



Consecutive Numbers Grades 6-12

Introduction

There are many different versions of consecutive number investigations and we are sharing a few of them. Our favorite version to go with the number visuals activity is one that uses a hundred chart. If you are a middle or high school teacher don't assume that the hundred chart is for younger students since this activity extends to algebraic representations and the hundreds chart helps students see and understand expressions. Often students are shown consecutive number problems and many don't connect the expression n , $n+1$ and $n+2$ to actual numbers. This is especially challenging when students are shown the expressions m , $m+2$ and $m+4$ and told that this represents three consecutive odd numbers. Using a hundred chart really helps students understand the abstract representations.

1	2	3	4	5	6	7	8	9	10
11	12	13	n	$n+1$	$n+2$	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	m	34	$m+2$	36	$m+4$	38	39	40

Agenda

Activity	Time	Description/Prompt	Materials
Explore	20 min	Choose one of the activities for students to investigate. Give students the hundred chart, paper and colored pencils to illustrate their work.	<ul style="list-style-type: none"> Paper Pencil/pen Colored pencils/markers Hundred Chart handout Hundred Chart Activity
Present	20 min	Invite students to share any patterns or other interesting observations.	



Consecutive Numbers Handout

The number 12 can be written as a sum of consecutive numbers,
 $3 + 4 + 5 = 12$

Another example of a consecutive number sum is 3 since
 $1 + 2 = 3$

Can all numbers be written as sums of consecutive numbers? Can some consecutive number sums be written in more than one way?

Using the hundred chart circle three numbers in a row (horizontally) and add them. Try this with several sets of numbers.

Do you see a pattern in relationship to the middle number?
Does your pattern work for every group of three consecutive numbers?
Write a convincing argument.

Using the hundred chart circle four adjacent numbers to form a square. Find the number of the sum of the numbers on the two diagonals.

What do you notice?
Does this work for every group of numbers in this pattern? What do you wonder?
Write a convincing argument.

Using the hundred chart circle four adjacent numbers to form a square. Multiply the numbers on each diagonal. What do you think will happen?

What does happen?
Does this work for every group of numbers in this pattern? What do you wonder?
Write a convincing argument.



Hundred Chart Handout

91	92	93	94	95	96	97	98	99	100
81	82	83	84	85	86	87	88	89	90
71	72	73	74	75	76	77	78	79	80
61	62	63	64	65	66	67	68	69	70
51	52	53	54	55	56	57	58	59	60
41	42	43	44	45	46	47	48	49	50
31	32	33	34	35	36	37	38	39	40
21	22	23	24	25	26	27	28	29	30
11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10