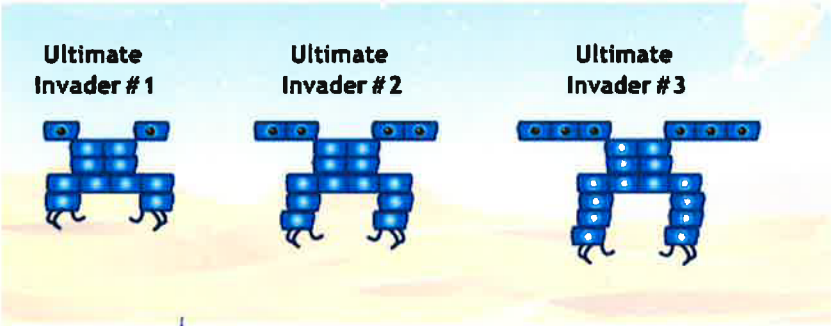
Student: **Student A** Class: _____ Date: _____

Equations and inequalities

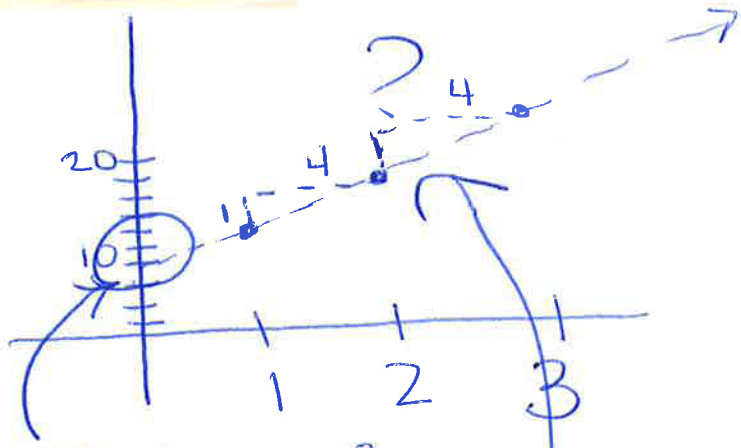
Block 4 Student Activity Sheet

4. Method 2 of growth:

   a. Illustrate the growth using a picture of the first three members.



1	12
2	16
3	20



   b. Explain this method of counting the growth. y intercept

$8 + \frac{1}{4}x$

— Linear

— Not through 0.

   c. Write an equation that reflects this way of thinking about the growth if ***y*** is the number of body parts (or squares) and ***x*** is the family member number.

$y = 8 + \frac{1}{4}x$

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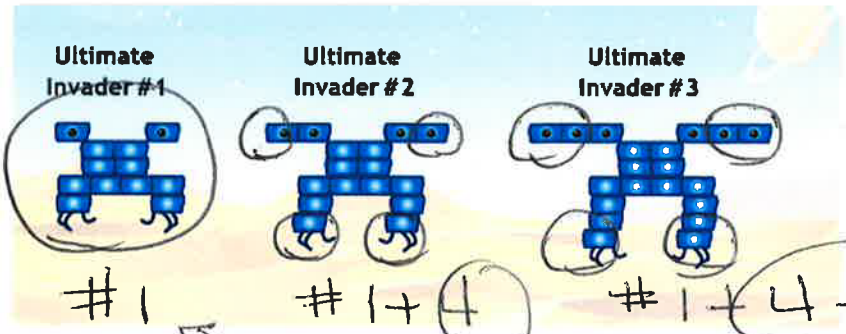
Student: **Student B** Class: _____ Date: _____

Equations and inequalities

Block 4 Student Activity Sheet

4. Method 2 of growth:

   a. Illustrate the growth using a picture of the first three members.



#1 #1+4 #1+4+4

12 16 20

a) fours invader 1 — 1 four invader 2 — 2 fours invader 3

X-1

   b. Explain this method of counting the growth.

I thought of invader 1 as given - then figured out what changes each time (4)

   c. Write an equation that reflects this way of thinking about the growth if ***y*** is the number of body parts (or squares) and ***x*** is the family member number.

