

PROFESSOR THANDI'S FUN SCIENCE EXPERIMENT

MAKE YOUR OWN RAINBOW

You won't find a pot of gold at the end of this rainbow, but you will get a better understanding of how rainbows form in nature.

YOU WILL NEED

- A glass of water (3/4 full)
- White paper
- Sunshine

INSTRUCTIONS

1. Take your white paper and glass of water to a sunny spot in the room or outside.
2. Hold the glass of water above the paper.
3. As the sunlight passes through the water, watch as the light refracts (bends) to form a rainbow on

your white paper.

4. Hold the glass at different angles and heights to see if the rainbow changes.

RESULTS

While you might recognise a rainbow as an arc of light in the sky on a day of rain and sunshine, you will also find rainbows in the mist of a waterfall or on a white paper as seen in your experiment. Rainbows appear when the sunlight passes through water. For example, raindrops or your glass of water. This causes the sunlight to refract or bend, separating it into the seven colours of the rainbow.

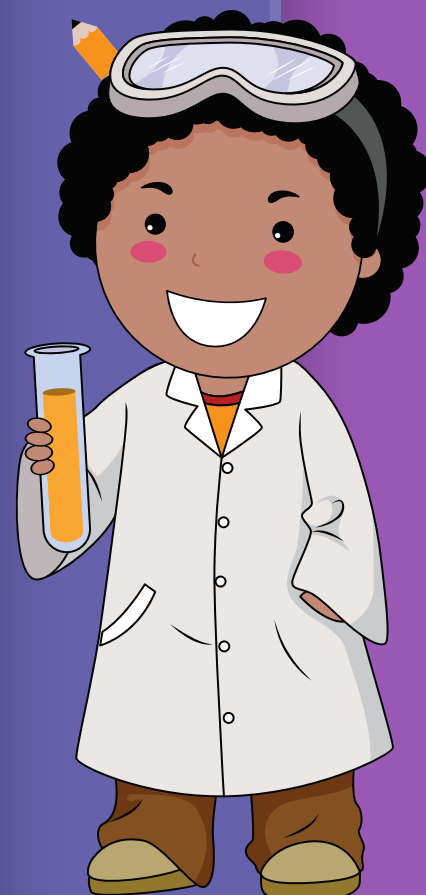
Source: sciencekids.co.nz

What are all the colours of the rainbow?

Answer: Red, orange, yellow, green, blue, indigo and violet

FUN FACT

When you look at a rainbow, you see only a semi-circle. But a rainbow is in fact a full circle of light.



SELF-DRIVING CARS

By the time you turn 18 years old, you probably won't have to learn how to drive. That's because self-driving cars will be as commonplace as manual cars are today. How cool is that?

In just a few years, the futuristic cars you see in Hollywood blockbusters like *I, Robot* and *Batman* will be driving you to work. Okay, maybe not the Batmobile! But scientists are working hard to turn today's science fiction into reality.

Google is the driving force behind the development of autonomous cars. In 2012, they tested the practicality of self-

driving cars by transporting a blind person to complete his daily chores. The route was pre-programmed and included specific manoeuvring directions.

Self-driving cars are already legal in three states in America. But engineers still have to solve various problems. For instance, what will happen if the car malfunctions in the middle of the road? Or if it gets a flat tyre?

The main goal of these cars is to make our roads safer and travelling more convenient. Would you trust a self-driving car?

Source: mocomi.com



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DEAR GROWSMARTER

Phew, what a year it's been so far! Welcome to the final edition of the Growsmart newspaper for 2018. Are you ready for the last stretch? If you've been reading your newspapers from cover to cover, you sure will be!

Remember, to improve your reading and writing, you need to read and write as much as possible. The activities in the newspapers will help you practise these two important skills.

We hope that you have been enjoying the Growsmart Debating Competition. Look out for more tips in this edition, as well as a list of motions that will give you a good idea of the topics you can expect in a debate.

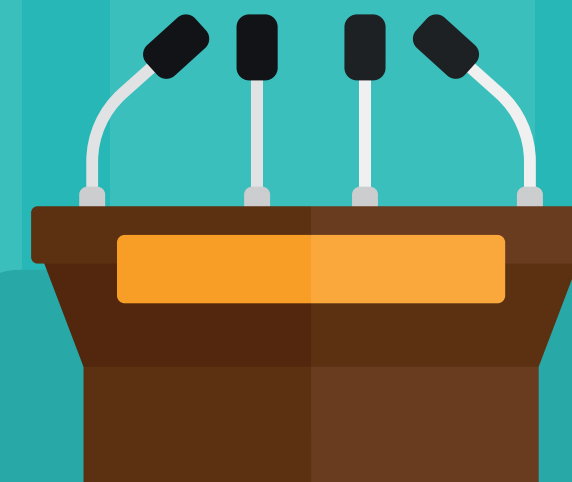
Until next time,
The Growsmart Team

CLASS ACTIVITY

MOTIONS FOR DEBATE

Divide into teams of three students each. Pick one or more of the motions below to practise your debating skills.

