

RAM Maths Circle

Date: September 17, 2023
Swami Vivekanand School, Dombivli

The session started with a puzzle,

King asked a learned man to visit his palace. The educated man responds to the king by telling him, "I will come some day next month, but I will not tell you on which day. Further, you must give me gold in grams equal to the date on which I arrive." The King is confused by this request and in preparation for the visit, he asks his jeweler to make 31 gold rings, weighing from 1 to 31 grams each. However, a wise jeweler only makes five rings. What are the weights of five rings?

Students were a bit confused with the question, they started listing down all the numbers and taking one out of it. **This is an algorithmic approach**

This puzzle led to the introduction of binary numbers. Facilitator gave some examples of them and asked students to list all binary numbers from 1 to 31 intuitively. Students used a decimal number system approach i.e increasing the number of digits to $x + 1$ once we exhaust using all x digit numbers.

