

Number Monster in Fibonacci Caves

a g rao

Year 2008! A secret underground Lab! Scientists went in Jubilation. Peda(sweets) were distributed. The secret project at BCRC(Bio Conscious Research Centre) was successful. They could link to Future. Trials on travel to Past have been going on.

Finally *Time machine* has become operational. It works well when number of persons it takes is a Fibonacci number. An offer came to Pomegranate work shop to send a group of children as youngsters seem to respond well with the time machine! Daughter of one of the scientists had attended a Pomegranate workshop earlier. The scientist was impressed with the work of Pomegranate group.

So as the part of the Golden Proportion workshop 21 children were chosen and sent to BCRC Labs. They were taken through a special vehicle to Under-Sea caves where the Lab was situated. Children were escorted into dark, silent tunnel and walked for 13 minutes. There they entered a strange looking Hall. Once they were inside they realized that what looked like a forest with dense trees was just a 3D image on the wall. Some beeps indicated as if something was starting.

All the walls turned into shiny glass like surface. A voice from the speakers hidden in the walls, said, "Children, Please take your seats and relax! There is nothing to be feared. Please close your eyes and listen to the Music" Soon Music started. They were relaxing. They didn't know that it was a Mozart concert based on Golden proportion. They could also feel some strange vibrations. Soon their minds became blank. It was like a deep sleep state but they were awake.

They lost all sense of time!

Suddenly they felt a jerk! A voice said, "Get up! You have reached your destination!" They got up from their seats. They realized that the hall they were sitting was the Time Machine (TM). Doors of the TM were open on all sides. As they got up and moved, all the seats got folded and went into the ground. It started looking like a plain ground. They could see trees outside now! They walked out and saw the lighted panel showing 'Year 1618'.

Rahul said, "oh! This is a Fibonacci number". In the week after first session of the workshop, he read the booklet, 'Art and Science of Golden Proportion', given by prof.Rao and calculated numbers in Fibonacci series, up to five figures! He had also solved the puzzle given in the booklet.

As they started coming out, the voice gave instructions. 'As you go out wear the wrist watch attached to your back pack. It is your connection to TM . You will receive sound messages through them. Carry your back packs! All the children took their back packs. Anita could not resist to see what is in the big but light back pack! There was the 'Ram-Mask' which she had made. Roll of sheets of 'Symmetry panels, cello tape small pair of scissors, a Tiffin box, water bottle, and small torch. Instruction came from the sound box to get out and explore! As the children started walking out they saw few people sitting and drinking tea! They were dressed like what they saw in Historic films. They had long hair! But looked sad!

As the children approached, they all turned towards them! Their faces started showing smiles!

".....so, you have finally come, as carved on the stone wall of the Holy cave! Aren't you from Future?"

The children were experiencing the shock! They had really gone into the past. It was not a 'Dream'! Saif pinched himself, 'Ouch!', he felt the pain. Then he pinched Rahul. 'Ouch' Rahul screamed.

"Children, you are surely from Future! Look at the blue piper(this was their name for trousers)! We have never seen such cloth! It was 'blue jeans of Peter'! "All right children, please come with us to the 'Holy cave' and read what is written on the 'Sacred Stone'. We can't figure out the full meaning!"

So they all started walking! They went around a village. Several farms could be seen. People were working but no children could be seen! Some farmers with sad faces greeted them!

The holy cave was very peculiar. It was not a natural cave. But looked like a structure from future! Fractal geometry could be seen! As they walked inside there was the 'sacred stone'. The stone was a huge rock. One side was sliced into a plain surface. On this was a text to read on a plain surface.

ORDER OF THE 'OARGA'

We are from a far planet of future! We came here to catch a 'thief' for his misdeeds on our planets. He is hiding in Fibonacci caves with children from the village. Since we do not want to harm the village children, we can not destroy the cave. We want children from 'future' to defeat him and capture his powers in a machine, to serve them. We have put a 'curse' on

him to be 'Number Monster'! Children go to 'Fibonacci caves! Solve the Riddle:

$$\begin{array}{|c|c|c|} \hline & & \\ \hline & & \\ \hline & & \\ \hline \end{array} - 3 = \text{Fibonacci number}$$

Then

**You will hear questions from number monster.
Answer and recite Fibonacci chant wearing Ram masks!
He will be defeated.**

Children got puzzled after reading the plaque!

"Jitu, you know the magic square! Can you solve the riddle!?"

Jitu said, "wait, wait! Let me figure out!" He had attended a workshop on "Magic square" in which they had to make their own 'Magic square'!

