Algebra/Geometry Institute Summer 2002

Lesson Planning Guide

Faculty Name: Kelow, S.
School: Leland School Park
Grade Level: 5-6

1 Teaching objective(s)

- ***Recognize and continue a number pattern and or geometric representation***

2 Instructional Activities

- ***Teacher will introduce new lesson and provide examples and sample problems for whole group completion***

Ex. (Choose the next shape in the pattern shown :)

Ex. (Choose the next numbers in the sequence below :)
1, 2, 4, 7, …

- ***Students will observe and record examples from board***
- ***Students will participate in whole group discussion and answer teacher constructed questions***
  - ***What change occurred between the numbers in the pattern above?***
  - ***What was the change in the polygons shown in example 1?***
  - ***Is there a pattern forming in the numerical example?***
- ***Teacher will place students in cooperative groups to complete practice activity***

Around the World

  - ***Student will be placed in groups of 4***
  - ***Teacher will place flash card, displaying both numerical and geometric patterns at each table***
  - ***Students will be allotted (4) minutes to determine pattern and write next number***
  - ***Teacher will observe and keep time***
  - ***Students will continue to move to different stations until they have completed one rotation to all 5 tables as a group***
  - ***Upon completion, teacher will check to see that each group has (5) problems.***
  -
- ***Teacher will review and discuss answers to practice exercise for understanding***
- ***Students will complete independent exercise for written evaluation***

3 Materials and Resources

- ***Teacher – made quiz (edu-test. com)***
- ***Overhead / Projector***
- ***Paper / Pencil***
- ***Flash Cards***

4 Assessment

- ***Teacher will observe verbal response during practice review***
- ***Teacher will grade written evaluation***

5 Enrichment (Optional)

- ***Students will prepare self-constructed patterns to present to peers***
- ***Students will observe presented pattern and determine continuation of pattern using numerical or geometric representation***

Ex. 2, 6, 5, 9, 8, 12, 11

(The pattern here would be to add 4 and subtract 1)

Flash Cards

Question 1:

This table shows the number of cars washed at Sud City during the past 5 days.

Day	Number of Cars Washed
Monday	47
Tuesday	51
Wednesday	56
Thursday	62
Friday	69
Saturday	_____
Sunday	_____

If the pattern continues, how many cars will be washed on Saturday and Sunday?

Question 2:

The table shows how many hours Crystal studied for each of her exams for the six days prior to the start of exams.

Subject	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Algebra II	2	1	2		2	1
Latin II	1 1/2	2	1	2		1
English II	1	1 1/2	2	1/2		1
American History	1	2	3/4		1	1/2

Assuming there is a pattern, how many hours do you think Crystal studied for Algebra II on Day 4?

Question 3:

This table shows the number of hamburgers sold at Burger Hut during the past 5 days.

Day	Number of Hamburgers Sold
Monday	47
Tuesday	51
Wednesday	56
Thursday	62
Friday	69
Saturday	_____
Sunday	_____

If the pattern continues, how many hamburgers will be sold on Saturday and Sunday?

Question 4:

Evelina's fishing company took 50 people on a charter boat every day last week. This table shows the number of fish they caught each day.

Day	Number of Fish Caught
Monday	118
Tuesday	135
Wednesday	152
Thursday	169
Friday	186
Saturday	_____

If the pattern continued, how many fish were caught on Saturday?

Question 5:

The table below shows Pam's exercise log for a six-day period. Pam neglected to record her crunches on Day 4.

Activity	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Sit-ups	5	10	15	20		30
Crunches	3	6	9		15	18
Pull-ups	4	6		10	12	14

Assuming there is a pattern, how many crunches do you think Pam did on Day 4?

Patterns Quiz

Name:_____

Question 1:

This table shows the number of hot dogs sold at the Hot Dog Palace during the past 5 days.

Day	Number of Hot Dogs Sold
Monday	47
Tuesday	51
Wednesday	56
Thursday	62
Friday	69
Saturday	_____
Sunday	_____

If the pattern continues, how many hot dogs will be sold on Saturday and Sunday?

Question 2:

The table shows Ben's exercise log for a six-day period.

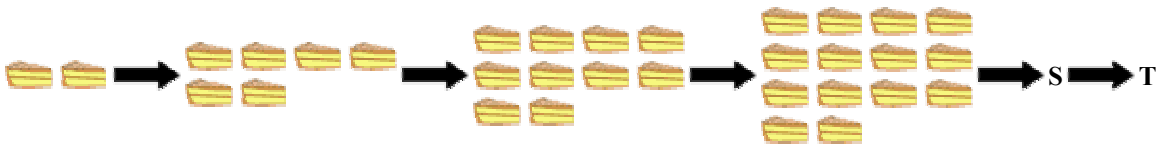
Activity	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Sit-ups	5	10	15	20		30
Pull-ups	3	6	9		15	18
Minutes Walking	4	8		16	20	24

Ben forgot to record his pull-ups on Day 4.

How many pull-ups do you think Ben did on that day?

Question 3:

These slices of cake show a specific pattern.



If the pattern continued, how many cake slices would be at S and T?

Question 4:
These dice show a specific pattern.

If the pattern continued, how many dice would be at E and F?

Question 5:

Daphne and her friends went to a restaurant and ordered buffalo wings. They ate 52 buffalo wings in 60 minutes.

15 minutes	30 minutes	45 minutes	60 minutes
13 wings	?	39 wings	52 wings

If there is a pattern, how many buffalo wings did Daphne and her friends eat in 30 minutes? _____

Question 6:

These numbers follow a pattern.

3, 6, 12, 24, 48

What is the eighth number of this pattern?

Question 7:

Ann is practicing for the Boston Marathon. Look at this chart of her training schedule for the past five weeks.

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
3.2 miles	6 miles	8.8 miles	11.6 miles	14.4 miles	?

What is the best prediction of her mileage in week 6?

Question 8:

Look at the weight chart for Tom's baby brother, Arnold.

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
8 lbs., 1 oz.	8 lbs., 6 oz.	8 lbs., 11 oz.	9 lbs.	9 lbs., 5 oz.	9 lbs., 10 oz.	?

If there is a pattern with Arnold's weight gain, how much would he weigh during week 7?

Question 9:

Gunther improved his time for running two miles. This table shows how many minutes it took him to run this distance.

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
13.8	13.5	13.2	12.9	12.6	?

If the pattern continued, how long did it take Gunther to run two miles in Week 6?
Assuming that his weight continues to increase at the same rate, what would Arnold weigh in Week 7?

Question 10:

Construct a statement to describe this geometric pattern?