# Statistics – Scope and Sequence

| Unit of Study | Central Theme | Essential Question(s) | Resources | Standards |
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| Unit 1<br><br>1 week | Data and Association | What is data?<br><br>Is there an association between two different variables? | • *Stats in Your World* Chapters 2-3<br>• Teacher's Resource Guide<br>• www.shodor.org<br>• www.khanacademy.org | **CC.2.4.HS.B.2**<br>Summarize, represent, and interpret data on two categorical and quantitative variables. |
| Unit 2<br><br>3 weeks | Working with Quantitative Data | How should I display quantitative data?<br><br>What can I interpret from quantitative data? | • *Stats in Your World* Chapters 4-6<br>• Teacher's Resource Guide<br>• www.shodor.org<br>• www.khanacademy.org<br>• Gallery of Data Visualization www.math.yorku.ca/SCS/Gallery | **CC.2.4.HS.B.1**<br>Summarize, represent, and interpret data on a single count or measurement variable.<br><br>**CC.2.4.HS.B.2**<br>Summarize, represent, and interpret data on two categorical and quantitative variables. |
| Unit 3<br><br>2-3 weeks | Comparing Variables | What type of model is best to display and analyze data?<br><br>How do I determine which model is best? | • *Stats in Your World* Chapters 7-9<br>• Teacher's Resource Guide<br>• www.shodor.org<br>• www.khanacademy.org<br>• Data and Story Library lib.stat.cmu.edu/DASL<br>• Illuminations illuminations.nctm.org | **CC.2.4.HS.B.2**<br>Summarize, represent, and interpret data on two categorical and quantitative variables.<br><br>**CC.2.4.HS.B.3**<br>Analyze linear models to make interpretations based on the data. |

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| Unit 4<br><br>2 weeks | Gathering Data and Randomness | What techniques are appropriate for gathering data?<br><br>How can I gather data that is unbiased? | • *Stats in Your World* Chapters 10, 12<br>• Teacher's Resource Guide<br>• www.shodor.org<br>• www.khanacademy.org<br>• JellyBlubbers Activity<br>• Gallup Polling www.gallup.com | **CC.2.4.HS.B.5**<br>Make inferences and justify conclusions based on sample surveys, experiments, and observational studies. |
| Unit 5<br><br>3 weeks | Probability | What is the likelihood of an event occurring?<br><br>How many different ways can an event occur? | • *Stats in Your World* Chapters 13-16<br>• Teacher's Resource Guide<br>• www.shodor.org<br>• www.khanacademy.org | **CC.2.4.HS.B.6**<br>Use the concepts of independence and conditional probability to interpret data.<br><br>**CC.2.4.HS.B.7**<br>Apply the rules of probability to compute probabilities of compound events in a uniform probability model. |
| Unit 6*<br><br>3-4 weeks*<br><br>*Length is pending time remaining | Testing Data | How can I determine if my data is valid?<br><br>Is my data statistically significant? | • *Stats in Your World* Chapters 17-21<br>• Teacher's Resource Guide<br>• www.shodor.org<br>• www.khanacademy.org | **CC.2.4.HS.B.4**<br>Recognize and evaluate random processes underlying statistical experiments.<br><br>**CC.2.4.HS.B.5**<br>Make inferences and justify conclusions based on sample surveys, experiments, and observational studies. |
| Unit 7<br><br>2-3 weeks | Final Project | How can I demonstrate what I have learned in context? | • All previous resources | All PA Statistics Standards |

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