## Please Note:

All standards in the state course description are designed to be learned by the end of the course. This guide represents a recommended time line and sequence to be used voluntarily by teachers for planning purposes. Specific questions regarding when content will actually be addressed in a specific course are best answered by the individual teacher.

Teachers may use a wide variety of instructional materials throughout their course. The Possible Resources listed may include the district adopted instructional resource or supplemental resources that align to the topic and/or standard. These Possible Resources provide sample problems that align to the topic/standard.

## **Publisher Resource:**

**Statistics Through Applications** 

## **Other Course Supplemental Resources:**

Khan Academy Core - Statistics and Probability

- AP Statistics

All standards in the state course description are designed to be learned by the end of the course. This guide represents a recommended time line and sequence to be used voluntarily by teachers for planning purposes. Specific questions regarding when content will actually be addressed in a specific course is best answered by the individual teacher.

Teachers may use a wide variety of instructional materials throughout their course. The Possible Resources listed may include the district adopted instructional resource or supplemental resources that align to the topic and/or standard. These Possible Resources provide sample problems that align to the topic/standard.

|                              | Week             | Major Concepts / Topics  | Possible Resources  |
|------------------------------|------------------|--|---|
| Quarter 1<br>Aug 10 – Oct 12 | 1                | Chapter 1 – Statistics: the Art and Science of Data  | Section 1.1 – Perdisco.tv - Introduction to statistics  |
|                              | 8/10             | Section 1.1 – Where Do Data Come From  |   |
|                              | 2<br>8/13 – 8/17 | <ul> <li>Section 1.1 – Where Do Data Come From</li> <li>Section 1.2 – <u>Drawing Conclusions From Data</u></li> <li>Chapter 2 – Describing Distributions of Data</li> <li>Section 2.1 – <u>Displaying Distributions with Graphs</u></li> </ul> | Section 1.2 – Perdisco.tv - Introduction to statistics Section 2.1 – Perdisco.tv - Presenting data Khan Academy – Bar Graphs Line Graphs Pie Graphs Stem-And-Leaf Plots (stemplots)   |
|                              | 3<br>8/20 – 8/24 | <ul> <li>Section 2.1 – <u>Displaying Distributions with Graphs</u></li> <li>Assessment</li> <li>Section 2.2 – <u>Describing Distributions with Numbers</u></li> </ul>  | Section 2.2 – Khan Academy - Displaying and describing data  Khan Academy –  Box and Whisker Plots (boxplots)  Reading Box and Whisker Plots  Mean, Median, and Mode  Range and Midrange  Statistics: The Average  Statistics: Sample Mean vs Population Mean  Statistics: Standard Deviation   |
|                              | 4<br>8/27 – 8/31 | <ul> <li>Section 2.2 – <u>Describing Distributions with Numbers</u></li> <li>Section 2.3 – <u>Use and Misuse of Statistics</u></li> <li>Review</li> <li>Assessment</li> </ul>  | Section 2.3 – YouTube - Misuse of Statistics  Khan Academy –  Reading Pictographs  Misleading Line Graphs   |
|                              | 5                | Chapter 3 – Modeling Distributions of Data   | Section 3.1 – Khan Academy - Normal distribution  |
|                              | 9/3 – 9/7        | 3.1 – <u>Measuring location in a Distribution</u>  |   |
|                              | 6<br>9/10 – 9/14 | <ul> <li>3.1 – Measuring location in a Distribution</li> <li>3.2 – Normal Distributions</li> </ul>   | Section 3.2 – Khan Academy - Normal distribution  Khan Academy –  Introduction to the Normal Distribution  Normal Distribution Excel Exercise  Normal Distribution Problems: Qualitative sense of normal distributions  Normal Distribution Problems: Empirical Rule  Exercise: Standard Normal Distribution and the Empirical Rule  More Empirical Rule and Z-score practice |
|                              | 7<br>9/17 – 9/21 | <ul><li>3.2 – <u>Normal Distributions</u></li><li>Assessments</li></ul>  |   |

Teachers may use a wide variety of instructional materials throughout their course. The Possible Resources listed may include the district adopted instructional resource or supplemental resources that align to the topic and/or standard. These Possible Resources provide sample problems that align to the topic/standard.