- THW choose to never grow old
- THBT parents should have access to their children's social media accounts
- THW ban homework
- THW ban school uniforms
- THW ban zoos
- THW ban beauty pageants for kids
- THW ban junk food from school tuckshops
- THBT people should be fined for not recycling
- THW make physical education compulsory in school



TOP TIPS FOR YOUR NEXT DEBATE

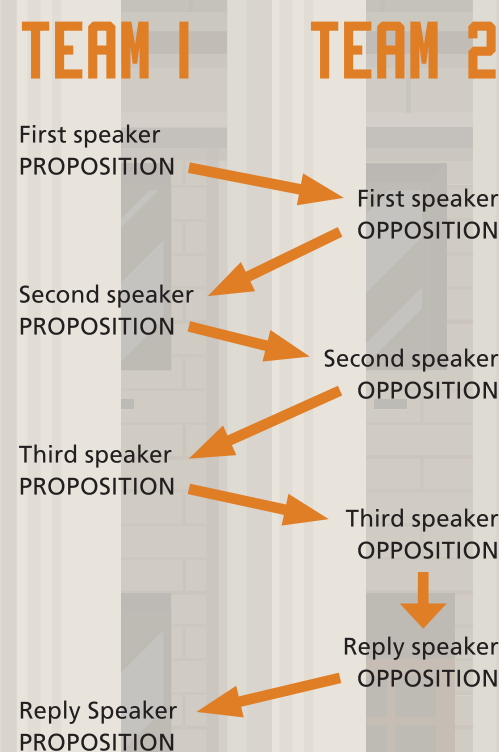
- Practise in front of the mirror, your friends, family and teacher. Anyone who cares to listen!
- Watch videos of schools debating on YouTube. But make sure you use your own arguments when you write your speech.
- During the debate, relax! Listen to the opposition and make sure you gather key points from the rebuttal.
- Deliver your speech with passion – even if you don't completely agree with your argument. Remember, you have to convince the judges and audience. They won't believe you if you don't believe yourself!

Source: [wikihow.com](http://www.wikihow.com)



SPEAKING ORDER

Every debate has two sides: the Proposition and the Opposition. Each team has three people. During the debate, the speeches will take place in this order:



REMEMBER THESE ACRONYMS?

THW: This house would...

THBT: This house believes that...

THE GREAT DEBATE

Let's look at possible arguments you can have for and against the motion 'cellphones are dangerous'.

PROPOSITION

THBT cellphones are dangerous, because:

They pose a threat to safety. People make phone calls, check emails and text while driving. There is a growing number of deaths caused by people who use their phones while driving.

They pose a threat to family. Cellphones are now part of dinnertime with children playing games or texting friends and parents checking email. Everyone is constantly on their phones, which causes family life to suffer.

Can you think of more reasons why cellphones are dangerous?

OPPOSITION

THBT cellphones are not dangerous, because:

People who use cellphones irresponsibly are

to blame. Cellphones do not play games by themselves, nor do they text or make phone calls by themselves. Cellphones are not the problem because many people can use them responsibly.

If cellphones are not allowed in cars, a person whose car broke down on the highway will not be able to phone for assistance.

Can you think of more reasons why cellphones are not dangerous?

Source: [wikihow.com](http://www.wikihow.com)

LEARN MORE

Visit these websites to learn more about debating.

The Premier Online Debate Website:
debate.org

On this site, you can participate in debates and read the opinions of others. You will also find research on various debate topics.

International Debate Education Organisation:
idebate.org

This site offers the most popular topics for debate, including their arguments and research.



MATHS 1

ANSWER AS MANY AS POSSIBLE. Do NOT PAUSE IF YOU Do NOT KNOW THE ANSWER IMMEDIATELY.

- | | | | | | |
|---------------------------------------|--|-------------------------------------|--|-------------------------------------|--|
| 1. $5\,689 - 2\,089 =$ | | 16. $3\frac{2}{3} + 2\frac{2}{5} =$ | | 31. $1\frac{1}{2} + 5\frac{1}{2} =$ | |
| 2. $18\,055 + 4\,545 =$ | | 17. $7\frac{1}{5} - 3\frac{2}{5} =$ | | 32. $900 \times 90 =$ | |
| 3. $(56 \div 2) \div 4 - 2 =$ | | 18. $11,03 + 0,5 =$ | | 33. $888 + 12 =$ | |
| 4. $29 + 4 \times 0 =$ | | 19. 10% of 750 = | | 34. $1\,300 \times 2 =$ | |
| 5. Half of $(8 \times 3) + 6 =$ | | 20. $6\frac{2}{5} + 3\frac{2}{5} =$ | | 35. $20\,000 \times 200 =$ | |
| 6. $2\frac{5}{6} + 2\frac{2}{3} =$ | | 21. $100 \times 0 =$ | | 36. Half of 21 = | |
| 7. $108 \div (81 \div 9) + 16 =$ | | 22. $99 + 2 =$ | | 37. $10 - 5\frac{1}{2} =$ | |
| 8. $14 + 4 \times 7 \div 14 =$ | | 23. $1\,000 \div 4 =$ | | 38. $13 \times 3 =$ | |
| 9. $1\frac{1}{24} + \frac{5}{24} =$ | | 24. $450 + 50 - 100 =$ | | 39. $1\,000 \div 500 =$ | |
| 10. $5\frac{5}{98} - 2\frac{3}{98} =$ | | 25. $33 \times 100 =$ | | 40. $17 \times 20 =$ | |
| 11. $6\frac{5}{10} + 2\frac{2}{10} =$ | | 26. $240 + 0 =$ | | | |
| 12. $548\,014 + 362\,486 =$ | | 27. $699 \times 1 =$ | | | |
| 13. $420\,995 - 195\,985 =$ | | 28. 3 500 doubled = | | | |
| 14. $132 \times 102 =$ | | 29. $4\,000 \div 1\,000 =$ | | | |
| 15. $4 \times (9 - 4) + 3 =$ | | 30. $0,45 + 0,55 =$ | | | |

MATHS 3

CALCULATE THE FOLLOWING. YOU MAY USE ANY STRATEGY.

