

# Data Science

Adopted 2022

## Data in Context

**1. identify specific examples of real-world problems that can be effectively addressed using data science. DS.1**

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**2. formulate a top down plan for data collection and analysis, with quantifiable results, based on the context of a problem. DS.2**

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## Data Bias

**3. recognize the importance of data literacy and develop an awareness of how the analysis of data can be used in problem solving to effect change and create innovative solutions. DS.3**

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**4. identify data biases in the data collection process, and understand the implications and privacy issues surrounding data collection and processing. DS.4**

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## Data and Communication

**5. use storytelling as a strategy to effectively communicate with data. DS.5**

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**6. justify the design, use, and effectiveness of different forms of data visualizations. DS.6**

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## Data Modeling

**7. assess reliability of source data in preparation for mathematical modeling. DS.7**

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**8. acquire and prepare big data sets for modeling and analysis. DS.8**

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**9. select and analyze data models to make predictions, while assessing accuracy and sources of uncertainty. DS.9**

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**10. summarize and interpret data represented in both conventional and emerging visualizations. DS.10**

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**11. select statistical models and use goodness of fit testing to extract actionable knowledge directly from data. DS.11**

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## Data and Computing

**12. select and utilize appropriate technological tools and functions within those tools to process and prepare data for analysis. DS.12**

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**13. select and utilize appropriate technological tools and functions within those tools to analyze and communicate data effectively. DS.13**