Honors Core Content

Cluster Title: Fair Division & Apportionment
Standard: Understand the concepts and applications of fairness and apportionment.
Concepts and Skills to Master
• Understand the concept of fairness as equal division of like or unlike objects and apportionment as proportional division of like objects. • Understand that fair division may be discrete or continuous while apportionment must be discrete. • Determine mathematical criteria for fairness, using both quantitative and qualitative measures. • Determine mathematical criteria for apportionment. • Understand the use of apportionment in the U.S. political system.

Guiding Instructional Questions
• If everyone gets the same thing, is that always fair? • How is the number of representatives a state gets determined? • How can 17 students fairly divide 3 pizzas, each with 8 slices, without cutting additional pieces? • In which situations is apportionment preferable to fair division? • How is apportionment used in U.S. Presidential elections?
Instructional Strategies
• Conduct a mock negotiation using principles of fairness and well posed arguments. • Explore various methods of apportionment • Compare different methods of apportionment such as Hamilton's Method vs. Jefferson's Method. • Fairly divide a budget between 5 clubs at your school when each has need for more than 1/5 of the budget. • Give small groups of students something (candy, objects, etc.) to divide fairly with no guidelines to develop the concept of fair division. • Find two different ways to fairly divide a scalene right triangle into 3 equal parts. • Study apportionment in connection with current elections.

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