BINARY MATH CHALLENGE
STUDENT WORKSHEET

Base 10-digits to Binary Converter

Base 10 Digit	Binary Number	
1	0001	**Do you notice any patterns in how the binary numbers change as they get larger? Describe the patterns you see!**
2	0010	
3	0011	
4	0100	
5	0101	
6	0110	
7	0111	**Are there any numbers you can't represent if you only have 4 bits in your group? Why?**
8	1000	
9	1001	
10	1010	
11	1011	
12	1100	
13	1101	
14	1110	**If the word "hi" is 01101000 01101001 in binary, how many bits do you think a computer would use to store your name? What about an entire book?**
15	1111	
16	10000	
17	10001	
18	10010	
19	10011	
20	10100	

BINARY MATH CHALLENGE
TEACHER WORKSHEET

Here are some math problems to get you started. Feel free to add more or tweak what is here on what your kids are learning - just make sure the solutions fall between 1 and 15!

Math Problem	Solution
2 + 2	0100 (4)
3 x 4	1100 (12)
20 - 18	0010 (2)
30 / 6	0101 (5)
7 + 2	1001 (9)
(6 + 8) - 1	1101 (13)
20 x ½	1010 (10)
8 + 3	1011 (11)
4 + 4 + 4 + 3	1111 (15)
(10 - 3) - (4 + 2)	0001 (1)