- | | | | | | |
|---------------------------------------|--|---|--|--|--|
| 1. $5\frac{3}{5} - 2\frac{1}{5} =$ | | 11. $7 \times 4 - 60 \div 12 =$ | | 21. $4\,250 + 750 \times 1 =$ | |
| 2. $59,3 - 25,8 =$ | | 12. $1\frac{1}{5} + 2\frac{2}{3} - 1\frac{1}{15} =$ | | 22. $40\,500 \div (100 + 0) =$ | |
| 3. $(14 \div 2) + (51 - 48) =$ | | 13. $2\frac{1}{4} + 1\frac{1}{3} =$ | | 23. $99\,901 \times 100 + 2 =$ | |
| 4. $\frac{7}{8} + \frac{5}{24} =$ | | 14. $37,58 \times 10 =$ | | 24. $550 \times 1\,000 \times 10 =$ | |
| 5. $3\frac{3}{5} - 3\frac{3}{5} =$ | | 15. $48\,132\,975 + 1\,639\,225 =$ | | 25. $\frac{2}{10}$ of 60 + 25 = | |
| 6. 20% of 50 = | | 16. $438\,301 - 139\,700 =$ | | 26. $(26\,999 + 101) \times 100 =$ | |
| 7. $9 \times 4 - 24 \div 12 \div 2 =$ | | 17. $24\,400 \times 25 =$ | | 27. $1\,200 + (8\,000 - 2\,000) =$ | |
| 8. $986\,430 + 7\,408\,570 =$ | | 18. $4\,141 \div 41 =$ | | 28. $35\,000 \times 0 \div 1 =$ | |
| 9. $8\,406\,879 - 406\,379 =$ | | 19. $2\frac{1}{4} + 3\frac{1}{3} + 2\frac{1}{12} =$ | | 29. $688\,222 \div 2 + 29\,000 =$ | |
| 10. $9 \times 4 \div 12 \div 3 =$ | | 20. $1\,470 + 2\,312 =$ | | 30. $(51\,999 - 99) \div 2 + 3\,500 =$ | |

Answers: 1. $3\frac{2}{5}$, 2. $33,5$, 3. 10, 4. $1\frac{1}{24}$, 5. 0, 6. 10, 7. 35, 8. $8\,395\,000$, 9. $8\,000\,500$, 10. 1, 11. 23, 12. $2\frac{7}{15}$, 13. $3\frac{3}{7}$, 14. $375,8$, 15. $49\,772\,200$, 16. $298\,601$, 17. $610\,000$, 18. 101, 19. $7\frac{8}{12}$, 20. 3 782, 21. $5\,000$, 22. 405 , 23. $9\,990$, 24. $5\,500\,000$, 25. 37, 26. $2\,710\,000$, 27. $7\,200$, 28. 0, 29. $373\,111$, 30. $29\,450$

MATHS 4

SOLVE EACH PROBLEM. YOU MAY USE ANY STRATEGY.

- At Pizza Inn two small pizzas and one large pizza cost the same as five small pizzas. If a small pizza costs R11,50, what does a large pizza cost?
(A) R28,75 (B) R23 (C) R27,50 (D) R34,50 (E) R21,50
- To make apricot yoghurt you need 5 parts of yoghurt to 1 part of apricots. How many litres of yoghurt are needed to make 30 litres of apricot yoghurt?
(A) 6 (B) 5 (C) 25 (D) 24 (E) 35
- Some numbers read the same forwards and backwards, like 353 and 262. How many such "mirror numbers" are there between 100 and 200?
(A) 7 (B) 8 (C) 9 (D) 10 (E) 11
- How many different triangles can you build with 7 whole matches? The order of the sides does not matter, e.g. the triangles with sides 3, 3, 1 and 3, 1, 3 are the same.
(A) 2 (B) 3 (C) 4 (D) 5 (E) 6
- One piece of bubble gum and one small chocolate cost R0,90. Ten pieces of bubble gum and five small chocolates cost R4,70. How much does one small chocolate cost?
(A) R0,96 (B) R0,04 (C) R0,90 (D) R0,86 (E) R3,80
- How many four-digit numbers are there in which the sum of the digits is 4?
(A) 17 (B) 16 (C) 18 (D) 19 (E) 20
- If a glass is full of milk, the total mass is 370 g. When the glass is half full of milk, the mass is 290 g. What is the mass of the glass?
(A) 80 g (B) 100 g (C) 160 g (D) 180 g (E) 210 g
- I am thinking of a 3-digit number which:
When it is divided by 3 the remainder is 1
When it is divided by 4 the remainder is 2
When it is divided by 5 the remainder is 3
When it is divided by 9 the remainder is 7
What number am I thinking of?
(A) 58 (B) 118 (C) 598 (D) 133 (E) 178
- The sum of seven single-digit positive whole numbers is 17. If six of these numbers are equal, what is the other number?
(A) 1 (B) 2 (C) 3 (D) 4 (E) 5
- Lulu's bucket weighs 21 kg when full of water. After she pours out half the water from the bucket, it weighs 12 kg. What is the weight of the empty bucket?
(A) 2 kg (B) 3 kg (C) 9 kg (D) 18 kg (E) 4 kg

MATHS 2

CALCULATE THE FOLLOWING. YOU MAY USE ANY STRATEGY.

