There are various factors that influence each period in the business cycle.

When there's a rise in unemployment during the contraction period the government can take action by increasing its own purchases of goods and services or they can reduce taxes on households and businesses.

When people see the economy might be slowing down in the coming months, they are most likely to reduce their spending to brace for what is coming and postpone purchases on houses, vehicles and other items.

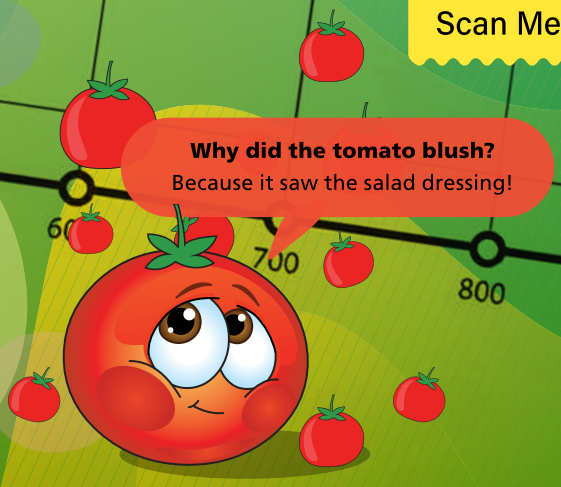
Due to countries being interrelated, one country's business cycle can influence the other.

The rapid development of technology can influence employees' job security by taking over their duties or employees aren't skilled to use the technology.

Source: econedlink.org

Make your money grow

Scan Me



Why did the tomato blush?
Because it saw the salad dressing!

DO SMARTPHONES AFFECT YOUR SLEEP?

Smartphones are very useful, but many of us spend hours a day using them, including tablets and laptops. Although it's a great way for us to stay connected, we can also sometimes feel like we can't log off and simply put our devices away.

Smartphones, tablets, laptops, and computers omit something called blue light. What is blue light? It's nothing new, but in nature it is most abundant in the early hours of the morning. This helps us to wake up for the day. On the other hand, you also have red light which is emitted when the sun sets and signals our bodies that it is time to go to sleep.

What does this mean?

When you use blue light emitting technology like smartphones and tablets right before bed, it confuses your internal body clock and delays your sleep. Studies have found that blue light supresses our bodies' melatonin production, which is a hormone that controls our sleep cycle. When your body runs low on melatonin, you can experience grogginess in the morning or restless nights.

This isn't necessarily happening to everyone. Naturally there's a difference between just checking to see if you have messages and scrolling for hours through social media. Remember, you don't have to be reachable all the time. It's good to unwind and take time to develop a bedtime routine that doesn't involve screentime.

How can you improve your sleep?

Avoid electronics two to three hours before you go to sleep.
Keep your bedroom as dark as possible.
Expose yourself to as much natural light during the day as possible. This can help you stay alert during the day and sleep better at night.

Sources: nm.org | healthclevelandclinic.org

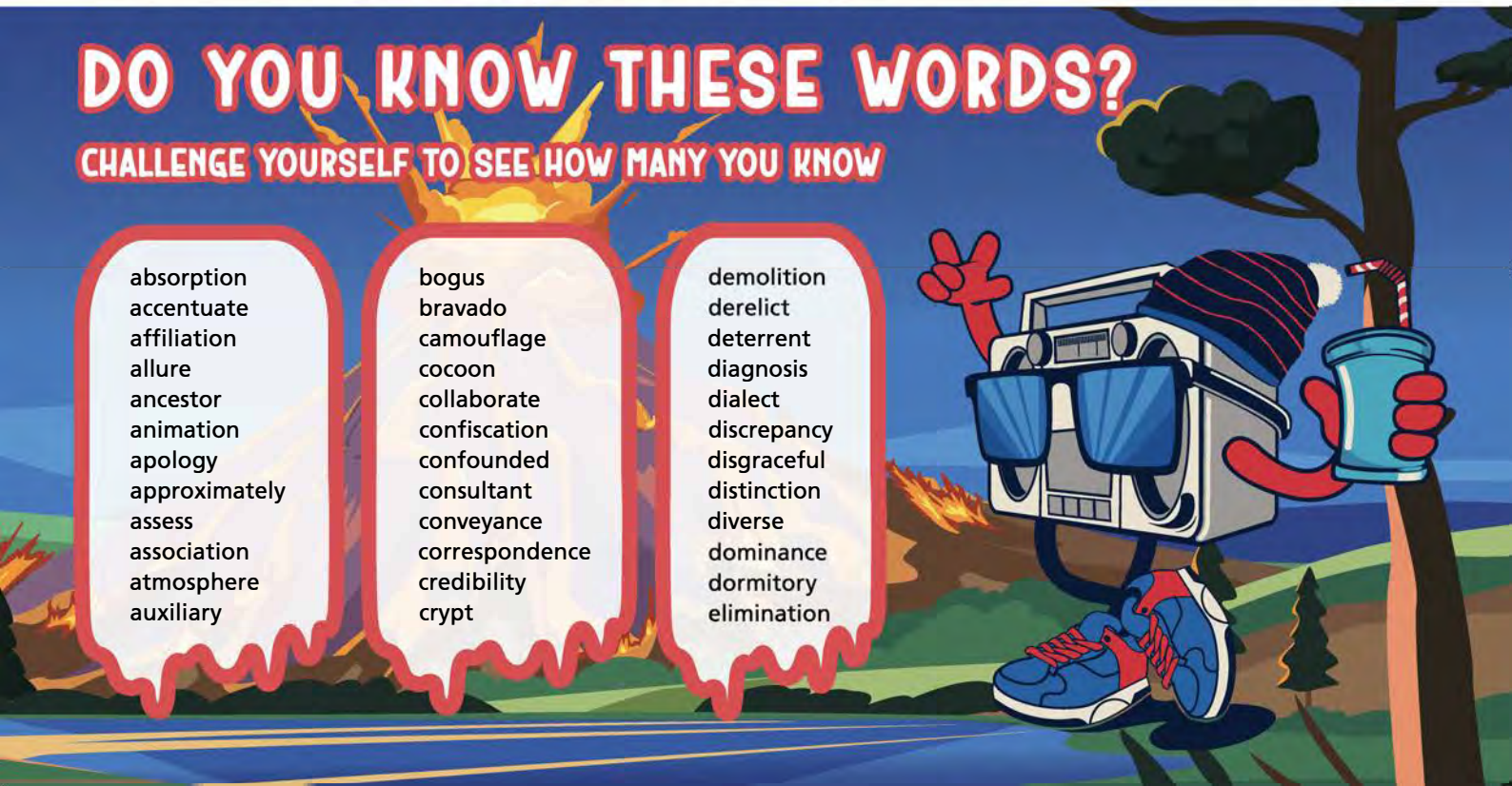
DO YOU KNOW THESE WORDS?

