



FLEXIBLE DECOMPOSITION

Name: *Lose It*

Type: *Game*

About the Game: This game is an opportunity for practicing decomposing with rational numbers. To do well in this game, students will have to look for and make use of decompositions beyond place value.

Materials: Playing cards (queens = 0, aces = 1; remove 10s, kings, and jacks) or 10-sided die; *Lose It game* board (one per player); centimeter cubes for player pieces (or something similar)

- Directions:**
1. Players place five markers on numbers of their choice.
 2. Players take turns generating two-digit numbers, which can be positive or negative. Note for the hundredths version the two digits would represent hundredths.
 3. Once a two-digit number is generated, the player has to decompose one of their numbers to remove a marker.
 4. If the remainder of the decomposed number is not covered on their board, they have to add a marker to the board on that space.
 5. Players do not have to mark a number that is decomposed into itself and zero. For example, a player rolls 8 and 2 to make -28 . They have a marker on -28 and can remove it without putting a marker on 0.
 6. The first player to remove all markers wins.

For example, using the integer board Player 1 puts markers on 73, 46, -52 , -80 , and 12. Player 1 rolls a 3 and a 5 and makes 35 (or -35). Player 1 breaks -52 into -35 and -17 to remove their marker from -52 but has to put a marker on -17 . After their first turn, they have markers on 73, 46, -80 , 12, and -17 . On their next turn, they roll an 8 and a 6. They make it 68 and say that 68 can be broken into 46 (has a marker on it) and 12 (has a marker on it) and remove the two markers. Now they have markers on 73, -17 , and -82 . The game continues until someone removes all markers.

LOSE IT

Directions: Players place five markers on their integer chart. Players take turns rolling two-digit numbers that can be positive or negative. Players decompose their number to remove markers. But players need to cover the other part of a decomposed number if it is uncovered on the game board. The first player to remove all five markers wins.

-50	-51	-52	-53	-54	-55	-56	-57	-58	-59
-40	-39	-38	-37	-36	-35	-34	-33	-32	-31
-30	-29	-28	-27	-26	-25	-24	-23	-22	-21
-20	-19	-18	-17	-16	-15	-14	-13	-12	-11
-10	-9	-8	-7	-6	-5	-4	-3	-2	-1
0	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49
50	51	52	53	54	55	56	57	58	59

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0.01	0.02	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.10
0.11	0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.19	0.20
0.21	0.22	0.23	0.24	0.25	0.26	0.27	0.28	0.29	0.30
0.31	0.32	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.40
0.41	0.42	0.43	0.44	0.45	0.46	0.47	0.48	0.49	0.50
0.51	0.52	0.53	0.54	0.55	0.56	0.57	0.58	0.59	0.60
0.61	0.62	0.63	0.64	0.65	0.66	0.67	0.68	0.69	0.70
0.71	0.72	0.73	0.74	0.75	0.76	0.77	0.78	0.79	0.80
0.81	0.82	0.83	0.84	0.85	0.86	0.87	0.88	0.89	0.90
0.91	0.92	0.93	0.94	0.95	0.96	0.97	0.98	0.99	1.00