Quest

A monthly Science and Mathematics magazine

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Multiplication by using Vedic Maths:

NikhilamNavatashcaramamDashatah-This method can be applied for the multiplication of numbers with the same base. By base, we mean both the numbers have to be 100+ something or 200+ something or 10+ something like that.

For example if we want to multiply 18 x16, 105 x 106 or 214 x 222, we can apply this method.

Example 1: 18 x16

Here base of both the numbers are the same, i.e. 10. The first number is 8 more than 10 and the second is 6 more than 10. For convenience we call these as the deviations. Hence the deviations of 18 and 16 from 10 are 8 and 6 respectively.

Step 1: Add the deviation of one number with the other number. That means; either

18 + 6 = 24 or 16 + 8 = 24

in both case, we get the same answer 24.

Step 2: Since the base is 10 multiply the above sum with 10.

24 x 10 = 240

Step 3: Multiply the deviations.

8 x 6 = 48

Step 4: Add the answers in Step 2 and Step 3.

240 + 48 = 288

So, we get the answer 18 x 16 = 288

Example 2: 105 x 106

Here base is 100, deviations are 5 and 6 respectively.

So deviation of one number plus the other number is 111.

The product of this sum with base is 11100.

The product of deviations is 30. Now add 11100 + 30.

Therefore: 105 x 106 = 11130

In both the examples, the base was either 10 or 100. But what if the base is 20, 30 or 400 or something like that. See the following example.

Example 3: 214 x 222

Here base of both the numbers are 200. (100 x 2). Hence the deviations are 14 and 22 respectively.

Step 1: Add the deviation of one number with the other number. That means; either

214 + 22 = 236 or 222 + 14 = 236

Step 2: Since the base is 200 multiply the above sum with 200.

236 x 200 = 47200

Step 3: Multiply the deviations.

14 x 22 = 308

Step 4: Add the answers in Step 2 and Step 3.

47200 + 308 = 47508

Therefore

214 x 222 = 47508

Simple Division using Vedic Mathematics

Set it up: Write the divisor before the dividend, then box off the left and bottom sides of the dividend in order to keep it visually separate.

Steps to divide:

- 3 into 2 = 0 remainder 2. Write the *2* next to the following digit, *9*, making it *29.*
- 3 into 29 = 9 remainder 2. Write the *2*next to the following digit, 4, making it *24.*
- 3 into 24 = 8 remainder 0.
- The answer is 98 remainder 0.

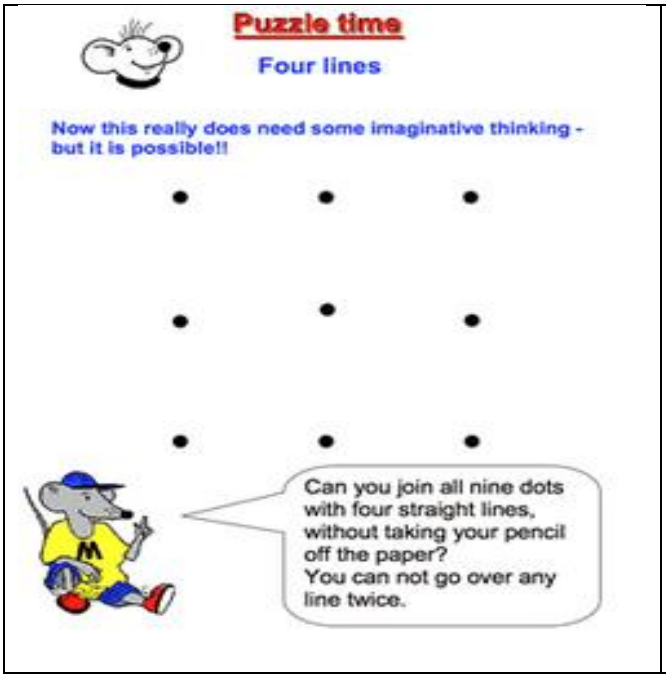
Steps to divide:

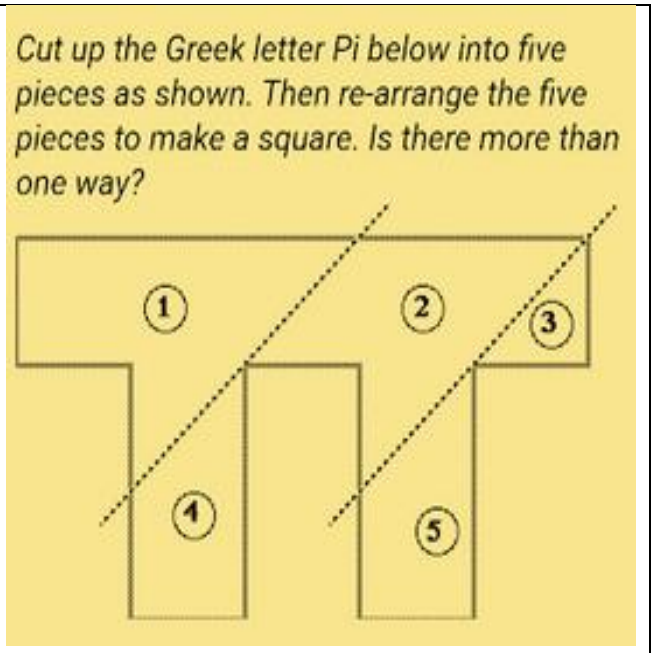
- 7 into 3 = 0 remainder 3. Write the *3* next to the following digit, *6*, making it *36.*
- 7into 36 = 5 remainder 1. Write the *1*next to the following digit, 8, making it *18.*
- 7 into 18 = 2 remainder 4.Write the *4*next to the following digit, 9, making it *49.*
- 7 into 49 = 7 remainder 0.
- The answer is 527 remainder 0.