CHALLENGE YOURSELF TO SEE HOW MANY YOU KNOW

absorption
accentuate
affiliation
allure
ancestor
animation
apology
approximately
assess
association
atmosphere
auxiliary

bogus
bravado
camouflage
cocoon
collaborate
confiscation
confounded
consultant
conveyance
correspondence
credibility
crypt

demolition
derelict
deterrent
diagnosis
dialect
discrepancy
disgraceful
distinction
diverse
dominance
dormitory
elimination

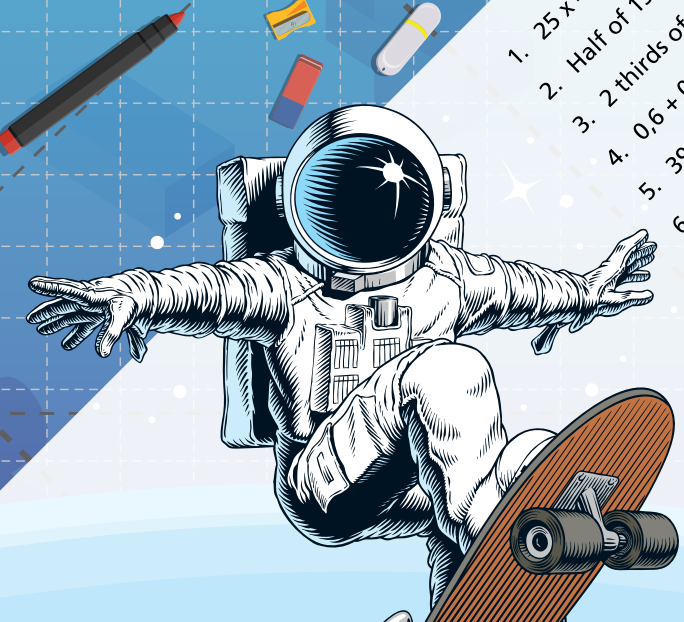


CALCULATING CIPHERS

Calculate the following. You may use any strategy.

1. 333 + 333 + 333 = _____
2. (767 + 3 + 30) + (250 + 750) = _____
3. 25% of 200 x 10 = _____
4. 888 ÷ 1 + 1 x 22 = _____
5. (450 + 550 - 250) x 2 = _____
6. 800 ÷ 2 ÷ 20 ÷ 1 = _____
7. 999 x 3 x 1 ÷ 3 = _____
8. 100 x 0 + (½ of 6 000) = _____
9. 999 - 222 - 777 = _____
10. 20 000 x 100 x 2 = _____

ANSWERS: 1. 999; 2. 1 800; 3. 500; 4. 900; 5. 1500; 6. 20; 7. 999; 8. 3000; 9. 0; 10. 4 000 000



1. 25 x 4 = _____
2. Half of 151 = _____
3. 2 thirds of 3 000 = _____
4. 0,6 + 0,1 = _____
5. 39 + 71 = _____
6. Double 161 = _____
7. 55 - 7 = _____
8. 335 + 465 = _____
9. 519 - 20 = _____
10. Triple 120 = _____
11. 699 - 7 = _____
12. 40 x 30 = _____
13. 5 001 ÷ 5 001 = _____
14. 95 x 2 = _____
15. 70 x 70 = _____
16. 910 + 10 = _____
17. 31 million + 19 million = _____
18. 26 x 2 = _____
19. Half of 161 = _____
20. 2 thirds of 6 000 = _____

