

10 things we don't know

From how gravity works to the location of Cleopatra's tomb, we explore some of the universe's great unsolved mysteries.

1 What caused the Big Bang?

According to the leading theory, everything that exists, including space, time and all the matter in the universe, expanded from a tiny single point in a mind-boggling moment we call the Big Bang. But as for what, if anything, caused the Big Bang — we have absolutely no idea!

2 Do aliens exist?

Our galaxy, the Milky Way, is very big and shas existed for more than 13 billion years. It contains hundreds of billions of stars and planets, and so mathematical probability suggests that at least one of those planets should contain intelligent alien life. However, we have yet to meet any signs that they might exist. One reason for this could be that space is just too big: The Milky Way alone is 100,000 light years across. So even if aliens are out there and sending messages into space, those messages just haven't had enough time to reach us yet.

3 Could we bring dinosaurs back to life?

Fans of the Jurassic Park movies will be familiar with the idea that, one day, scientists might use an extract of a dinosaur's DNA, or genetic code, to bring it back to life. At the moment, however, this is extremely unlikely, partly because DNA is fragile and easily damaged and would



sensory information it has received during the day, before storing some of it as memories.

9 Why did some Mayan cities collapse?

The Maya were one of the great civilizations in Mesoamerica, a region stretching between what is now Mexico and Central America. From A.D. 800 to 950, Mayan cities went into decline and some were abandoned. Historians have put forward various theories for this — including drought, land erosion and warfare — but the mystery of what caused this dramatic collapse is still unsolved.



probably have broken down in the millions of years since the dinosaur died. Could scientists of the future find a new way to bring dinosaurs back?

4 Was Mulan a real person?

Disney's warrior heroine is based on a real Chinese folk song from the 5th or 6th century. The song describes a real time and



place. But Mulan's name doesn't appear in a text about important women in the clan. So whether Mulan was a real historical figure remains a mystery.

5 Why are some icebergs green?

Most large icebergs are blueish in color, but some in Antarctica are green. They are sometimes called "jade bergs" because they look similar in color to the gemstone jade. Scientists don't know why these icebergs are green, but one theory is that yellowish-red minerals scraped up by glaciers mix with the normal blue color of icebergs, which makes them appear to be green.

6 Is there a lost city of Atlantis?

According to legend, Atlantis was an ancient city that was swept beneath the sea by a tsunami, or giant wave, thousands of years ago. Will the lost city ever be found? Most experts doubt Atlantis was a real place, so it seems unlikely.

underground somewhere near the port of Alexandria in Egypt, but it has not been discovered.

7 Where is Cleopatra's tomb?

Cleopatra was the last pharaoh of ancient Egypt. She died in 30 B.C., and ancient historians wrote that her tomb was filled with treasures including gold, silver, emeralds and ivory. Archaeologists think Cleopatra's tomb is buried



8 Why do humans (and animals) dream?

All human beings dream when they're asleep. And behavior that suggests dreaming has been observed in animals, including cats, rats and birds. Yet despite decades of research, scientists still can't say for sure exactly why and how we dream. One theory is that dreams help the brain to organize all the

10 How does gravity work?

Gravity is an invisible force of attraction that exists between any two objects or particles in the universe that have mass. When you throw a ball up in the air, for example, it is the gravitational force created by Earth's greater mass that pulls the ball back down to the ground. But although we understand how gravity behaves, and can observe and predict its effects, we don't know by what physical mechanism it happens. All we can say for now is that gravity exists.

PUZZLES & JOKES

Stumped? Don't worry, you can find the solutions to all the puzzles at: whatonearthmag.com/answers



FARM ANIMALS WORD SEARCH

Can you spot the names of the 12 farm animals hidden in our word search puzzle? Good luck!

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

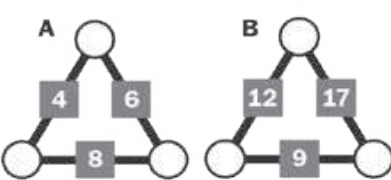
BULL **COW** **DONKEY**
EWE **GOAT** **GOOSE**
HEN **HORSE** **PIGLET**
ROOSTER **SHEEP** **TURKEY**

NUMBER TRIANGLES

In the triangles below, the numbers inside the squares are the sums of the two numbers in the connected circles. For example:



Can you figure out which number should appear in each of the circles? All the numbers in the circles are between 1 and 10, and a number can only be used once in each triangle.



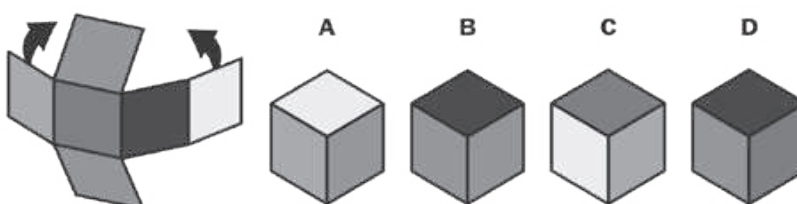
SUDOKU

Fill all the empty squares so that every row, column and 3x2 box contains each of the numbers 1 to 6.

1	4				
		2	1	4	3
3			5		6
	6	1		2	4
		5	2	6	

CUBE IT!

The six-sided shape on the left can be folded to form a cube. Only two of the cubes on the right can be made by it. Which are they?



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