C2AM2P Year 1 Notes

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| **Date** | **Lesson Name** | **Brief Summary** | **Content Topics** |
| 8/8/14 | SKUNK | Skunk Game – dice rolling game where participants attempt to get the highest score before a “1” is rolled**Original Lesson**:Brutleg, D., “Choice and Chance in Life: The Game of SKUNK” in *Mathematics Teaching in the Middle School.* Vol. 1, No. 1 (April 1994), pp.28-33.<http://illuminations.nctm.org/Lesson.aspx?id=956> | CCSS.7.SP.C.5 – chance is between 0 and 1CCSS.7.SP.C.6 – collect data and approximate probability |
| 9/12/14 | Jumping Frogs | Jumping Frogs- create a frog using paper, then collect jump distance as data, looking for ways to control/vary data**Original Lesson:**<http://illuminations.nctm.org/lesson.aspx?id=806> | CCSS.6.SP.A.1 – recognizing statistical questionsCCSS.6.SP.A.3 – measure of center, variationCCSS.6.SP.A.4 – displaying numerical data |
| 10/17/14 | Lesson Study | Lesson Study | Lesson Study |
| 11/14/14 | Statistical Association | (Dr. Stephanie Casey) – exploration of categorical data regarding males/females and job experience(s)-exploration of quantitative data association and (informal) lines of best fit | CCSS.8.SP.A.4 – categorical associationCCSS.8.SP.A2- straight lines used for best fitCCSS.8.SP.A.3 – use linear equation to solve problems regarding bivariate data |
| 1/16/15 | Habitat Bags | Habitat Bags – attempt to figure out the contents of a bag containing colored cubes (representing different food choices), while pulling one at a time (and replacing) **Original Lesson:**Hopfensperger,P., Jacobbe, T., Lurie, D., & Moreno, J. (2012). Bridging the gap between Common Core State Standards and teaching statistics. (pp. 231-241) | CCSS.7.SP.C.5 – chance is between 0 and 1CCSS.7.SP.C.7b – probability modelCCSS.7.SP.C.8-probability of compound events (figures, trees, diagrams, etc.) |
| 1/23/15 | Pizza | Pizza Lesson - a “best deal” pizza was determined by each group based on different pizza options (focus on SMP 4 – Modeling) | CCSS.6.SP.A.2- center, spread and shape used as descriptors of data setsCCSS.6.SP.A.3 – measures of center and variabilityCCSS.6.SP.5c- measures of center CCSS.6.SP.5d- matching measures of center and variability to graphs |
| 2/6/15 | Lesson Study | Lesson Study | Lesson Study |
| 3/27/15 | Structure | (Dr. Stephanie Casey) – activities comparing mathematics and statistics with an emphasis on SMP 7 (Structure); activities included water draining from top to bottom of container, along with matching graphs to data | CCSS.6.SP.5d- matching measures of center and variability to graphs |
| 6/2/15 | Chocolate Chips | Chocolate chips- melting/chewing baking chips an ongoing summer activity  | CCSS.6.SP.2 - center, spread and shape used as descriptors of data setsCCSS.6.SP.A.4 - displaying numerical dataCCSS.6.SP.5 (a, b, d) – number of observations, nature of attributes, relate shape to center/variability |
| 6/2/15 | BING-no - O | BING-no-O – deciding what questions are statistical based on population, variability and interestQuestions taken from: Bridging the Gap (see citation above)  | CCSS.6.SP.A.1 – asking statistical questions |
| 6/2/15 | Gum | Dum-Dum likes Gum-Gum – investigating how long it takes for gum to lose its flavor | CCSS.6.SP.A.1 – asking statistical questionsCCSS6.SP.B.5b – nature of attribute and units of measure |
| 6/2/15 | Shoe Length | Shoe Length- “How long is a middle school teacher’s shoe?”**Original Lesson:** Bridging the Gap (see citation above) | CCSS.6.SP.A.1 – asking statistical questionsCCSS.6.SP.A.2 – center, spread and shape used as descriptors of data setsCCSS.6.SP.A.3 – measure of center, variationCCSS.6.SP.4 – displaying numerical dataCCSS.6.SP.B.5 – summarize numerical data |
| 6/3/15 | Graphing Stations | Graphing Stations- using the survey data collected on the first day, graphs were constructed matching appropriate graphs with appropriate questions | CCSS.6.SP.A.1- asking statistical questionsCCSS.6.SP.A.2 – center, spread and shape used as descriptors of data setsCCSS.6.SP.A.3 – measure of center, variationCCSS.6.SP.B.5b – describing nature of attribute |