ANSWERS: 1. 100; 2. 75½; 3. 2 000; 4. 0,7; 5. 110; 6. 322; 7. 48; 8. 800; 9. 499; 10. 360; 11. 692; 12. 1 200; 13. 1; 14. 190; 15. 4 900; 16. 920; 17. 50 million; 18. 52; 19. 80½; 20. 4 000

KINDNESS TOWARDS OTHERS

Being kind to others is always appreciated and valued.
Show your kindness and see if you can check the whole list.

- [ ] Pick up litter to help keep your neighbourhood clean
- [ ] Hold the door open for the person behind you
- [ ] Call a friend or family member you don't see often
- [ ] Help to cook a meal for your family
- [ ] Help with the dishes at home
- [ ] Volunteer to help an elderly neighbour with their grocery shopping

WRITING WITH A STRATEGY

Keeping your readers hooked is not an easy job. Luckily, there are many strategies you can try out to find the best fit for your story.

SMALL MOMENTS

Include small moments by taking a big topic and zooming in on just a small part of it. For example, instead of just going to the beach, write about how the characters build a sandcastle at the beach.

EXPLODING MOMENT

Don't just write about the moment, escalate it with vivid sensory details like it's being described in slow motion. **Example:** The warm sun kissed my cheeks, and the sand ran through my fingers as I was gathering more building material for my sandcastle.

DIALOGUE

Use dialogue to create conversation between characters and let the reader get to know the character's traits. It also shows the relationship between various characters and can bring action to life for the reader.

USE A HOOK

You want your reader to pay attention, therefore it is important to include a hook in your story. **Example:** As I gather the sand for my sandcastle, a crab crawled out from under the rock and grabbed my finger!

CREATE SENSORY IMAGES

Utilise the five senses in your writing. **Example:** While I was building the sandcastle, I could smell the salt in the air from the ocean.

USE VIVID DETAILS

Create vivid descriptions so that readers feel like they are standing right in the middle of the scene.

Source: teacherspayteachers.com

OIL-EATING BACTERIA

Did you know?
Istanbul in Turkey is the only city in the world located on two continents — Europe and Asia.

In modern day living, many processes are dependent on crude oil. Even though we are greatly dependent on crude oil, it is extremely toxic to plants and animals. If an oil spill occurs, it needs to be cleaned up immediately to prevent damage to the environment.

History has proven that oil spills are inevitable. So how can we try to clean up spills in an environmentally friendly way? Oil-eating bacteria of course!

Oil-eating bacteria can be found in the ground, grown in a lab, and then be put back in high volumes in the ground or ocean. The oil will be eaten without damage to the environment.

BUT HOW CAN THESE BACTERIA BE FOUND?

Scientist have tested a method using Nile Red, a clear substance that turns red once in contact with crude oil. The more oil present, the stronger the intensity of the red. This is known as fluorescence intensity.

When conducting the experiment, scientists chose a control group of bacteria that they knew couldn't break down oil. Therefore, the tubes with this particular bacterium will have a high colour intensity and the tubes with less colour intensity are the bacteria that are able to eat the oil.

Become an eco-warrior

Scan Me

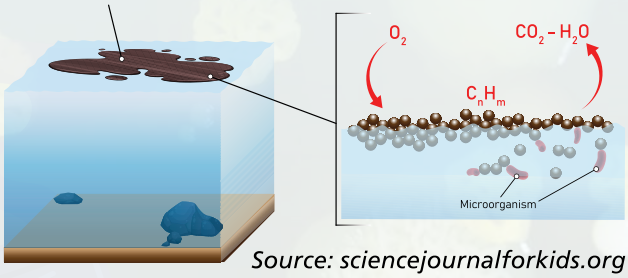
THE RESULTS

In as little as four days scientists were able to identify bacteria which ate more than half of the oil given to them.

Usually removing oil spills are expensive and harmful to the environment. This experiment has proven that there are more affordable and natural ways to clean up oil spills than specialised machines, utilising a bioremediation approach.

BIOREMEDIATION

The use of naturally occurring microorganisms (such as bacteria) to clean up polluted areas.



Source: sciencejournalforkids.org

EXPLORING FORENSIC SCIENCE

The world of crime, evidence and investigations can be intriguing. But how does forensic science work exactly? And how does it help with solving crime?

When we're out and about in the world, we leave traces of evidence wherever we go. This can be anything from hair to fingerprints and even fibres of clothing. We don't notice it, and it can play a huge part in an investigation.

An investigation can be seen as a crime puzzle where all the pieces need to fit together to solve the mystery and find the culprit. When visiting a crime scene, physical and chemical evidence will be collected by forensic scientists whereafter they will go back to the laboratory for testing. It's very important that all possible evidence is collected at the crime scene so that it can be presented, usually in court, to reflect an accurate account of what happened.

