

**Page 5 –Area and perimeter block patterns**

1. Given a constant area, find the shapes with the smallest perimeter and describe what they have in common.
2. Why is the largest perimeter of an area always increasing by 2 as compared to the preceding whole number area?
3. The largest perimeter of an area will increase by 2 when the added block touches only 1 side.

**1. Area**

- 4 perimeter



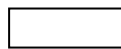
**2. Area**

- 6 perimeter



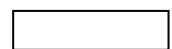
**3. Area**

- 8 perimeter



**4. Area**

- 10 perimeter



- 8 perimeter



- 8 perimeter



- 10 perimeter

**5. Area**

- 12 perimeter

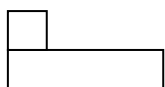


**6. Area**

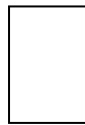
- 14 perimeter



- 12 perimeter

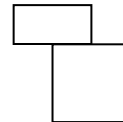


- 10 perimeter



**6. Area Continued**

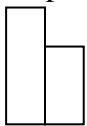
- 12 perimeter



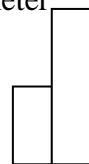
- 10 perimeter



- 10 perimeter



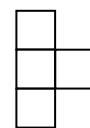
- 12 perimeter



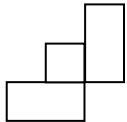
- 12 perimeter



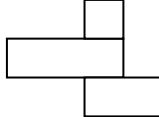
- 10 perimeter



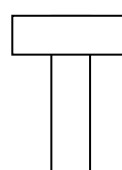
- 12 perimeter



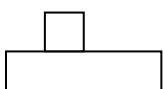
- 14 perimeter



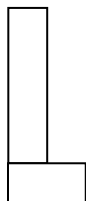
- 14 perimeter



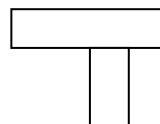
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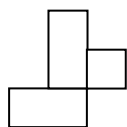
-14 perimeter



