

Name _____

Eye Spy a Pattern

Pattern	Solution									
<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 5px;">O</td> <td style="padding: 5px;">T</td> <td style="padding: 5px;">T</td> </tr> <tr> <td style="padding: 5px;">F</td> <td style="padding: 5px;">F</td> <td style="padding: 5px;">S</td> </tr> <tr> <td style="padding: 5px;">S</td> <td style="padding: 5px;">E</td> <td style="padding: 5px;">?</td> </tr> </table>	O	T	T	F	F	S	S	E	?	<p>1. What letter belongs in the box with the question mark?</p>
O	T	T								
F	F	S								
S	E	?								
<p>Pascal's Triangle</p> <pre style="text-align: center; margin: 10px 0;"> 1 1 1 1 2 1 1 3 3 1 1 4 6 4 1 1 5 10 10 5 1 1 6 15 20 15 6 1 1 7 21 35 35 21 7 1 1 8 28 56 70 56 28 8 1 </pre>	<p>2. Can you predict the next row of numbers?</p> <p>Is there a pattern in the sums of the numbers in the rows?</p> <p>Do any numbers repeat?</p>									
$1 \times 9 + 2 = 11$ $12 \times 9 + 3 = 111$ $123 \times 9 + 4 = 1111$ $1234 \times 9 + 5 = 11111$	<p>3. What is the sequence in row 5?</p> <p>Does the pattern continue to grow for row 6?</p>									
<p>Fibonacci Sequence</p> <p>0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, ...</p>	<p>4. What are the next three numbers in the sequence?</p> <p>How do you know?</p>									
<pre style="margin: 0;"> A A B A B C A B C D B B C B C D B C _ _ </pre>	<p>5. What letters (A, B, C, D) belong in the two empty spaces?</p>									