- | | | | | | |
|--------------------------------|--|---------------------------------------|--|-------------------------------------|--|
| 1. $89\,701 + 2\,299 =$ | | 8. $4\,000 + 60 + 90\,000 + 208 =$ | | 15. $42\,055 + 28\,945 + 70\,999 =$ | |
| 2. $210 \times 22 =$ | | 9. $17\,000 + 22 + 600 + 5\,000 =$ | | 16. $87\,946 - 43\,546 - 401 =$ | |
| 3. $\frac{2}{3}$ of 45 = | | 10. $42 \div 7 \times 7 =$ | | 17. $3\,107 \times 35 =$ | |
| 4. $2 + 3 \times 4 =$ | | 11. $3\,500 - 2\,400 + 1\,200 =$ | | 18. $1\,515 \div 15 =$ | |
| 5. $2 \times 4 + 3 \times 2 =$ | | 12. $5\,432 \times 2 \times 10 =$ | | 19. $4\frac{2}{5} + 2\frac{1}{5} =$ | |
| 6. $4 + 8 \div 2 - 4 =$ | | 13. $2\frac{1}{16} + 1\frac{5}{16} =$ | | 20. $\frac{2}{5}$ of 300 = | |
| 7. $6 + 110 + 60 - 120 =$ | | 14. $6 \times 11 - 19 + 25 \div 5 =$ | | | |

Answers: 1. D, 2. C, 3. D, 4. A, 5. D, 6. E, 7. E, 8. E, 9. E, 10. B

Answers: 1. 92 000, 2. 4 620, 3. 27, 4. 14, 5. 14, 6. 4, 7. 56, 8. 94 268, 9. 22 622, 10. 42, 11. 2 300, 12. 108 640, 13. 3, 14. 52, 15. 141 999, 16. 43 999, 17. 108 745, 18. 101, 19. 6 $\frac{1}{5}$, 20. 120

CLASS ACTIVITY

BREAK A LEG!

In theatre, just before the actors go on stage to perform, it's not unusual for someone to say 'break a leg!' It's an idiom that means 'good luck'. In this fun class activity, you and your team will act out an idiom for the rest of the class to guess. Divide into groups of five or less and choose one of the idioms below. Break a leg!

ELVIS HAS LEFT THE BUILDING

Meaning: The show has come to an end.

IT TAKES TWO TO TANGO

Meaning: Two parties are responsible for a certain action or situation in which they are involved.

PREACHING TO THE CHOIR

Meaning: Trying to convince someone about something they already support or understand.

A PENNY FOR YOUR THOUGHTS

Meaning: A way of asking what someone is thinking.

AT THE DROP OF A HAT

Meaning: Acting without any hesitation.

BARKING UP THE WRONG TREE

Meaning: Looking in the wrong place or accusing the wrong person.

BIRDS OF A FEATHER FLOCK TOGETHER

Meaning: People with similar interests or characteristics tend to spend time together.

BITE OFF MORE THAN YOU CAN CHEW

Meaning: Taking on a task that is too big for you.

COUNTING YOUR CHICKENS BEFORE THEY HATCH

Meaning: Making plans based on events that might or might not happen.

CURIOSITY KILLED THE CAT

Meaning: Being inquisitive could lead to an unpleasant situation.

LET SLEEPING DOGS LIE

Meaning: Don't disturb a situation.

LET THE CAT OUT OF THE BAG

Meaning: To reveal a secret or surprise by accident.

OUT ON A LIMB

Meaning: In a dangerous position to do something.

RUB SALT IN YOUR WOUND

Meaning: To make a difficult/unpleasant situation worse.

DO YOU KNOW WHAT THESE WORDS MEAN?

confuse
abandon
seminar
guideline
subject
deviation
realise
patient
silence
contrary
arrange
royalty
provoke
misplace
emotion
shallow
cucumber
default
cylinder
illusion
partner

vehicle
affinity
collapse
restrict
balance
appendix
recovery
fabricate
pioneer
twilight
genuine
aviation
reporter
medieval
popular
proportion
fraction
childish
grateful
underline
implicit

parachute
architect
broadcast
entertain
incentive
eavesdrop
migration
magnetic
innovation
suitcase
reverse
helicopter
conscious
exception
discovery
hilarious
vegetarian
offspring
extension
establish
consumption

threshold
announcement
beneficiary
highlight
conservation
ghostwriter
disagreement
exploit
density
penalty
musical
falsify
purpose
gravity
archive
looting
monarch
applaud
species
dribble
reserve

glacier
freight
premium
dynamic
capture
dentist
humanity
diplomat
imposter
contempt
practice
disclose
teenager
detector
presence
controversial
imperial
terminal
monopoly
mutation
excavate

mosquito
cassette
vertical
compound
civilian
pneumonia
sculpture
paralysed
therapist
conductor
overwhelm
prejudice
biography
cooperate
horseshoe
clearance
consensus
perforate
reinforce
residence

notorious
undermine
catalogue
publicity
illustrate
remunerate
hypothesis
artificial
possession
absorption
relinquish
partnership
incongruous
resignation
commemorate
entitlement
flamboyant
accumulation
contemporary
complication
refrigerator

FAMOUS FILM DIRECTORS

TIM BURTON

The director of ALICE IN WONDERLAND

Tim Burton was born in America in 1958. He is a movie director, producer, screenwriter and artist. His first job was working as an animator for Walt Disney. But he had a very unique style and soon moved on to pursue his own creative projects.