Probability & Statistics with Applications Honors

| 20 | 1 | 0   | 7   | $\cap$ | 1 | 0 |
|----|---|-----|-----|--------|---|---|
| 20 | L | .O- | · Z | U      | T | y |

|   | Chapter 4 – Describing Relationships |                                  | Section 4.1 – Khan Academy - Describing relationships in |  |  |
|---|--------------------------------------|----------------------------------|--|--|--|
|   | 8                                    | 4.1 Scatterplots and Correlation | quantitative data  |  |  |
|   | 9/24 – 9/28                          |                                  | Khan Academy –   |  |  |
|   |                                      |                                  | Correlation and Causality                                |  |  |
| 1 |                                      | Assessment                       | Section 4.2 – Khan Academy - Describing relationships in |  |  |
|   |                                      | 4.2 Regression and Prediction    | quantitative data  |  |  |
|   | 0                                    | -                                | Khan Academy –   |  |  |
|   | 9                                    |                                  | Regression Line Example                                  |  |  |
|   | 10/1 – 10/5                          |                                  | Second Regression Example                                |  |  |
|   |                                      |                                  | Calculating R-Squared                                    |  |  |
|   |                                      |                                  | R-Squared or Coefficient of Determination                |  |  |
|   |                                      | 4.2 Regression and Prediction    |  |  |  |
|   | 10                                   | Review                           |  |  |  |
|   | 10/8 – 10/12                         | Assessment                       |  |  |  |

|                              | Week                | Major Concepts / Topics  | Possible Resources   |
|------------------------------|---------------------|--|--|
|                              | 1<br>10/16 – 10/19  | <ul> <li>Chapter 5 – Sampling and Surveys</li> <li>Section 5.1 – <u>Samples, Good and Bad</u></li> </ul>           | Khan Academy –  Margin of Error 1  Margin of Error 2  Section 5.1 – Khan Academy - Samples and             |
|                              | 2<br>10/22 – 10/26  | <ul> <li>Section 5.2 – What Do Samples Tell Us?</li> <li>Section 5.3 – Sample Surveys in the Real World</li> </ul> | Section 5.2 – Khan Academy - Samples and surveys Section 5.3 – Khan Academy - Samples and surveys          |
|                              | 3<br>10/29 – 11/2   | <ul> <li>Section 5.3 – <u>Sample Surveys in the Real World</u></li> <li>Review</li> <li>Assessment</li> </ul>      |  |
| Quarter 2<br>Oct 16 – Dec 21 | 4<br>11/5 – 11/9    | Chapter 6 – Designing Experiments  Section 6.1 – Experiments, Good and Bad   | Section 6.1 – YouTube - Introduction to Experimental Design  |
| Oct 16 – Dec 21              | 5<br>11/12 – 11/16  | <ul> <li>Section 6.2 – Experiments in the Real World</li> <li>Section 6.3 – Data Ethics</li> </ul>                 | Section 6.2 – YouTube - Introduction to Experimental Design Section 6.3 – YouTube - Experiments and Ethics |
|                              | 6<br>11/19 – 11/20  | <ul><li>Review</li><li>Assessment</li></ul>  |  |
|                              | 7<br>11/26 – 11/30  | Standards Review   |  |
|                              | 8<br>12/3 – 12/7    | Standards Review   |  |
|                              | 9<br>12/10 – 12/14  | Standards Review   |  |
|                              | 10<br>12/17 – 12/21 | District Exams   |  |