TryYourself: Use Vedic Mathematics to solve:

a) 307 x 321
b) 512 x 531
c) 619 x 602
d) 5283 ÷ 9
e) 14124 ÷ 6

PUZZLES





Do You Know?

1. The first electronic computer ENIAC weighed more than 27 tons and took up 1800 square feet.

2. Only about 10% of the world's currency is physical money, the rest only exists on computers.

3. TYPEWRITER is the longest word that you can write using the letters only on one row of the keyboard of your computer.

4. Doug Engelbart invented the first computer mouse in around 1964 which was made of wood.

5. There are more than 5000 new computer viruses are released every month.

6. Around 50% of all Wikipedia vandalism is caught by a single computer program with more than 90% accuracy.

7. If there was a computer as powerful as the human brain, it would be able to do 38 thousand trillion operations per second and hold more than 3580 terabytes of memory.

8. The password for the computer controls of nuclear tipped missiles of the U.S was 00000000 for eight years.

9. Approximately 70% of virus writers are said to work under contract for organized crime syndicates.

10. HP, Microsoft and Apple have one very interesting thing in common – they were all started in a garage.

11. An average person normally blinks 20 times a minute, but when using a computer he/she blinks only 7 times minute.

12. The house where Bill Gates lives, was designed using a Macintosh computer.

13. The first ever hard disk drive was made in 1979, and could hold only 5MB of data.

14. The first 1GB hard disk drive was announced in 1980 which weighed about 550 pounds, and had a price tag o $40,000.

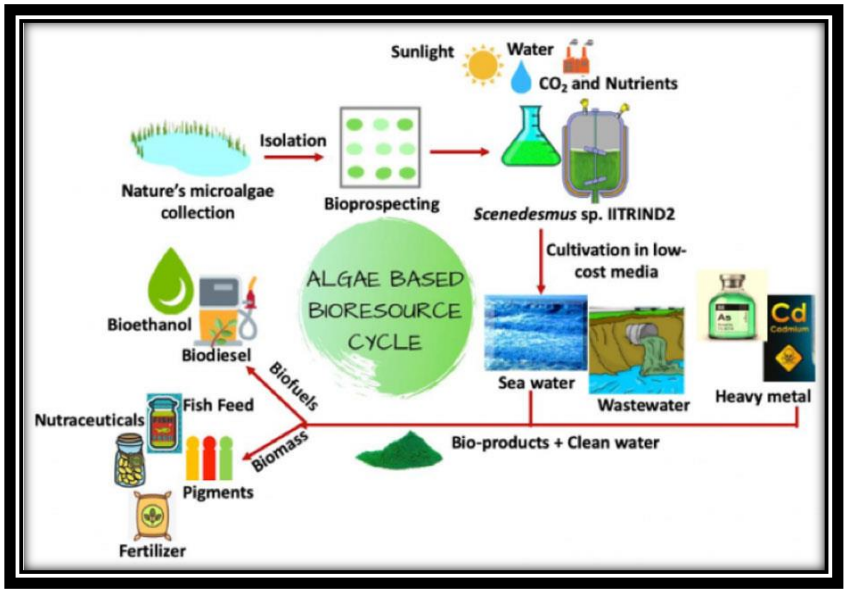
15. More than 80% of the emails sent daily are spams.

ALGAE BASED BIOFUELS: WASTE TO ENERGY

The next time you look at the green slimy water dwelling creatures called algae with disgust, think again!!

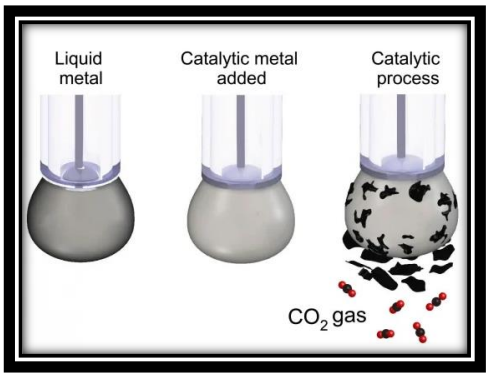
Microalgae, a unicellular green algae growingalmost anywhere in a short span of time is loaded with immense beneficial properties:

- An ideal feedstock for production of transportation fuels such as biodiesel, green jet fuel and green gasoline.
- Has the ability to sequester large quantities of carbon dioxide thereby reducing the greenhouse effect or global warming.
- Provides a means to purify waste water and increase biodiversity.
- Rich source of omega-3 and omega-6 fatty acids and used in food and drug industry.



REWINDING THE EMISSIONS CLOCK…

Ever wondered if carbon dioxide produced as a result of burning of fossil fuels could get converted back to coal? This hypothesis has been put to reality wherein carbon dioxide is dissolved with an electrolyte and small amount of metal (mixture of liquid gallium and active palladium) and then charged with an electric current. The CO_2 slowly gets converted into solid flakes of carbon that get naturally detached from the metal catalyst surface thereby allowing a continuous production of carbon solid. So may be in a couple of years we can say "Bye bye, greenhouse gas and global warming!"



SCIENCE WORD MAZE

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

Find the word:

1. Splitting of white light
2. Unicellular organism
3. Bending of light
4. Passage through semi-permeable membrane
5. A liquid non-metal
6. Red Planet
7. Hardest substance of the human body
8. Disease caused due to bile accumulation
9. Corrosion of iron
10. Female part of the flower.

Solutions of Puzzles: