

Birthday Trick

Directions: Copy the numbers below onto 5 large pieces of sturdy cardboard. (File folders work well.) Use a thick marker. Have a student think about the day of the month on which he/she was born. For example, if it is March 14, she thinks about 14. Have him/her point to the cards that contain her number. He/She should say Cards B, C, and D in this case. You can guess his/her number by adding the first number in each column that she indicated ($2 + 4 + 8$).

Card A	Card B	Card C	Card D	Card E
1	2	4	8	16
3	3	5	9	17
5	6	6	10	18
7	7	7	11	19
9	10	12	12	20
11	11	13	13	21
13	14	14	14	22
15	15	15	15	23
17	18	20	24	24
19	19	21	25	25
21	22	22	26	26
23	23	23	27	27
25	26	28	28	28
27	27	29	29	29
29	30	30	30	30
31	31	31	31	31

Note to teacher: This is the table that explains which of the numbers 1-31 belong on which cards for the Birthday Guessing Trick. (Note that these are the first 31 answers to Handout 6C.)

Base Ten	Sixteens or 2^4	Eights or 2^3	Fours or 2^2	Twos or 2^1	Units or 2^0
1					1
2				1	0
3				1	1
4			1	0	0
5			1	0	1
6			1	1	0
7			1	1	1
8		1	0	0	0
9		1	0	0	1
10		1	0	1	0
11		1	0	1	1
12		1	1	0	0
13		1	1	0	1
14		1	1	1	0
15		1	1	1	1
16	1	0	0	0	0
17	1	0	0	0	1
18	1	0	0	1	0
19	1	0	0	1	1
20	1	0	1	0	0
21	1	0	1	0	1
22	1	0	1	1	0
23	1	0	1	1	1
24	1	1	0	0	0
25	1	1	0	0	1
26	1	1	0	1	0
27	1	1	0	1	1
28	1	1	1	0	0
29	1	1	1	0	1
30	1	1	1	1	0
31	1	1	1	1	1
	Every number that has a 1 in this column goes on card A.	Every number that has a 1 in this column goes on card B.	Every number that has a 1 in this column goes on card C.	Every number that has a 1 in this column goes on card D.	Every number that has a 1 in this column goes on card E.