

Patterns with Penguins

Purpose

Students will recognize a linear pattern and extend it by finding the pattern's rule.

Materials

For the teacher: *Mr. Popper's Penguins* by Richard and Florence Atwater

For each student: copy of Black Line Master (BLM) *Mr. Popper's Penguins' Patterns*

Activity

A. Introduction

1. Read the book *Mr. Popper's Penguins*.
2. Tell the class that Mr. Popper needs to transport the penguins by taxi to a hotel.
3. Inform students that Mr. Popper can take only two penguins per trip and Mr. Popper has a total of 12 penguins to transport.

B. Student Activity

1. Pass out copies of the BLM *Mr. Popper's Penguins' Patterns*.
2. Ask the students how many trips it will take to transport the penguins.
3. Have students fill out the BLM to find the number of trips it will take.
4. Tell the students that Mr. Popper has discovered that each of the penguins carried six shrimp in its mouth.
5. Ask students how many shrimp the 12 penguins carried to the hotel.
6. Have students fill out the "Shrimp" portion of the BLM to find the number of shrimp the 12 penguins carried.
7. Tell the students that Mr. Popper is happy about the shrimp that the penguins carried with them because, if he can provide the hotel's kitchen with 96 shrimp, he will be paid some money.

(continued)

connecting
across the
curriculum



English/ Language Arts

Have students create their own stories about animals or vehicles that carry a certain number of items. Have students write the pattern created from the story they have written.

INCORPORATING
TECHNOLOGY



Create a simple table template on the computer. Using the pattern from the story they created in the suggestion above, have students create a table (on the computer) similar to the one in the BLM.

Standards Links
2.1.11, 2.1.12, 2.2.2






Activity (continued)

8. Ask the students how many penguins Mr. Popper would need to transport to give the kitchen 96 shrimp.
9. Ask the students how many trips it would take to transport those penguins.
10. Have students continue the patterns in the BLM to find the answers.

Questions for Review

Basic Concepts and Processes



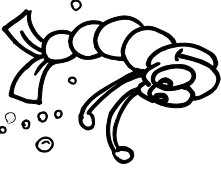
After students have completed the BLM *Mr. Popper's Penguins' Patterns*, discuss the following questions with them to gauge their understanding of the Standard Indicators:

-  Did you correctly find the number of trips and number of shrimp the 12 penguins required?
 -  How did you know what numbers to place in the boxes?
 -  What was the pattern rule for the trips? the penguins? the shrimp?
 -  How did you determine the number of trips and penguins it would take to transport 96 shrimp?
 -  Did you complete the pattern for the shrimp so that you reached exactly 96 shrimp?
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Mr. Popper's Penguins' Patterns

Name: _____

Fill in the table below, beginning with the number of penguins in each trip.

Number of Trips 																				
Number of Penguins 																				
Number of Shrimp 																				

What is the pattern rule for:

the penguins? _____

the shrimp? _____

the trips? _____




Mr. Popper's Penguins' Patterns

Teacher Directions

Distribute the BLM *Mr. Popper's Penguins' Patterns* and have students fill out the table as you instruct them during the activity.

After the table is completed, instruct them to answer the questions concerning the pattern rules. Explain what is meant by "pattern rule" if this concept has not been discussed previously.

Answer Key

Number of Trips 	1	2	3	4	5	6	7	8	9*
Number of Penguins 	2	4	6	8	10	12	14	16	18*
Number of Shrimp 	12	24	36	48	60	72	84	96	108*

* it is not necessary for students to complete the last column of the table.

What is the pattern rule for:

the penguins? Answers may vary but should be similar to one of the following:
"Add two, Plus two, Count by two."

the shrimp? Answers may vary but should be similar to one of the following:
"Add twelve, Plus twelve, Count by twelve."

the trips? Answers may vary but should be similar to one of the following:
"Add one, Plus one, Count by one."