$y = 12 + (x-1)4$

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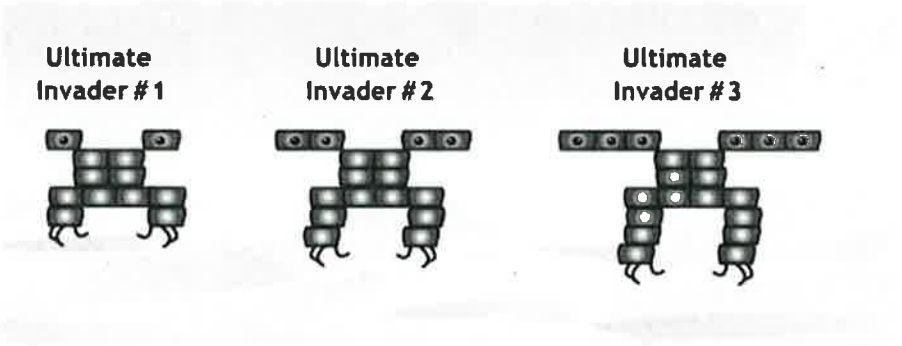
Student: **Student C** Class: _____ Date: _____

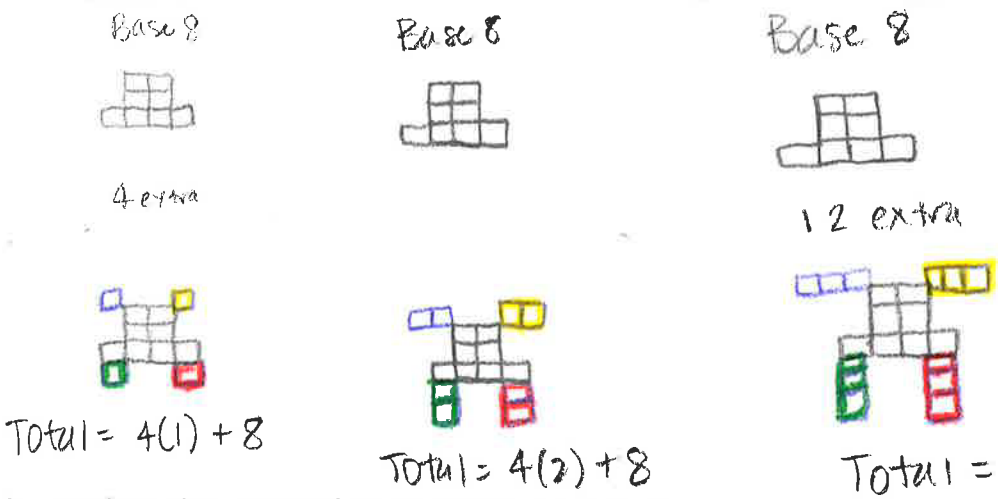
Equations and inequalities

Block 4 Student Activity Sheet

4. Method 2 of growth:

   a. Illustrate the growth using a picture of the first three members.





Total = 4(1) + 8

Total = 4(2) + 8

Total = 4(3) + 8

   b. Explain this method of counting the growth.

each invader has a "core body" of 8 parts. Then, the 1st invader has 4 extra parts, one on each corner. The second invader has 8 extra parts, 2 on each corner & the 3rd invader has 12 extra parts, 3 on each corner.

   c. Write an equation that reflects this way of thinking about the growth if ***y*** is the number of body parts (or squares) and ***x*** is the family member number.

$$y = 4x + 8$$

of "corners" — extra parts on each corner — core parts

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Student: **Student D** Class: _____ Date: _____