Some would say a forensic scientist is a crossover between a detective and a scientist, as they spend hours collecting and testing evidence and analysing it too. Besides forensic scientist, police spend hours taking statements from suspects and witnesses to help with the investigation. You never know what an interview might bring forward.

Source: twinkl.co.za

MATCH THE FORENSIC TERMINOLOGY TO ITS DEFINITION:

1. DNA _____
2. Pathology _____
3. Dusting _____
4. Ultraviolet light _____
5. Trace evidence _____
6. Biometrics _____
7. Chromatography _____
8. Fuming _____

A. Unique features from a person which help confirm their identity, like their fingerprints, facial features, retinal patterns, handwriting, etc.

B. An investigation method used at crime scenes to help uncover fingerprints.

C. Another investigation method used to uncover latent fingerprints that you can't see, for example those left by sweat.

D. A process used by forensic scientists to identify different pigment combinations found in ink.

E. Genetic information from a person, which can identify suspects.

F. Another technique used to see certain substances that aren't visible to the naked eye.

G. The diagnosis of cause, disease, and other important factors through laboratory analysis.

ANSWERS: 1. E; 2. G; 3. B; 4. F; 5. H; 6. A; 7. D; 8. C

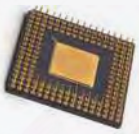
WHAT IS KEEPING THE COMPUTER RUNNING?

Since personal computers were invented in the mid-70's, they have become an integral part of our daily life. But how do they run? Let's take a look at a few core pieces every computer has.

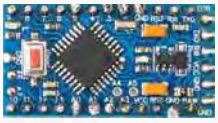
Source: educationworld.com

Windows Apple

OPERATING SYSTEM
The program that manages all the other programs in a computer. It is also sometimes abbreviated as "OS".



MICROCHIP
Microchips are integrated circuits that have been etched onto silicon chips. It transfers electric currents, or signals, which are converted into instructions by a receiving device.



MICROPROCESSOR
This is basically the brain of the computer. It does all the data processing, logic, and control to perform the functions of the computer's processing unit.

MOTHERBOARD
The physical arrangement in a computer that contains the computer's basic circuitry and components.

BIOS
This stands for Basic Input/Output System and is the program a computer's microprocessor uses to get the computer system started after it's turned on.

MEMORY
The name for the electronic holding place for instructions and data that a computer's microprocessor can reach quickly.

CHIPSET
A group of microchips designed to work as a unit in performing one or more related functions.

Malware Awareness

Scan Me

A RAINBOW FILLED WITH THANKS

Take a moment to appreciate the little things, such as playing with friends, a hug from a loved one, or a yummy family meal.

Focus on what you are grateful and how it makes you feel and fill in the rainbow heart with thanks whenever the moment strikes!

Source: Choose Gratitude Journal

I'm grateful for spending time with dad after school.

I'm grateful for mom making us a yummy dinner.

I'm thankful for playing with my friends during breaktime at school.

CHEERY NONHLE

Bullying

Wendy and Themba have been friends since grade one. They spend each break together and even do their homework together after school. Wendy and Themba only lived a three-minute walk from each other's house, so it was easy to see each other often.

It was the start of the second term and a new girl, Nonhle, joined their class. As difficult as changing schools can be, making new friends can be even more difficult. Nonhle tried to make friends with Amy and her group of friends, because they sat closest to Nonhle, but after a week without success and Nonhle only being nice, they told Nonhle, "Stop trying to be friends with us. We don't like you."

Wendy and Themba heard Amy tell Nonhle this and could only imagine how sad she must feel. Break time came around and Wendy and Themba were chatting about the incident on their way to the bathroom when they found Nonhle crying.

"Why don't they like me?" sniffled Nonhle, "I was only nice to them." Wendy and Themba looked at each other, "Well Nonhle, sometimes people just don't click, and that's fine too." said Themba. "Yes, not everyone is going to like each other, and that's okay." said Wendy.

"I think it will be a great idea to also talk to other people in the class, not only Amy and her friends. We have other friendly classmates." said Themba. "But I'm shy", replied Nonhle, "Try to make an effort to participate in conversation, like 'no way!' or sharing your general knowledge, saying 'I heard that too!' and expanding." explained Themba. Wendy also explained to Nonhle how it is important to spend time with people who are positive towards her, "That's why I spend so much time with Themba!" Themba laughed and high-fived Wendy. "You can also calm your nerves by repeating a positive message to yourself, like 'I am going to be brave' and make conversation with fellow classmates."

The bell rang and Nonhle, Wendy, and Themba headed back to class. Everyone got to their seats, Nonhle looked nervously towards Wendy and Themba. They gave her a big thumbs up. Nonhle took a deep breath and started talking to Maddy in front of her. It was not too long before the two of them were laughing.