| 6/4/15 | Clinometer | (with Dr. Brooks Vostal) Finding building height usingclinometer– make clinometers and use them to measure the height of a building, discussion on how a group of measurements would be used to give an appropriate best guess for the height of the building; lesson emphasis was on Universal Design for Learning (UDL)**Original Lesson:**<http://illuminations.nctm.org/Lesson.aspx?id=2774> | CCSS.6.SP.A.1 – asking statistical questionsCCSS.6.SP.A.3 – measure of center, variation |
| 6/5/15 | Flight Prices | Flight Prices – deciding what day to fly from JFK to LAX based on 12 weeks of data (focus on statistical variability)**Original Lesson (with additional tasks):** Gurt, T.J., Artzt, A.F., and Sultan, A. (2013). Implementing the Common Core State Standards through mathematical problem solving: Grades 6-8.Reston: NCTM. (pp. 50-57) | CCSS.6.SP.A.1 – asking statistical questionsCCSS.6.SP.A.3 – measure of center, variationCCSS.6.SP.4 – displaying numerical dataCCSS.6.SP.B.5 – summarize numerical dataCCSS.7.SP.B.3 – assess overlap of two numerical data setsCCSS.7.SP.B.4 –informal comparative inferences |
| 6/5/15 | Migraine Medicine | Migraine Medicine- deciding on migraine medicine based on two data sets describing minutes in relief time of two different medicines**Original Lesson:***Navigating Through Data Analysis, Grades 6-8*, NCTM. | CCSS.6.SP.A.1 – asking statistical questionsCCSS.6.SP.A.3 – measure of center, variationCCSS.6.SP.4 – displaying numerical dataCCSS.6.SP.B.5 – summarize numerical dataCCSS.7.SP.B.3 – assess overlap of two numerical data setsCCSS.7.SP.B.4 –informal comparative inferences |
| 6/8/15 | The Wink Game | Using simulation to estimate probability of wink, blink, or stare (experimental probability); using organized lists, tables, and/or tree diagrams to determine probability (theoretical probability).**Original Lesson:**Tinkerplots, Key Curriculum. | CCSS.7.SP.C.6 –experimental probabilityCCSS.7.SP.C.7 –probability modelCCSS.7.SP.C.8 –compound events |
| 6/8/15 | How Many Spins to Win the Prize | Using simulation to estimate the number of spins to obtain a given outcome.**Original Lesson:**Hopfensperger,P., Jacobbe, T., Lurie, D., & Moreno, J. (2012). Bridging the gap between Common Core State Standards and teaching statistics. | CCSS.7.SP.C.6 –experimental probabilityCCSS.7.SP.C.8 –compound eventsCCSS.7.SP.C.8.C –design a simulation |
| 6/9/15 | Release the Prisoners | Using a game to investigate probabilities generated by dice differences.**Original Lesson:**Mathwire.com | CCSS.7.SP.C.6 –predict using experimental probability |
| 6/9/15 | Rolling Two Dice | Using simulation to estimate the probabilities of obtaining a prime sum or a two-digit product when rolling two dice; use organized lists, tables, and/or tree diagrams to determine probabilities.**Original Lesson:***Navigating Through Probability, Grades 6-8*, NCTM. | CCSS.7.SP.C.6 –observe long-run frequencyCCSS.7.SP.C.7 –probability model and compare to frequenciesCCSS.7.SP.C.7.B –experimental probabilityCCSS.7.SP.C.8 –compound events |
| 6/9/15 | The “Tilted” Plinko Game | Designing a model to assign monetary prizes for results of a modified Plinko game.**Original Lesson:**S. Zirkes | CCSS.7.SP.C.8 –compound events |
| 6/10/15 | Exploring Associations between Categorical Variables | Constructing and interpreting two-way tables based on survey data to answer the statistical question *Is there an association between texting while driving and gender*.**Original Lesson:***Developing Essential Understanding of Statistics, Grades 6-8*, NCTM (pp. 52-56). | CCSS.8.SP.A.4 –construct and interpret two-way tables |
| 6/10/15 | Exploring Relationships between Quantitative Variables | Using Fathom software to generate scatterplots, lines of best fit, and summary measures to answer the statistical questions *Is there an association between sugar content and calories* and *Is there an association between fat content and calories* based on data for different flavors of ice cream.**Original Lesson:***Workshop Statistics*, Rossman and Chance. | CCSS.8.SP.A.1 –construct and interpret scatterplotsCCSS.8.SP.A.2 –model with a lineCCSS.8.SP.A.3 –use equation of a line to solve problems |
| 6/11/15 | Papa Bear’s Bakery | Using data to decide how to distribute retirement bonuses among employees.**Original Lesson:**D. Mott | CCSS.6.SP.A.3 –measures of center and variationCCSS.6.SP.B.4 –graphical displays of numerical dataCCSS.6.SP.B.5.B –nature of attribute and units of measurementCCSS.8.SP.A.1 –interpret scatterplotsCCSS.8.SP.A.2 –line to fit bivariate data\*Note: Standards may vary depending on student choices for modeling. |