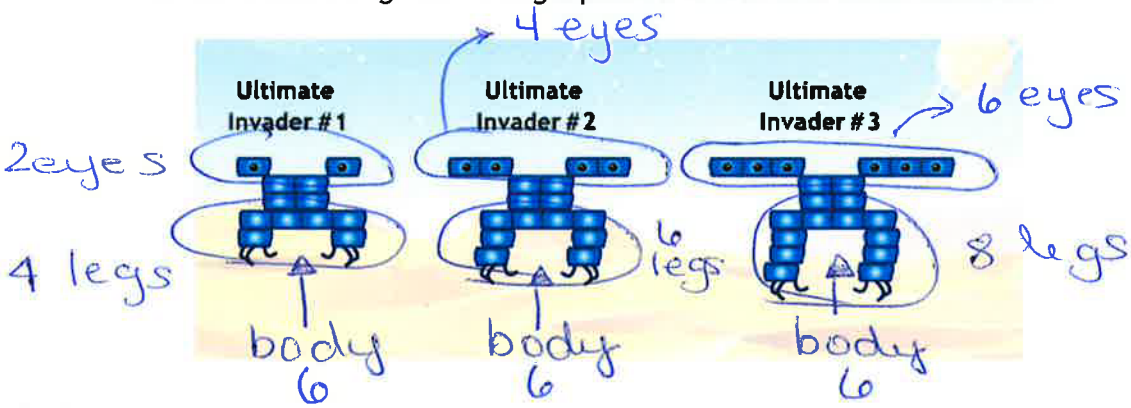
Equations and inequalities

Block 4 Student Activity Sheet

For questions 3 through 5, show three different ways of seeing how the invader family is growing.

3. Method 1 of growth:

   a. Illustrate the growth using a picture of the first three members.



   b. Explain this method of counting the growth.

eyes: up 2 each time started @ 2
body: always 6
legs: up 2 each time starting @ 4

   c. Write an equation that reflects this way of thinking about the growth if ***y*** is the number of body parts (or squares) and ***x*** is the family member number.

x	eyes	body	legs	y
1 → (x 2)	2	6	(x2+2) 4	12
2 → (x2)	4	6	(x2+2) 6	16
3 → (x2)	6	6	(x2+2) 8	20

$y = (x \cdot 2) + 6 + (x \cdot 2 + 2)$

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Student: **Student E** Class: _____ Date: _____

Equations and inequalities

Block 4 Student Activity Sheet

For questions 3 through 5, show three different ways of seeing how the invader family is growing.

3. Method 1 of growth:

   a. Illustrate the growth using a picture of the first three members.

2 eyes + 2 more eyes + 2 more eyes = 6 eyes

10 body + 12 body + 14 body

12 16 20

eyes 2(1) 2(2) 2(3)

body 2(1)+10 2(2)+12 (10+2) 2(3) + 14 (10+4)

   b. Explain this method of counting the growth.

They have 2 more eyes each time.
They have 2 more bodies each time.

   c. Write an equation that reflects this way of thinking about the growth if ***y*** is the number of body parts (or squares) and ***x*** is the family member number.

$y_1 = 2(1) + 10$

$y_2 = 2(2) + 12 = 2(2) + (10 + 2)$

$4 + 10 + 2$

$y_3 = 2(3) + 14$

$2(2 + 5 + 1)$

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$2(3) + 10 + 2 + 2$

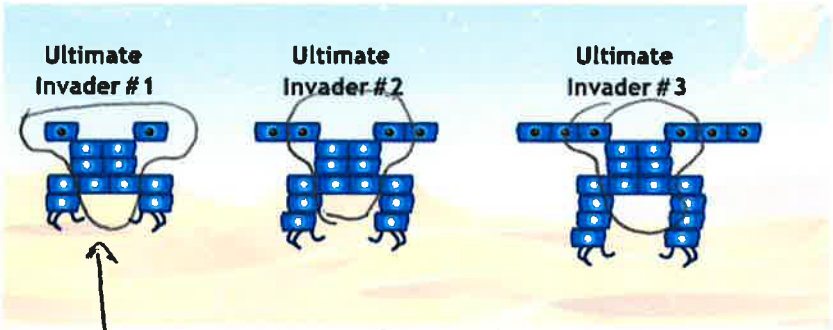
Student: **Student F** Class: _____ Date: _____

Equations and inequalities

Block 4 Student Activity Sheet

4. Method 2 of growth:

   a. Illustrate the growth using a picture of the first three members.



8+4 8+4+4 8+4+4+4

   b. Explain this method of counting the growth.

8 constant
4 growth (slope/rate)

   c. Write an equation that reflects this way of thinking about the growth if ***y*** is the number of body parts (or squares) and ***x*** is the family member number.

$y = 8x + 4$

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