His movies are often based on fantasy, which means they are about events that won't happen in real life. His remake of *Alice in Wonderland*, a movie based on the popular book by Lewis Carroll, is a visual delight filled with strange characters.

In 2015, he released a book titled *The Napkin Art of Tim Burton: Things You Think About in a Bar*. It contains sketches he made on napkins while visiting different restaurants. Have you ever jotted down any ideas on a napkin?

STEVEN SPIELBERG

The director of THE BFG

Steven Spielberg is an American movie director, producer and writer. He was born in 1946. Since 1963, he has directed more than 30 movies! For two of the movies, he won an Oscar for Best Director.

His movies are often fantastical tales seen through the eyes of children and *The BFG* is no exception. The movie is based on Roald Dahl's popular book about a big friendly giant who befriends a little girl called Sophie. Together they go on an adventure to defeat man-eating giants who are terrorising the humans.

At the age of 16, Spielberg wrote and directed his first science fiction movie, which played at a small theatre in his hometown. The actors were his high school friends and the movie was shot in his garage. An audience of 500 people watched *Firelight*. Not bad for your debut!

MARTIN SCORSESE

The director of HUGO

Martin Scorsese was born on 17 November 1942 in New York. His career as a director, producer, screenwriter and film historian spans more than 50 years. With an impressive body of work and many awards under his belt, he is one of the most influential filmmakers in history.

Scorsese is best known for his movies about the mafia (a crime group that originated in Italy more than 200 years ago). But *Hugo*, one of his most recent films, is about an orphaned boy who lives in a Paris railway station. His late father left him a broken automaton – a mechanical device that imitates humans – and Hugo sets off on an adventure to solve the mystery of the automaton. The movie won five Oscars and is well worth a watch.

Source: wikipedia.com

FUN WITH PUNS

A pun, also called a 'play on words', is a figure of speech often used by writers to make their readers laugh. Words that sound similar but have different meanings are used in a humorous way. Look at the examples below. Can you spot the pun? Underline it!

- What do you call an alligator in a vest? An investigator.
- A backwards poet writes inverse.
- What do you call a sleeping bull? A bull-dozer.
- Being struck by lightning really is a shocking experience!
- I went to a seafood disco last night and pulled a mussel.

Now it's your turn to be punny! Write your own funny puns and see if you can make your friends laugh.

Source: buzzle.com

VERBS

Fill in the blanks with the correct form of the verb in brackets:

- You couldn't have _____ a better day for a picnic. (choose)
- Thembu's voice _____ as she spoke. (shake)
- His feet were _____ to death. (freeze)
- Sophie was _____ by a mad squirrel. (bite)
- Jack was _____ between two teams. (tear)

Answers: 1. Chosen, 2. Shook, 3. Frozen, 4. Bitten, 5. Torn

BRAIN BUSTERS

How good is your general knowledge? Try this quiz to find out. Circle the correct answer.

- Which one of the following months has 31 days?
(A) October (B) February (C) April
- Where does a bee live?
(A) Den (B) Hive (C) Burrow
- Who invented the computer?
(A) Thomas Edison (B) Charles Babbage (C) Alexander Graham Bell
- Which fruit is a rich source of Vit C?
(A) Orange (B) Apple (C) Mango
- The sun is a...?
(A) Planet (B) Comet (C) Star
- Which is the largest island in the world?
(A) Madagascar (B) Green Land (C) New Guinea
- What is another name for calcium carbonate?
(A) Salt (B) Chalk (C) Bleach
- The larvae of flies are called
(A) Maggots (B) Leeches (C) Caterpillars
- Which mountain range borders France and Spain?
(A) Pyrenees (B) Alps (C) Andes
- What is the scientific name for rust?
(A) Iron oxide (B) Nitrous oxide (C) Carbon dioxide

Answers: 1. A, 2. B, 3. B, 4. A, 5. C, 6. B, 7. B, 8. A, 9. A, 10. A

THE HAUNTED HOUSE

A VUYO AND GEMMA STORY

On top of the hill, behind towering trees and a rusty gate, stands the haunted house of Mouseville. Or so the townspeople say. It used to be a happy home. But one tragic night, the entire Vaudeville family was wiped out by wild cats with rumbling tummies and claws that could skin a mouse in one fell swoop.

Legend has it that whoever dares to enter the house on the hill, never returns. Of course, this means that every mouse in Mouseville is simply too scared to even go near it. So who knows if the legend is a myth or fact? Jonah and his best friend Jerome were determined to find out.