|                | Week              | Major Concepts / Topics   | Possible Resources                       |
|----------------|-------------------|---|--|
|                | 1                 | Chapter 7 – Probability: What are the Chances?  | Section 7.1 – Khan Academy - Intro to    |
|                | 1/7– 1/11         | <ul> <li>Section 7.1 – <u>Randomness, Probability, and Simulations</u></li> </ul>               | theoretical probability                  |
|                | 2<br>1/14 – 1/18  | Chapter 7 – Probability: What are the Chances?  | Section 7.2 – Khan Academy -             |
|                |                   | <ul> <li>Section 7.1 – <u>Randomness</u>, <u>Probability</u>, and <u>Simulations</u></li> </ul> | Multiplication rule for independent      |
|                | 1/14 1/10         | Section 7.2 – <u>Probability Rules</u>  | events                                   |
|                | 3<br>1/21 – 1/25  | Assessment  | Section 7.3 – Khan Academy -             |
|                |                   | Section 7.3 – <u>Conditional Probability and Independence</u>                                   | Multiplication rule for dependent events |
|                |                   | Section 7.3 – Conditional Probability and Independence  | events                                   |
|                | 4<br>1/28 – 2/1   | Review  |  |
|                |                   | Assessment  |  |
| Quarter 3      | 5                 | Chapter 8 – Probability Models  | Section 8.1 – Khan Academy - Random      |
| Jan 7 – Mar 14 | 2/4 – 2/8         | Section 8.1 - <u>Probability Distributions</u>  | variables                                |
|                | 6                 | Section 8.2 – <u>Counting and Probability</u>   | Section 8.2 - Khan Academy -             |
|                | 2/11 – 2/15       |   | Probability with counting outcomes       |
|                | 7<br>2/18 – 2/22  | Section 8.3 – <u>Binomial Distributions</u>   | Section 8.3 – Khan Academy -             |
|                |                   | Review  | Binomial random variables                |
|                |                   | Assessment  |  |
|                | 8                 | Chapter 9/10 (Confidence Intervals)   | Section 9.1 – Khan Academy -             |
|                | 2/25 – 3/1        | Section 9.1 – What is a Confidence Interval?  | Confidence interval                      |
|                | 9                 | • Section 9.1 – What is a Confidence Interval?  | Section 10.2 – <u>Khan Academy</u> -     |
|                | 3/4 – 3/8         | Section 10.2 – <u>Inference about a Population Mean</u>   | Significance tests (one sample)          |
|                | 10<br>3/11 – 3/14 | Section 10.2 – <u>Inference about a Population Mean</u>   |  |
|                |                   | Review  |  |
|                |                   | Assessment  |  |

|                 | Week             | Major Concepts / Topics  | Possible Resources              |
|-----------------|------------------|--|---------------------------------|
|                 | 1                | SPRING BREAK – NO SCHOOL   |                                 |
|                 | 3/18 – 3/22      |  |                                 |
|                 | 2                | Chapter 9/10 (Significance Test)   | Section 9.2 – Khan Academy -    |
|                 | 3/25 – 3/29      | Section 9.2 – What is a Significance Test?   | Significance tests (one sample) |
|                 | 3                | Section 9.2 – What is a significance Test?   | Section 10.2 – Khan Academy -   |
|                 | 4/1 – 4/5        | Section 10.2 – <u>Inference about a Population Mean</u>  | Significance tests (one sample) |
|                 | 4                | Section 10.2 – <u>Inference about a Population Mean</u>  | Section 9.3 – JB Statistics -   |
|                 | 4/8 – 4/12       | Section 9.3 – <u>Use and Abuse of Statistical Inference</u>  | Statistical Significance vs     |
|                 |                  |  | Practical Significance          |
|                 | 5<br>4/15 – 4/19 | Section 9.3 – <u>Use and Abuse of Statistical Inference</u>  |                                 |
| Quarter 4       |                  | Review   |                                 |
| Mar 18 – May 24 |                  | Assessment   |                                 |
|                 | 6<br>4/22 – 4/26 | Chapter 10 Inference in Practice   | Section 10.1 – Khan Academy -   |
|                 |                  | Section 10.1 – <u>Chi-Square Test: Goodness of Fit and Two-Way Tables</u>  | Inference for categorical data  |
|                 |                  |  | (chi-square tests)              |
|                 | 7<br>4/29 – 5/3  | Section 10.1 – <u>Chi-Square Test: Goodness of Fit and Two-Way Tables</u> Desired  Provided Test: Goodness of Fit and Two-Way Tables |                                 |
|                 |                  | Review   |                                 |
|                 | 0                | Assessments     Course Standards Basiness  |                                 |
|                 | 8<br>5/6 – 5/10  | Course Standards Review  |                                 |
|                 | 9                | Course Standards Review  |                                 |
|                 | 5/13 – 5/17      | Course Standards Neview  |                                 |
|                 | 10               | Final Exams  |                                 |
|                 | 5/20 – 5/24      | - That Exams   |                                 |