"Anita, Abdul, both of you help me!" Both were fast in adding and multiplication. They constructed a 'Magic square with minimal numbers.

| | | |
|---|---|---|
| 8 | 1 | 6 |
| 3 | 5 | 7 |
| 4 | 9 | 2 |

Magic square gives same total, if you add any vertical column or horizontal row or across the diagonal! Many children didn't know magic square! They were watching as the, 'math brain team' started solving the riddle!

Saif was asking Peter, 'what is a riddle' ?

'Riddle is like a puzzle you have to decode the messages to solve it.' Peter said.

Jitu started. 'now let us see $15-3 = 12$, but '12' is not a Fibonacci number. What are nearest Fibonacci numbers?

1,1,2,3,5,8,13,21,34, 55,...

"jitu, We can make an equation, man!," Rahul said

let us assume:

Magic square sum = X

$X - 3 = y$ (y is Fibonacci number bigger than 12), right?

that means

$$X - 3 = 13 \text{ or } 21 \text{ or } 34 \text{ or } \dots$$

" Stop man, let us try one by one! "

"Jitu, what is the method to get next magic square?

'It is simple, trial and error! where there is 1 in the minimum magic square put 2, and increase the numbers in the same order.

or

add 1, 2, 3 to each number in the magic minimum square!"

' OH then it is simple! we have to add 3,6,or 9 to minimum sum as there are only three digits in each column , or row!" said Anitha!

Abdul said ,'That means after 15 it will be 18, or 21 or 24'!

Let us try out

$$X=18$$

$$18 - 3 = 15 \text{ (not a Fibonacci number)}$$

$$X = 21$$

$$21 - 3 = 18 \text{ (not a Fibonacci number)}$$

$$X=24$$

$$24 - 3 = 21 \text{ (Wow! This is a Fibonacci number!)}$$

'We got it !Let us write down the magic square!'

| | | |
|----|----|----|
| 11 | 4 | 9 |
| 6 | 8 | 10 |
| 7 | 12 | 5 |

'We got the riddle solved!'

Children jumped with joy!

They looked at the villagers! "let us go to the Fibonacci caves!" they shouted. Villagers were little scared. 'Earlier we had heard strange eerie sounds near those caves! In case ...' one of them took his sword with him!

After 20 minutes walk through bushes in the forests, they reached the cave! It was eerie. The villager kept his sword ready! Suddenly something came running 'WOOH', all children screamed!

But it was a porcupine.

It ran away.

At the entrance of the cave was a big rock at one side and the riddle with a blank Magic square was carved on it.



- 3 = Fibonacci number

Children took out a chalk from their bag, filled up the magic square and wrote down the Fibonacci number. Below was the symbol of a palm. After writing they waited nothing happened.

Rahul shouted 'Number Monster, we are here!'

Still nothing happened.

Vinitha got an idea! 'May be we should press on the hand!' she said. Jitu who wrote the numbers, pressed his hand on the palm symbol. A cracking sound came. The plaque area went in about 10 cms and stopped!

"ENTER THROUGH THE DOOR"

a loud voice from a speaker was heard. A huge stone on the right side started moving. They could see a big opening. A beam of sunlight was coming from one end on the top side! It looked well lighted.

They went inside.

"children, do you know 'Golden proportion?'

Yes, 1:1:618

All shouted in Corus.

Have you heard of Fibonacci series?

Yes!

Can you construct a Golden spiral?

Yes!

Again shout in Corus.

Do you have 'symmetry panels' with golden spiral, to display?

Yes!

Children took out the sheet and started putting on the cave walls with cello tape!

'Now! You can only defeat me if you know Fibonacci numbers and wear Ram Masks, Others have to leave the caves!.

So the villagers had to go out of the cave! They were little worried. But children said, "Don't worry, we will take care!"

Then children sat in a circle wore the 'Ram Masks' and started 'Fibonacci chant'

One

One + one = two

One + two = three

Two + three = Five

Three + Five = eight

Five + Eight = thirteen

Eight + thirteen = twenty one!

Thirteen +

Stop! My punishment is over! I am leaving! I am leaving number monster in me as a 'slave' to you! Huge sound came. And a strange balloon shaped gas went away! A cloud like smoke was there! They heard voices of children from inside! 'Doors are open! Let us go'!

In front of the children the number monster was there in the shape of a lap top computer!"

village children come out! They ran out and met the villagers. They were joyous, happy! They invited the children from future to their village! They started walking. Suddenly all the sound boxes started giving a beep come back quickly there is a crisis! Our energy levels have gone low due to unknown reasons! " Children rushed back!

End of part1