For weeks, they've been planning a hike up to the house. But Jerome keeps getting cold feet. He's too ashamed to admit this, but the thought of monstrous felines sends a shiver down his spine. His excuses have been nothing short of creative: "My tail poked my left eye while I was doing yoga." "I have to read Grandma Joey a story tonight. And she only goes to bed after 12 on a Wednesday." "Have I told you I'm lactose intolerant? Well, I had ice cream for breakfast..."

By the third week, Jonah was ready for a solo mission. "I'm going tonight. With or without you." He flapped his scrawny arms like wings, clucking like a chicken. "Fine, I'm coming," Jerome let out a sigh. His whiskers quivered. He didn't like being called a chicken.

Just past midnight, the two friends met by the lamppost at the bottom of the hill. "What's in the backpack?" Jonah asked. "Pieces of cheddar. To leave a trail... for in case... you know... our family needs to find us," Jerome replied with a whisper.

Under the light of the full moon, they followed the path to the house that was shrouded in darkness. They slipped through a hole in the wall. And there it was: a monster covered in cobwebs with bricks for bones. Bare branches scratched against the windows like skeleton fingers. Jerome was about to grab Jonah's paw to make a run for it, when the front door cracked open.

What do you think happens next?

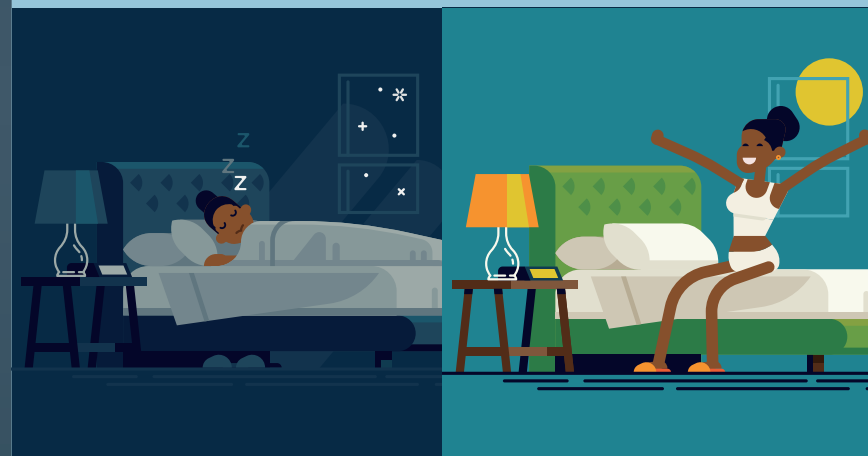


ZZZZZZ...

How do you feel when you wake up from a good night's rest? Probably full of energy and ready to ace that test! That's because sleep helps your body and brain prepare for the new day ahead.

Every living thing on earth needs sleep. Even the smallest insect. Some animals sleep up to 20 hours a day! Fortunately, you don't need to spend as many hours in dreamland. Otherwise, you won't have enough time to play with your friends or learn interesting things. But you do need at least 10 hours of sleep every night to stay healthy and happy.

You might think your body and brain are resting while you're slaying dragons in your sleep. But they are actually working hard to replenish the energy you lost during your busy day.



Imagine you're a car that starts the morning with a full tank of fuel. You drive around all day and in the evening, you have to stop at the petrol station to fill up your tank. Well, sleep is like fuel for your body and you have to fill up your tank every day.

If you get enough sleep, you will find it easier to concentrate in class. You will also be in a better mood with enough patience to enjoy your friends and family. With a rested mind, you can be creative and solve problems. Sleep also helps your body to fight illness.

If you don't get enough sleep, you will struggle to remember the things you learn at school. You will also have trouble making good choices. You will be too tired to play games and sport. We know it's sometimes hard to listen to your teachers and parents, but without enough sleep, you will find it even more difficult!

TO MAKE SURE YOU GET ENOUGH SLEEP, TRY THIS:

- Keep your bedroom cool, quiet and dark.
- Get enough exercise during the day.
- Go to bed the same time every night.
- Avoid sodas and chocolate before bedtime.
- Eat your biggest meal for lunch and a smaller meal for dinner.
- Relax before bedtime by listening to calm music or reading.

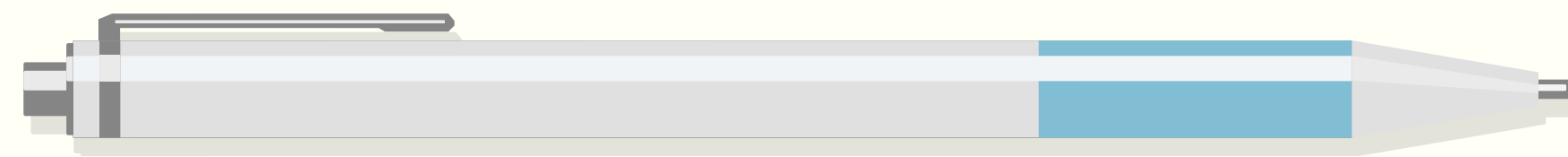
Source: sleepforkids.org

TAKE NOTE! HOW TO CONDUCT AN INTERVIEW

Have you ever interviewed someone? Was it a success? In other words, did you get all the information you wanted from your interviewee? Whether you're interviewing someone for a research project or the school newspaper, the process remains the same. So get your notepad out and start scribbling!