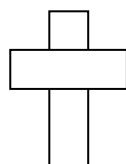
- 14 perimeter



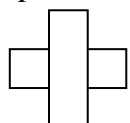
- 12 perimeter



- 14 perimeter



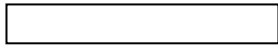
- 12 perimeter



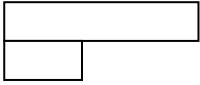
**Page 6-Area and perimeter patterns**

**7. Area  
Continue**

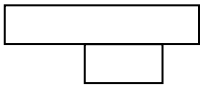
- 16 perimeter



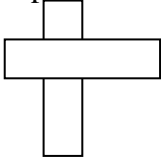
- 14 perimeter



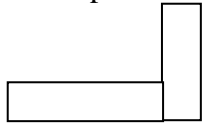
- 14 perimeter



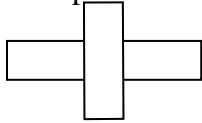
- 16 perimeter



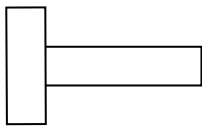
- 16 perimeter



- 16 perimeter

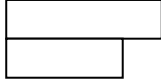


- 16 perimeter

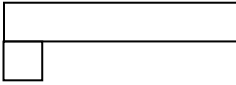


**7. Area Continued**

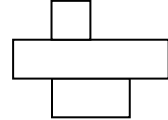
- 12 perimeter



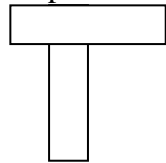
- 16 perimeter



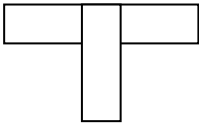
-14 perimeter



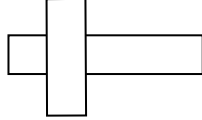
- 16 perimeter



- 16 perimeter

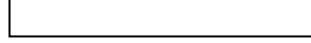


- 16 perimeter

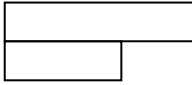


**8. Area**

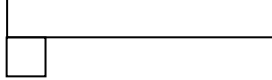
- 18 perimeter



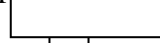
- 14 perimeter



- 18 perimeter



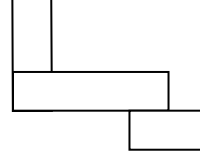
- 18 perimeter



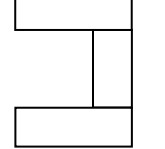
- 18 perimeter



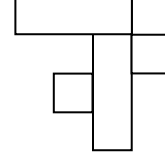
- 18 perimeter



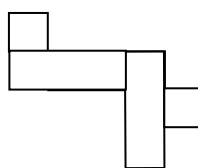
- 18 perimeter



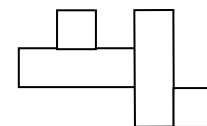
- 18 perimeter



- 18 perimeter

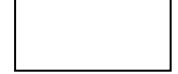


- 18 perimeter

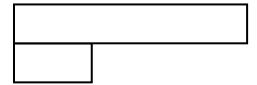


**8. Area**

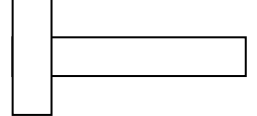
- 12 perimeter



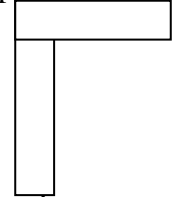
- 16 perimeter



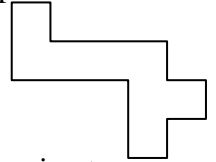
- 18 perimeter



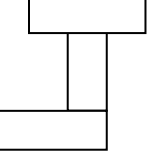
- 18 perimeter



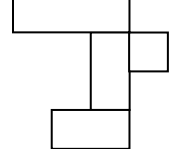
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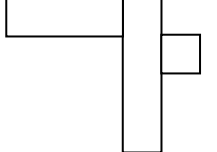
- 18 perimeter



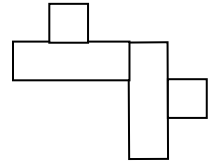
- 18 perimeter



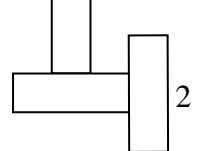
- 18 perimeter



- 18 perimeter



- 18 perimeter



Area	Smallest Perimeter	Largest Perimeter	Pattern
1	4	4	1
2	6	6	1
3	8	8	2
4	8	10	5
5	10	12	7
6	10	14	10
7	12	16	13
8	12	18	20

**Page 7-Area and perimeter patterns**

**Perimeter 4**

- 1 area



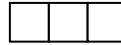
**Perimeter 6**

- 2 area



**Perimeter 8**

- 3 area

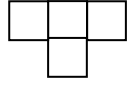
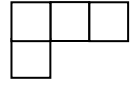
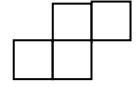
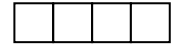


- 4 area

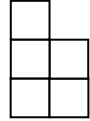


**Perimeter 10**

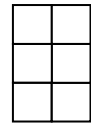
- 4 area



- 5 area

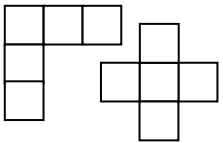
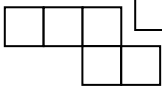
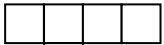
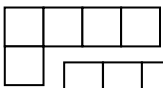


- 6 area



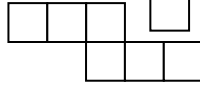
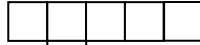
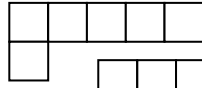
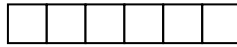
**Perimeter 12**

- 5 area

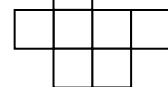
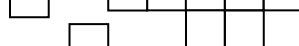
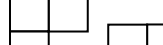
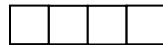


**Perimeter 14**

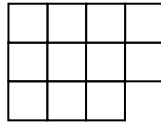
- 6 area



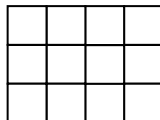
- 7 area



- 11 area



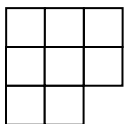
- 12 area



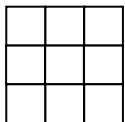
Perimeter	SmArea	LgArea
4	1	1
6	2	2
8	3	4
10	4	6
12	5	9
14	6	12

Extension activity  
Perimeter remains constant and varying the area.

- 8 area



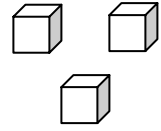
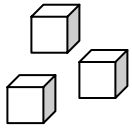
- 9 area



and more arrangements are possible.

Name \_\_\_\_\_

Date \_\_\_\_\_



### Relationships Between Area and Perimeter

Area	Largest Perimeter	Smallest Perimeter

