Virginia Mathematics

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
	2. formulate a top down plan for data collection and analysis, with quantifiable results, based on the context of a problem. DS.2
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
	4. identify data biases in the data collection process, and understand the implications and privacy issues surrounding data collection and processing. DS.4
Data and Communication	**5.** use storytelling as a strategy to effectively communicate with data. DS.5
	6. justify the design, use, and effectiveness of different forms of data visualizations. DS.6
Data Modeling	**7.** assess reliability of source data in preparation for mathematical modeling. DS.7
	8. acquire and prepare big data sets for modeling and analysis. DS.8
	9. select and analyze data models to make predictions, while assessing accuracy and sources of uncertainty. DS.9
	10. summarize and interpret data represented in both conventional and emerging visualizations. DS.10
	11. select statistical models and use goodness of fit testing to extract actionable knowledge directly from data. DS.11
Data and Computing	**12.** select and utilize appropriate technological tools and functions within those tools to process and prepare data for analysis. DS.12
	13. select and utilize appropriate technological tools and functions within those tools to analyze and communicate data effectively. DS.13