PULLING WORDS OUT OF THE HAT

emboss
enclosing
enhance
epic
evaluate
executive
formulate
frugal
fulfil
genteel
germinate

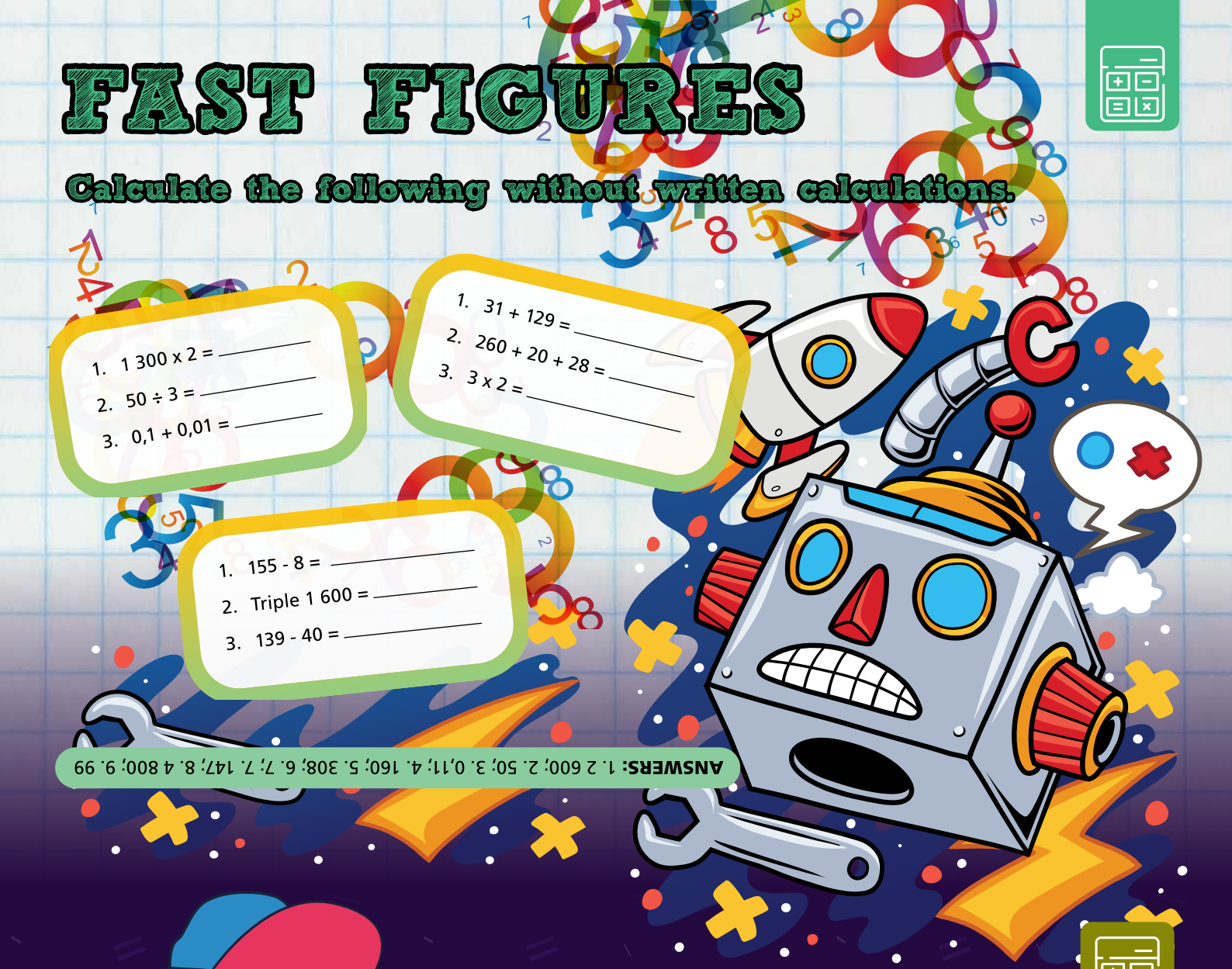
FAST FIGURES

Calculate the following without written calculations.

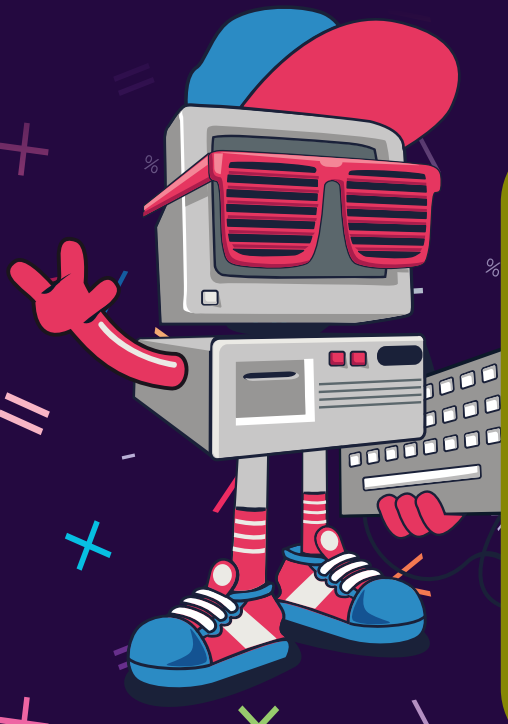
1. 1 300 x 2 = _____
2. 50 ÷ 3 = _____
3. 0,1 + 0,01 = _____

