

LESSON **Algebra Lab Recording Sheet** p. 780

11-3 *Model Growth and Decay*

Try This

Activity 1

1. Complete the table at right.

Folds	Regions
0	
1	
2	
3	
4	
5	

2. Fold a piece of notebook paper in half. Then open it back up. Count the number of regions created by the fold. Record your answer in the table.
3. Now fold the paper in half twice. Record the number of regions created by the folds in the table.
4. Repeat this process for 3, 4, and 5 folds.

Try This

1. When the number of folds increases by 1, the number of regions _____.
2. For each row of the table, write the number of regions as a power of 2. _____
3. Write an exponential expression for the number of regions formed by n folds. _____

4. If you could fold the paper 8 times, how many regions would be formed? _____
5. How many times would you have to fold the paper to make 512 regions? _____

LESSON **Algebra Lab Recording Sheet** p. 780**11-3** **Model Growth and Decay** continued**Activity 2**

1. Complete the table at right.

Folds	Regions
0	
1	
2	
3	
4	
5	

2. Begin with a square piece of paper. The area of the paper is 1 square unit. Cut the paper in half. Each piece has an area of $\frac{1}{2}$ square unit. Record the result in the table.
3. Cut one of those pieces in half again, and record the area of one of the new, smaller pieces in the table.
4. Repeat this process for 3, 4, and 5 cuts.

Try This

5. When the number of cuts increases by 1, the area _____.
6. For each row of the table, write the area as a power of 2. _____
7. Write an exponential expression for the area after n cuts. _____