



## Activity 2

# Magic Nines

Name \_\_\_\_\_

Date \_\_\_\_\_

1. Complete this table:

Products		Sum of Digits
$9 \times 1 =$	09	$0 + 9 = 9$
$9 \times 2 =$	18	$1 + 8 = 9$
$9 \times 3 =$	27	$2 + 7 = 9$
$9 \times 4 =$	36	$3 + 6 = 9$
$9 \times 5 =$		
$9 \times 6 =$		
$9 \times 7 =$		
$9 \times 8 =$		
$9 \times 9 =$		
$9 \times 10 =$		
$9 \times 11 =$		
$9 \times 12 =$		

2. What patterns do you see?

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3. Complete each computation:

$79 \times 1 \times 9 = \underline{\hspace{2cm}}$

$79 \times 5 \times 9 = \underline{\hspace{2cm}}$

$79 \times 2 \times 9 = \underline{\hspace{2cm}}$

$79 \times 7 \times 9 = \underline{\hspace{2cm}}$

$79 \times 3 \times 9 = \underline{\hspace{2cm}}$

$79 \times 9 \times 9 = \underline{\hspace{2cm}}$

$79 \times 4 \times 9 = \underline{\hspace{2cm}}$

4. What patterns so you see?

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5. Predict these products:

$79 \times 6 \times 9 = \underline{\hspace{2cm}}$

$79 \times 8 \times 9 = \underline{\hspace{2cm}}$

6. Find the products and explain why your predictions were or were not accurate.

$79 \times 6 \times 9 = \underline{\hspace{2cm}}$

$79 \times 8 \times 9 = \underline{\hspace{2cm}}$

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7. What is the sum of the digits of each product in numbers 3 and 6? Why does this happen?

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8. Complete each computation:

$24 \times 99 = \underline{\hspace{2cm}}$

$28 \times 99 = \underline{\hspace{2cm}}$

$34 \times 99 = \underline{\hspace{2cm}}$

$38 \times 99 = \underline{\hspace{2cm}}$

$74 \times 99 = \underline{\hspace{2cm}}$

$78 \times 99 = \underline{\hspace{2cm}}$

9. What patterns do you see?

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10. Predict these products:

$53 \times 99 = \underline{\hspace{2cm}}$

$68 \times 99 = \underline{\hspace{2cm}}$

$86 \times 99 = \underline{\hspace{2cm}}$

11. Describe what happens when you multiply any two-digit number by 99.

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12. Use your statement to predict these products. Check your predictions.

$$67 \times 99 = \underline{\hspace{2cm}}$$

$$99 \times 53 = \underline{\hspace{2cm}}$$

$$94 \times 99 = \underline{\hspace{2cm}}$$

13. Complete each computation:

$$24 \times 999 = \underline{\hspace{2cm}}$$

$$64 \times 999 = \underline{\hspace{2cm}}$$

$$34 \times 999 = \underline{\hspace{2cm}}$$

$$51 \times 999 = \underline{\hspace{2cm}}$$

$$54 \times 999 = \underline{\hspace{2cm}}$$

$$75 \times 999 = \underline{\hspace{2cm}}$$

14. What patterns do you see?

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15. Describe what happens when you multiply any two-digit number by 999.

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16. Predict these products. Check your predictions.

$$83 \times 999 = \underline{\hspace{2cm}}$$

$$83 \times 9999 = \underline{\hspace{2cm}}$$

$$83 \times 99999 = \underline{\hspace{2cm}}$$

$$83 \times 999999 = \underline{\hspace{2cm}}$$

