## Activity 8 - Discovering Nepero's number

Let's use the expression at the top in the second column of the table, replace the n values of the first column, complete the second column with the missing numbers.

| $\mathbf{n}$ | $\left(1+\frac{1}{n}\right)^{n}$ |
| :---: | :---: |
| 1 | 2 |
| 3 |  |
| 7 | 2,5937424 |
| 9 |  |
| 10 | 2,7169239322 |
| 100 |  |
| 1000 |  |
| 100.000 |  |
| 1.000 .000 |  |

What can you observe in the second column?
$\qquad$
$\qquad$

Good Job!!! you have found a very famous number: Nepero's number

## Activity 9 - "Dice game"

Also for this activity let's create a board, where you can find different tests (max 10) and on the top the number of rolls, also the total ones.
Using dice each group will have to roll it and add up the numbers that come out, continuing to roll it until you get, in the sum of the numbers, a number bigger than 6 .
https://freeonlinedice.com/ Then you will do the same with the second table. Next it will be necessary to make the average number of the total rolls, and every time the number we have got by the average will get closer to .... boh we will find out!

|  | roll 1 | roll 2 | roll 3 | roll 4 | roll 5 | roll 6 | roll 7 | number of rolls made |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 test |  |  |  |  |  |  |  |  |
| 2 test |  |  |  |  |  |  |  |  |
| 3 test |  |  |  |  |  |  |  |  |
| 4 test |  |  |  |  |  |  |  |  |
| 5 test |  |  |  |  |  |  |  |  |
| 6 test |  |  |  |  |  |  |  |  |
| 7 test |  |  |  |  |  |  |  |  |
| 8 test |  |  |  |  |  |  |  |  |
| 9 test |  |  |  |  |  |  |  |  |
| 10 test |  |  |  |  |  |  |  |  |


|  | roll 1 | roll 2 | roll 3 | roll 4 | roll 5 | roll 6 | roll 7 | number of rolls made |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 test |  |  |  |  |  |  |  |  |
| 2 test |  |  |  |  |  |  |  |  |
| 3 test |  |  |  |  |  |  |  |  |
| 4 test |  |  |  |  |  |  |  |  |
| 5 test |  |  |  |  |  |  |  |  |
| 6 test |  |  |  |  |  |  |  |  |
| 7 test |  |  |  |  |  |  |  |  |
| 8 test |  |  |  |  |  |  |  |  |
| 9 test |  |  |  |  |  |  |  |  |
| 10 test |  |  |  |  |  |  |  |  |


| average first table |  |
| :--- | :--- |
| average second table |  |

What can you observe in the results of the two average tables
$\qquad$
$\qquad$

Good job!!!

