

Chapter 3 Investigation	Complete (20 points)	Substantial (15 points)	Developing (10 points)	Minimal (5 points)	Total points
<b>Introduction and Data Collection</b>	<ul style="list-style-type: none"> <li>✓ Describes the context of the research (sport, player, team, year, etc.) and includes reasons for variable choice.</li> <li>✓ Has a clearly stated question of interest, including formal hypotheses</li> <li>✓ Specifically describes how the data was collected (including sources)</li> <li>✓ Includes outcomes in order and clearly identifies the streaks and/or results of pairs of outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Has a specific question of interest and includes the outcomes in order, but doesn't adequately introduce the context, describe how the data was collected, or state correct hypotheses.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Has a question of interest and uses appropriate data, but has several other problems.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Has a question of interest.</li> </ul>	
<b>Test Statistic #1</b>	<ul style="list-style-type: none"> <li>✓ Test statistic is clearly identified and correctly calculated</li> <li>✓ Clearly describes method for performing a simulation and includes an adequate number of trials.</li> <li>✓ Displays results of simulation in a clear, well labeled dotplot.</li> <li>✓ Estimates p-value correctly.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Conducts a reasonable simulation/calculation to estimate the p-value, but there is a small error, the method is not clearly described, or the test statistic is not clearly identified or calculated.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Attempts a simulation/calculation to estimate p - value )</li> </ul>	<ul style="list-style-type: none"> <li>✓ Attempts to analyze the data.</li> </ul>	
<b>Test Statistic #2</b>	<ul style="list-style-type: none"> <li>✓ Test statistic is clearly identified and correctly calculated</li> <li>✓ Clearly describes method for performing a simulation and includes an adequate number of trials.</li> <li>✓ Displays results of simulation in a clear, well labeled dotplot.</li> <li>✓ Estimates p-value correctly.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Conducts a reasonable simulation/calculation to estimate the p-value, but there is a small error, the method is not clearly described, or the test statistic is not clearly identified or calculated.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Attempts a simulation/calculation to estimate p - value</li> </ul>	<ul style="list-style-type: none"> <li>✓ Attempts to analyze the data.</li> </ul>	
<b>Conclusions</b>	<ul style="list-style-type: none"> <li>✓ Correctly uses the results of the simulations to draw appropriate conclusions about the question of interest for each test statistic.</li> <li>✓ Discusses how the conclusions for the two test statistics compare.</li> <li>✓ Shows evidence of critical reflection (e.g. discusses possible errors, shortcomings, limitations, alternate explanations).</li> </ul>	<ul style="list-style-type: none"> <li>✓ At least one of the conclusions is correct based on simulations/p-value.</li> <li>✓ Discusses how the conclusions compare.</li> <li>✓ Shows some evidence of critical reflection</li> </ul>	<ul style="list-style-type: none"> <li>✓ At least one of the conclusions is partially correct (e.g. accepts null)</li> <li>✓ Little evidence of critical reflection.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Makes a conclusion.</li> </ul>	
<b>Overall Presentation/Communication</b>	<ul style="list-style-type: none"> <li>✓ Clear holistic picture of the investigation as a two-step process (e.g. includes preliminary and final conclusion)</li> <li>✓ Investigation is well organized, neat and easy to read</li> <li>✓ Ideas are well communicated, including appropriate transitions between sections.</li> <li>✓ Clearly contrasts the concepts of independence and streakiness (having the hot hand) in context.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Investigation is organized, easy to read, and has appropriate transitions, but lacks clear communication, a holistic picture of the investigation, or does not clearly contrast the concepts of independence and streakiness.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Investigation is somewhat organized, but has s major problems.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Communication and organization are poor.</li> </ul>	