Biology

HSA Intervention

SLO Component	Description
Objective Summary Statement:	A selected group of students who did not pass the Biology HSA will participate in an intervention program to prepare them for the October Administration of the Biology HSA. SLO objective: Eighty percent of the students enrolled in intervention program will pass the October administration of the Biology HSA.
Population	The Biology HSA intervention class includes 10 students who received a score of 389-399 and did not pass the Biology HSA. The passing score on the Biology HSA is 400. Class demographics 7 males (5 African American, 1 White, 1 Hispanic/Latino) 3 females (1 African American, 2 Hispanic/Latino) 8 students receive Free and Reduced Meals
Learning Content	Biology
Instructional Interval	August- October 2012 One class period per day
Baseline Evidence (Beginning of instructional interval)	**Core selection Data for Intervention Group** • Scores on the Spring 2012 Biology HSA (scores ranged from 389-399 with 400 as passing score) • All selected students passed their Biology and English course in 2011-2012 with a C or better • All selected students passed the English HSA Supplemental Data to support individual student weakness • District-wide biology benchmark assessments for marking periods 1-4 (Oct. 2011 – May 2012) • District - wide end of course assessment administered May 2012 • District - wide biology diagnostic assessment administered Aug. 2012
Evidence of Growth (Conclusion of instructional interval)	**Guiding data during intervention** • Formative and summative teacher assessments (August 2012 – October 2012) • Assessment data from the Online Biology Course (August 2012 – October 2012) • Summative data from selected district -wide benchmarks and EOY or portions of these assessments **End of instructional intervention** • October score on HSA Biology Assessment

Target	The students selected for this intervention were students who failed the 2012 May Biology HSA but passed the English HSA. This cohort performed at least satisfactory (received grade of C or better) in both Biology and English prior to HSA testing. Upon review of assessment data available (2011-2012 benchmarks and End of Year assessments), students in this cohort showed difficulty in the following biology concepts: • biochemistry- characteristics of chemical substances and macromolecules • cell processes-protein synthesis and reproduction • inheritance- variation in offspring by recombination of genes in sexual Data supports a five-week daily intervention course focused on the content deficient areas needed to prepare them for success on the October administration of the Biology HSA. At least 80% of students will receive a score of 400 or above on the October administration of Biology HAS.
Strategies	**Focused Content** As a result of data analysis, remediation for this cohort will focus on identified content in biochemistry, cell processes, and inheritance concepts, as well as the pre-requisite skills and content needed to support mastery. **Meaning Making Strategies** • Include connections to real world examples, events, or application to motivate or answer "why learn this" and to make learning of content meaningful. • Provide opportunities to use visuals to support conceptual development. ✓ Graphic organizers used to organize information (charts, graphs, flow charts, cause and effect charts) ✓ Instructional models and student developed models (diagrams, concept maps, charts, graphs, drawings) to represent concept ✓ Videos, simulations, and photos • Provide active participation by students in investigations, simulations, model construction, and data analysis that support understanding of biological processes, concepts, and the connection between concepts. • Engage in multiple opportunities to support meaning-making through reading, writing, and/or speaking ✓ Integrate reading about concepts explored in class and targeted writing tasks to organize, clarify, and extend knowledge. ✓ Teach, model, and set expectations for the regular use of productive discussions to clarify, build, and extend understanding (e.g., Accountable Talk or Productive Talk) • Provide multiple opportunities for development of vocabulary ✓ Greek and Latin affixes to support understanding of content vocabulary ✓ Model use of key vocabulary when discussing learning with students and expect students to use identified vocabulary when speaking and writing

	✓ Create visual representations of words with personal definition **Assessment Strategies** • Use assessments that determine the prior knowledge needed for concept development before introducing new knowledge • Use a range of formative assessments at different points in concept development to determine understanding of concepts and inform instruction. • Use the Biology On-line Course to provide targeted support for concept attainment. • Use selected questions from district benchmarks and EOY as summative assessment of concepts from a selected unit of learning to target further support for students who have not reached mastery. Note: The MSDE Biology Online Course will be used for additional support by providing each student with supplementary reinforcement activities based on individual content need. Student progress can be measured by individual student assessments available via the Biology Online Course. Resources: ▪ Taking Science to School: Learning and Teaching Science ▪ Learning Science and Science of Learning ▪ A Framework of K-12 Science Education ▪ Classroom Instruction the Works