WHAT TO DO

- Prepare your questions beforehand. You can always add or omit questions during the interview as you see fit.
- Agree on a time and place that works for you and the interviewee.
- Take a paper and pen and a recording device if possible. Ask permission before you start recording.
- Arrive at least 10 minutes early.
- Always be polite.
- Look the person in the eye when asking questions.



YOUR FRIEND IN RESEARCH

When it comes to doing research for a school project, the internet provides a wealth of information at your fingertips. But where do you start and what sites can you trust?

Lesson number one: Don't believe everything you read! Just like a friend who sometimes tells stories that aren't true, there are websites that contain false or incorrect information. It is best to find information written by an expert.

How do you tell if someone is an expert? Think about your biology teacher. He or she has specialised knowledge and experience in the subject. So you can trust the information they share. It's important that you develop a critical eye to separate the facts from fiction.

Lesson number two: Visit trustworthy websites. That is where you will find the experts. A few student-friendly resources include britannica.com, bbc.co.uk and natgeokids.com. You can also use sweetsearch.com. This search engine provides links to resources vetted by experts. Here's another tip: Sites that end in .edu and .gov are associated with a reputable source.

If you're not sure whether you can trust a site or not, try to answer these questions:

- Can you tell if the author is an expert?
- Does the author share facts or personal opinion? Or someone else's opinion?
- Is the site affiliated with a reputable organisation like a school, university or library?
- Is there a bibliography (a list of books/articles the author consulted in writing the article)?



Source: noodle.com

- Listen and give the person a chance to answer your question completely (this is even more important than asking the right questions).
- Thank your interviewee for his/her time.
- Follow the interview up with a thank you note.

If you practise these steps with friends and relatives, you'll soon be conducting interviews like a pro!

Source: brainpop.com

REMEMBER

You and your interviewee aren't robots! See your interview as a comfortable chat with a friend rather than a monotonous exchange of questions and answers.

IDIOM QUIZ



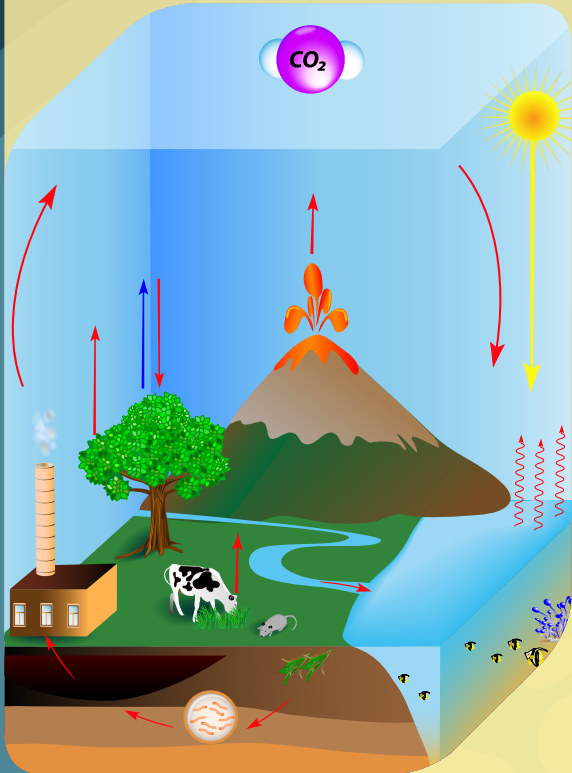
Fill in the missing word to complete the following idioms:

1. (Something good that isn't recognised at first) Blessing in _____
2. (To worsen a bad situation) Add insult to _____
3. (Avoiding the main topic) Beat around the _____
4. (All the advantages) Best of both _____
5. (Work late into the night) Burn the midnight _____
6. (Something is very expensive) Cost an arm and a _____
7. (To be optimistic) Every cloud has a silver _____
8. (Feeling ill) Feel under the _____
9. (Do/say something exactly right) Hit the nail on the _____
10. (Join a popular trend) Jump on the _____

Answers: 1. Disguise, 2. Injury, 3. Bush, 4. Worlds, 5. Oil, 6. Leg, 7. Lining, 8. Weather, 9. Head, 10. Bandwagon

THE CARBON CYCLE

Volcanoes, dead cows and the greenhouse effect might seem like they have nothing in common. But they're all part of the carbon cycle! Every living thing on earth is made of carbon. While water is the most abundant substance in organisms, carbon comes a close second. Carbon in the atmosphere attaches



to a gas and forms carbon dioxide or CO₂. Plants use the carbon dioxide and sunlight to make their own food. This process is called photosynthesis.

CO₂ is essential to life, because without carbon dioxide in the atmosphere, plants will die. Without plants, all living species on earth (including us humans!) will also become extinct. That means we will no longer be in existence.

When plants (and animals) die and stay buried under the earth for millions of years, they turn into fossil fuels made of carbon. Coal and oil are examples of fossil fuels. We burn these fossil fuels to create energy for our day-to-day living. The carbon from these fossil fuels enters the atmosphere as carbon dioxide.

Not only does carbon dioxide play a crucial role in photosynthesis, but it also keeps Earth warm. CO₂, along with other greenhouse gases, traps heat in the atmosphere. Without it, Earth will look like the landscape in *Frozen* – completely covered in ice!