1. 31 + 129 = _____
2. 260 + 20 + 28 = _____
3. 3 x 2 = _____

1. 155 - 8 = _____
2. Triple 1 600 = _____
3. 139 - 40 = _____



ANSWERS: 1. 2 600; 2. 50; 3. 0,11; 4. 160; 5. 308; 6. 7; 7. 147; 8. 4 800; 9. 99



1. 51 + 49 = _____
2. 260 + 40 + 28 = _____
3. 5 x 2 = _____
4. 175 - 6 = _____
5. Triple 2 100 = _____
6. 129 - 30 = _____
7. Double 5,5 = _____
8. 699 + 3 = _____
9. 80 x 40 = _____
10. 160 ÷ 2 = _____
11. 64 x 2 x 1 = _____
12. ½ of 700 = _____
13. 999 + 1 - 51 = _____
14. 3 500 + 600 = _____
15. 60 x 200 ÷ 200 = _____
16. Half of 45 = _____
17. 7 000 ÷ ½ = _____
18. 8 x 3 = _____
19. 1 quarter of 2 000 = _____
20. The sum of 170 and 70 = _____
21. 602 ÷ 2 = _____

ANSWERS: 1. 100; 2. 328; 3. 11; 4. 169; 5. 6 300; 6. 99; 7. 11; 8. 702; 9. 3 200; 10. 80; 11. 128; 12. 350; 13. 949; 14. 4 100; 15. 60; 16. 22½; 17. 3 500; 18. 54; 19. 500; 20. 240; 21. 301

THE OLDEST DESERT IN THE WORLD

The African landscape is unsurpassed in beauty and historical discoveries. One such landscape is the Namib Desert. With its rolling red dunes, it is the oldest desert in the world. You might be thinking, what about the Sahara Desert? Well, it was initially a mixture of green savannah grasslands and forests before becoming a desert 12 000 years ago.

The Namib Desert has been dry for at least 55 million years, but many speculate it can be as much as 80 million years. Interesting enough, because it is a coastal desert, the Namib Desert experiences around 180 days of fog every year thanks to the cold air from the offshore Benguela Current colliding with the hot inland air.

Even though the dry and arid landscape makes it a challenge like no other to survive, there are thriving troops of desert lions and elephants as well as welwitschia plants that have adapted to their tough surrounds.

WEIRD BUT WONDERFUL

Deadvlei, close to Sossusvlei, is home to a clay pan surrounded by the highest sand dunes, reaching 300-400 meters. The pan formed when the Tsauchab river flooded, allowing a period where camel thorn trees could grow. Drought hit the area and the trees could no longer survive, although today you can see the wonder of the remaining trees scorched by the desert sun that have died around 600 years ago. The wood cannot decompose because of the dryness.

PROTECTING THE NIGHT SKY

The NamibRand Nature Reserve is part of the Dark Sky Reserve, the only one on the African continent. The nature reserve is already part of numerous conservation efforts and expanded the preserving to the star-filled skies. Limiting light pollution is beneficial for the environment as it allows ecosystems to function optimally.

Sources: safaribookings.com | theculturetrip.com

WHERE ARE SOME OF THE OTHER SPECTACULAR DESERTS IN THE WORLD LOCATED?

1 Salar de Uyuni
Bolivia

2 White Desert
Egypt

3 Sonoran Desert
USA/Mexico

4 Atacama Desert
South America

Smallest desert in the world

Scan Me

Did you know?
Dust from the Sahara Desert in Africa can travel great distances - even as far as Texas in America.

A ROARING LINGUAL CHALLENGE

TAKE A LOOK TO SEE HOW MANY YOU KNOW

mutation
nausea
obsolete
occurred
odour
optimism
panorama
passive
patronize
perjury
philosophy
poisonous
protein
prompt
proximity
psychiatrist
recipient
redundant
renovate
retaliate
retrieve
ridiculous
rumpus
scuttle
sensationalism
sensibility
sheer
situated
slumber
souvenir
suburban
surgeon
sustenance
swelter
symbol
symphony
tabloid
tedious
tentative
thorough
ulterior
unforgettable
unpredictable
unsanitary
vocalize
volatile
wary
width

POCKET POETRY TOOLS

The next time you channel your inner poet, keep these poetry tools in your back pocket and you might just be the next C.S. Lewis. These tools will help get your ideas flowing for your poem.

LINE BREAKS
Write in shorter lines to slow the reader down.

RHYTHM
The rhyme scheme is usually AABB, ABAB, or ABCA and creates a rhythm that makes you want to tap your foot.

SIMILE
Using comparison with “like” or “as”.

