

Generate and Analyze Patterns

Dear Family,

Your child is learning to identify repeating patterns in a sequence of numbers or geometric shapes. He or she is learning to recognize that patterns follow a specific rule that can be used to predict the numbers or objects that would appear before, after, or within the pattern. For example:

1, 2, 3, 4, 1, 2, 3, ?, 1, 2, 3, 4, ?
 3, 6, 9, ?, 15, 18, 21, 24, 27, 30, ?
 ● ● ■ ▲ ● ● ? ▲ ● ● ■ ? ● ● ■ ▲

Your child is also learning that certain numbers such as 6 and 36 are a number pair and have a special relationship. [36 is the product of 6×6 .] Recognizing this relationship will help your child to create other number pairs. For example, the number pair of 8 and 64 has the same relationship as 6 and 36. A table like the one shown here helps your child to identify patterns and relationships between numbers.

| | | | | | |
|-----------------|---|---|----|---|----|
| Number of Packs | 1 | 2 | 3 | ? | 5 |
| Number of Cards | 8 | ? | 24 | ? | 40 |

You can help your child practice number patterns through the following activity.

Table Times

- Step 1** Examine the table above and identify the rule that the number pairs follow. [As the number of packs increases by 1, the number of cards increases by 8.]
- Step 2** Have your child fill in the missing numbers [16, 4, and 32] and have him or her predict the next two sets of numbers if the table continued. [6 and 48, 7 and 56]
- Step 3** On another sheet of paper, draw a blank table using the form shown above, and take turns creating patterns and number sequences with missing parts. Solve them together.