The thing is, we are releasing so much carbon dioxide into the atmosphere through all the fossil fuels we are burning, that Earth is becoming warmer and warmer. There is about

30% more CO₂ in the air today compared to 150 years ago. If we continue to burn as much fuel as we are burning now (or even more!) we run the risk of damaging the delicate carbon cycle.

Source: eo.ucar.edu



PROFESSOR THANDI SAYS

Watch *Before the Flood* with Leonardo DiCaprio. This documentary follows the American actor around the world as he experiences first hand the effects of global warming.

SCIENCE FACT OR FICTION

Can you tell the difference between fact or fiction? Take the quiz to find out!

1. Some spiders only have 6 legs.

Fact

Fiction

2. Over time, our days are getting longer.

Fact

Fiction

3. You can see the Great Wall of China from space.

Fact

Fiction

4. Most humans use only 10% of their brain.

Fact

Fiction

5. When dry ice melts, it turns into liquid carbon dioxide.

Fact

Fiction

6. Chewing gum, when swallowed, stays in your intestines for 5 years.

Fact

Fiction

7. During some thunderstorms, the sky appears green.

Fact

Fiction

8. A headless cockroach can survive for two weeks.

Fact

Fiction

9. When you've been stung by a jelly fish, urine will take the pain away.

Fact

Fiction

10. Red sunsets are a result of smog.

Fact

Fiction

Source: thoughtco.com

Answers: 1. Fiction, 2. Fact, 3. Fiction, 4. Fiction, 5. Fiction, 6. Fiction, 7. Fact, 8. Fact, 9. Fact, 10. Fact

LET'S GO UNDERCOVER

You might consider yourself a top undercover agent (especially if you've mastered the art of writing secret messages). But you don't stand a chance against nature! In the animal world, it's eat or be eaten. So prey and predators alike have developed excellent survival skills.

CAMOUFLAGE

The colourful chameleon is not the only animal that knows a thing or two about blending in. Camouflage or protective colouration is a defence mechanism that allows an animal to hide its identity by completely blending in with its environment. Some insects and animals can take on the form and behaviour of a leaf. How's that for a disappearing act! Predators also use camouflage to hide from unsuspecting prey.

PLAYING DEAD

Have you ever pretended to be dead to play a trick on your little sister? For many animals that is exactly how they cheat actual death. When faced with danger, they simply fake their own death. This is called thanatosis. Since most predators prefer their meal semi-alive, playing dead has saved many a-lives!



Source: thoughtco.com

THE AMAZING ADVENTURES OF BESSIE COLEMAN (1892-1926)



Bessie Coleman was a pioneer who wasn't afraid to fly in the face of discrimination. She was banned from flying schools in her native America, but that did not break her spirit. Instead, Bessie became fluent in French and travelled to Europe to earn her pilot's licence in France. She received it with flying colours in 1921.

Ever heard of Amelia Earhart? The first female pilot to fly solo across the Atlantic Ocean? Well, Bessie already had two years experience under her belt by the time Amelia became a licenced pilot. She found her fit in performing aerial tricks. To raise funds for an African-American school, she lectured all over America. Sadly, her life and dream came to a tragic end when her plane crashed during an air show rehearsal. She was only 34 years old.

Source: guardian.co.uk

GENERAL KNOWLEDGE

- Groups of lions are known as what?
- What is the centre of an atom called?
- The Great Barrier Reef is found off the coast of which country?
- What title was given to the rulers of Ancient Egypt?
- What is the largest land animal in the world?
- What is the main gas found in the air we breathe?
- An electron carries a positive charge. True or false?
- What do you call molten lava before it has erupted?
- In which city will you find Buckingham Palace?
- What is the diminutive of a swan?
- HTML and CSS are computer languages used to create what?
- Burkina Faso is a landlocked country situated on which continent?
- What is the only bird known to fly backwards?
- Jackson Pollock was an influential abstract expressionist painter from which country?
- Who wrote the fantasy novel *The Lion, the Witch and the Wardrobe*?

Answers: 1. Prides, 2. Nucleus, 3. Australia, 4. Pharaoh, 5. Elephant, 6. Nitrogen, 7. False, 8. Magma, 9. London, 10. Cygnet, 11. Websites, 12. Africa, 13. Hummingbird, 14. America, 15. CS Lewis

WORD SEARCH: ASTRONOMY

A	S	T	E	R	O	I	D	X	W	J	J
R	B	D	C	M	O	O	N	G	M	N	J
S	G	B	Y	Q	A	E	Y	C	V	C	J
U	R	I	A	H	N	S	T	E	M	O	C
N	M	E	R	C	U	R	Y	E	G	U	H
N	R	U	T	A	S	A	X	S	M	C	N
R	L	N	F	I	X	M	U	R	F	A	E
Z	A	X	P	R	P	E	A	R	T	H	P
P	O	V	X	L	C	U	W	J	K	W	T
V	E	N	U	S	C	W	J	C	P	U	U
B	U	T	F	Q	W	P	A	C	G	C	N
I	O	G	A	L	A	X	Y	C	C	I	E

Find the words hidden in the squares. The words may be found left to right, back to front, upside down or diagonally across.

Asteroid
Comet
Earth
Galaxy
Jupiter
Mars
Mercury
Meteor
Moon
Neptune
Pluto
Saturn
Sun
Venus