METAPHOR
Comparing an object or action that isn’t literally true but helps explain an idea or feeling.

PERSONIFICATION
Giving human traits to something that is not human.

IMAGERY
Help the reader form a picture in their mind.

ALLITERATION
Using the same letter or sound at the beginning of words next to each other or closely connected.

REPETITION
Repeating something.

Source: theclassroomkey.com

The next songwriter?

Scan Me

THE GREAT KAROO

Source: theconversation.com

South Africa formed part of Pangaea, the great single supercontinent, more than 200 million years ago. There were only a few places where fossilisation was possible, and the Karoo was exactly such a place.

What makes the fossil discoveries in the Karoo so amazing is that it provides a historical record of biological changes over a period of Earth's history, as well as testing evolutionary processes over long periods of time.

The Karoo plays a vital role in showing us distant origins of mammals, tortoises, and dinosaurs. It also covers two great extinction events, namely the end-Permian, which took place 252 million years ago, and the end-Triassic, which took place 200 million years ago.

A specific area in the Karoo, known to scientists as the Beaufort Group, has yielded the oldest recorded fossil ancestor of living turtles and tortoises. Another part of the Karoo, known as the Stormberg Group, preserves a record of early dinosaurs that could help palaeontologists understand the rise of the giant sauropod dinosaurs of the Jurassic Period.

Currently the Karoo is still being discovered and advanced science and technology has made it possible to expand their work. A comprehensive database of all Karoo fossil vertebrates that have been discovered has been built, allowing scientists to access the first database of Permian-Jurassic continental vertebrates globally.

PALEONTOLOGIST
Someone who studies fossils to obtain information about the history of life on Earth.

These discoveries and advanced technologies are allowing us to answer questions that were not possible before.

Cradle of Humankind

Scan Me

ARCHETYPE VS STEREOTYPE

These two are very similar, yet different literary devices. Let's dive in to see how different they really are.

Archetypes represents a character that appears universal in literature. It gives readers a sense of recognition and familiarity

EXAMPLE

A hero that rises to the challenge or a character with wisdom and knowledge. It can also be a setting, like a forest that symbolises dangers and beasts or a river where water symbolises life.

A stereotype is a generalised belief about a particular category of people.

Stereotypes are mostly used to portray supporting characters.

EXAMPLE

The character that is the typical popular girl or the misunderstood rebel.

Source: literarydevices.net

BRAIN TEASERS

Solve the problems using any strategy. You must be able to explain your reasoning in getting the answer.

1. If the original figure below is rotated 90 degrees counter clockwise, which of the figures below shows the result of this rotation?

ORIGINAL FORM

FIGURE 1

(A)

FIGURE 2

(B)

FIGURE 3

(C)

FIGURE 4

(D)

2. Mike wrote four tests: Maths, English, Science and History. He got 74% in English and 84% in History. His Maths score was better than his Science score by 6 %. The average of the four tests was 72%. What percentage did he get for Science?

(A) 72% (B) 82% (C) 40% (D) 32% (E) 62%

3. The local shop is selling a chocolate and a cool drink together, for R6,75. The cool drink costs R2,25 more than the chocolate. How much does the chocolate cost on its own?

(A) R3,25 (B) R 2,25 C) R1,25 (D) R4,25 (E) R1,25

4. Find the sum of the remainders of 602 ÷ 4 and 301 ÷ 3

(A) 1 (B) 2 (C) 3 (D) 4 (E) 5

5. What is (12 ÷ 7) correct to 2 decimal digits?

(A) 1.16 (B) 1.17 (C) 1.71 (D) 1.72 (E) 1.73

6. If 6n - 2 = 22 then n =...

(A) 2 (B) 3 (C) 4 (D) 5 (E) 6

7. Evaluate 101 x 100 - 100 x 100

(A) 100 (B) 99 (C) 98 (D) 97 (E) 96

8. What is the best estimate of 300 g of cheese at R59.99 per kg?

(A) R18 (B) R19 (C) R20 (D) R21 (E) R22

9. A vendor sold 20 kg of onions. After selling 38 of the remainder, the vendor had 25 kg of onions left. How many kg onions did the vendor start with?

(A) 90 kg (B) 80 kg (C) 70 kg (D) 60 kg (E) 50 kg

10. Tashya missed the 200 meters record which was 22.9 seconds by 2.7 seconds. What was Tashya's time in seconds?

(A) 25.1 (B) 25.6 (C) 25.9 (D) 26.6 (E) 27.6

11. When the 4-digit number 34m7 is divided by 7 the remainder is 2. The value of m is ...

(A) 5 (B) 6 (C) 7 (D) 8 (E) 9

12. Which is the smallest?

(A) 1,075 m (B) 1,105 m (C) 1,0075 m (D) 1,0705 m (E) 1,75 m

13. If 3 litres of juice cost R34 then how much will 12 litres of juice cost at the same rate?

(A) R118 (B) R124 (C) R130 (D) R136 (E) R142

14. An equal number of R2 and R5 coins were obtained from R140 notes. How many R5 coins were obtained?

(A) 10 (B) 12 (C) 14 (D) 16 (E) 20

15. A rectangular garden measures 84 m all round. If the length is 6 m shorter than its width, then find the width in metres.

