

Lesson: The Number Thief

Lesson level: Grade 2-4

Vocab: plumber, atom, aspirin, chuckled

Lesson Aim: Patterns on the 0-99 Chart and Double Numbers

In the poem, *The Number Thief* is trying to steal Mr. R.'s 2s and 9s: How many 2s and 9s would the number thief find on a 0-99 chart?

(There are ten numbers that have a 2 in the tens place, and ten numbers that have a 2 in the ones place. The same goes for numbers with 9 as a digit. (don't count 22, 92, 29, or 99 two times!!!))

Are there any patterns that help find how many 2s and 9s are on the 0-99 chart? (Horizontal and vertical patterns for ones and tens place digits)

0-99 Chart

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
60	61	62	63	64	65	66	67	68	69
70	71	72	73	74	75	76	77	78	79
80	81	82	83	84	85	86	87	88	89
90	91	92	93	94	95	96	97	98	99

Which numbers would the number thief like most? Why?

29 & 92

How many tens and ones are in the numbers 29 and 92?

92 = nine tens and 2 ones

29 = 2 tens and 9 ones.

Lesson 2: Aim: Adding Double Numbers

What type of numbers make the Number Thief disappear? The sum of double numbers

Review sums of double numbers:

$$1 + 1 = 2$$

$$2 + 2 = 4$$

$$3 + 3 = 6$$

$$4 + 4 = 8$$

$$5 + 5 = 10$$

etc.

Is there a pattern in the answers? (Answers increase by twos)

Why?

Are the answers even or odd? (Even. Since even numbers can be split into two equal groups, all double number sums are even as they can be split into their two equal addends.)

Exploration: Are there any double numbers that give you an odd sum? Why?

Try some double number challenges!

$$11 + 11$$

$$12 + 12$$

$$22 + 22$$

$$23 + 23$$

$$50 + 50$$

$$51 + 51$$

What strategies can be used to solve these? ie: Double the number in the ten's place and then double the number in the one's place. When will and when won't that strategy work?