(A) 17 m (B) 18 m (C) 19 m (D) 20 m (E) 21 m

16. How many 75 cm lengths can you cut from timber which is 10 m in length?

(A) 12 (B) 13 (C) 14 D) 15 (E) 16

ANSWERS: 1. B; 2. E; 3. B; 4. C; 5. C; 6. C; 7. A; 8. A; 9. D; 10. B; 11. B; 12. C; 13 D; 14. E; 15. B; 16. B

MYTHICAL MONSTERS FROM ANCIENT GREECE

We bet you've heard of some famous Greek myths, such as Zeus, Heracles, and Pegasus. These elaborate stories are always magical with their mythical beings forming a large part of the Greek religion.

The Greek gods were often portrayed fighting in heroic battles against terrible monsters with an underlying moral of bravery, intelligence and knowledge of right and wrong. Details of these ancient tales have been discovered on everything, from pottery to temples and stone statues.

Let's take a look at some infamous Greek myths!

Source: natgeokids.com

The Labours of Heracles

The Monster: The Hydra | **The Hero:** Heracles

The Battle: As one of his 12 tasks to become immortal, Heracles, the son of Greek god Zeus, must kill Hydra, a nine-headed serpent that creeps in the swamp. After throwing flaming spears at the beast, Hydra attacks and Heracles hits its heads with a club. But more heads grow in their place! Heracles' friend, Lolus, leaps to his aid with a flaming torch. After an epic battle, the men finally destroy Hydra!

Perseus and Medusa

The Monster: Medusa | **The Hero:** Perseus

The Battle: Medusa is petrifying to look at with snakes for hair, terrifying tusks and a face that turns anyone that looks at it into stone! The warrior Perseus agrees to slay the beast to please his king. He sneaks up on Medusa while she is sleeping by wearing a helmet of invisibility. One gaze at her face and Perseus would be a statue! He takes his shiny shield, looks at her harmless reflection and beheads her. Victorious, Perseus flies off on his winged sandals.

Theseus and the Minotaur

The Monster: The Minotaur | **The Hero:** Theseus

The Battle: The Minotaur, half-man, half-bull, lurks in an underground maze waiting for his next meal – children sent to him as sacrifice. Lost in the maze, the kids will eventually be devoured. However, the brave king, Theseus, has had enough of his people living in fear. He accompanies his group and prepares to fight. Hearing the Minotaur breathing nearby, he springs toward it. Dodging the monster's deadly horns, he thrusts his sword into the beast. With the Minotaur dead, will the group find its way out of the maze? Luckily, Theseus unspooled a piece of string as he walked in search of the Minotaur and leads the children to safety.

COLOUR THE COVER

Decide WHAT the AUTHOR'S PURPOSE is WHEN you colour in the covers in the colouring code.

A B C

TO PERSUADE	TO INFORM	TO ENTERTAIN
Ten reasons to eat fruit	Facts about the solar system	Everyone needs to ride a bike
Brownie the bunny likes to dance	The five great rivers	The three singing goats
Recipes from India	The spoon that ran away	Why you should exercise
Parts of an apple	Why pigs are the best pets	The lifecycle of a frog
Letter from my cat	Why South Africa is the best country	Popular fairy tales
Five reasons to build a treehouse	Valentine riddles and jokes	The day my dog talked
How to bake a cake	The great adventures of Thomas the turtle	

Source: Pinterest – themoffattgirls.com

DANCING RAISINS

Get those raisins grooving with this exciting experiment!

WHAT YOU NEED

- 1x tall clear glass
- water
- baking soda
- vinegar
- raisins
- 1x teaspoon
- paper towels or cloth

Note: If you don't have vinegar and baking soda, use 7UP or Sprite.

INSTRUCTIONS

1. Fill the glass ¾ full of water.
2. Mix 1 teaspoon of baking soda into the water until it is nearly clear. Dilute the baking soda as needed.
3. Put 2-3 raisins into the glass.
4. Pour a ¼ cup of vinegar into the glass. Place a paper towel or cloth under the cup in case it bubbles over.
5. Watch the bubbles gather on the sides of the raisins and then slowly rise and fall in the glass.

HOW DOES IT WORK

The carbon dioxide that forms in the glass slows down around the raisins. As the molecules hit the raisins, they begin to build up near the raisin and attach to it.

The combination of raisin and carbon dioxide gas is less dense than the raisin, so when bubbles form on the raisin, they lift the raisin to the surface.

When some of the bubbles break, the density increases, the raisins sink and then the whole process is repeated. This makes the raisins appear to dance.

VARIABLES

Try using different objects like rice or beans.

Sources: letstalkscience.ca | metrofamilymagazine.com

Did you know?
The Dead Sea is the lowest place on the planet.