Whiz Kids: Problem Solving

Mathematics

Grade 2

This course offers students the opportunity to work together on challenging, long-term, hands-on, activity-based problems. This allows students to apply math knowledge in addition, subtraction, geometry, estimation, measurement, and data interpretation.

Revised: July 2019

Approved by the Montclair Board of Education: August 2019

Montclair Public School Elective Overview

Instructional Plan

Course: Whiz Kids: Problem Solving

Marking Period or Trimester: One Trimester

Pacing: 8 weeks

NJSLS
Anchor Standard **Strand 1: Operations and Algebraic Thinking: Represent and solve problems involving addition and subtraction - 2.OA.A.1;** **Operations and Algebraic Thinking: Add and subtract within 20, using mental strategies - 2.OA.B.2** **Strand 2: Measurement and Data: Measure and estimate lengths in standard units - 2.MD.A.1** **Measurement and Data: Relate addition and subtraction to length - 2.MD.B.5** **Strand 3: Geometry: Reason with shapes and their attributes - 2.G.A.1**

Framing the Learning			
Timeframe	**Big Ideas**	**Essential Questions**	**Enduring Understandings**
Weeks 1-3	**Small shapes can be used to make larger shapes.**	**How can you combine two-dimensional shapes to make new shapes?**	**Shapes can be combined and deconstructed to create new shapes.**
Weeks 4-6	**There are many ways to measure length.**	**Why do I need standard units of measurement?**	**Standard units of measure enable people to interpret results or data.**
Week 7-8	**Objects can be described and compared using their geometric attributes.**	**How are geometric shapes and objects classified?**	**Describing objects develops a foundation for understanding our environment.**

Evidence of Learning

Show recall of facts and information to be included in project. Complete an appropriate self-assessment of performance in respect to project guidelines, using checklist. Proper use measurement instruments. Make accurate measurements of fixed objects. Create a design plan that adheres to prescribed parameters. Take accurate measurements of dimensions for actualized designs, that adhere to prescribed parameters.

Activities
Read and follow multi-step, written directions to create design plans that incorporate distinct parameters. Self-assess design plans. Use various instruments to determine linear measurements. Execute design plans to construct figures.

DIFFERENTIATION			
Special Education	**ELL**	**Intervention**	**Acceleration**
• Modify and accommodate as listed in student's IEP or 504 plan • Prioritize instruction • Utilize wait-time • Ensure directions are clear and concise • Utilize probing and clarifying questions • Support instruction with scaffolding • Model (provide step by step instructions) use of learning strategies • Provide extended time for practice and review of learning strategies • Identify, categorize, and teach words critical to understanding instructional texts • Utilize multiple approaches to monitor student understanding • Create rubrics to develop assessments • Vary assessments • Assign peer assisted reading and tutoring • Provide individual help to all students • Create opportunities for/Monitor peer collaboration • Monitor student progress frequently • Utilize flexible/cooperative grouping based on instructional goals • Prioritize and chunk lengthy assignments • Utilize assistive technology, when appropriate • Provide ongoing, effective, specific feedback • Model/Utilize graphic organizers • Provide leveled reading materials • Utilize visual aids and props (flashcards, pictures, symbols) when possible • Utilize a multi-sensory approach to new topics	• Get to know student • Set high expectations • Learn/Utilize/Display some words in student's heritage language • Allow electronic translator • Reword, repeat, and clarify directions • Determine student knowledge and level of understanding • Research instruction that best matches student need • Utilize ongoing informal assessments • Refer to NJDOE Resources: https://www.state.nj.us/education/bilingual/resources/ • NJDOE ELL Support Descriptions: https://www.state.nj.us/education/modelcurriculum/ela/ELLSupport.pdf ***Review Special Education list for additional recommendations.***	• Tiered Interventions following RtI framework • RtI Intervention Bank • Fundations Double-Dose (Tier II) • LLI (Tier III) • FFI Skill Report: DRA On-Line • enVision intervention supports NJDOE resources	• Process should be modified: higher order thinking skills, open-ended thinking, discovery • Utilize project-based learning for greater depth of knowledge • Utilize exploratory connections to higher grade concepts • Contents should be modified: abstraction, complexity, variety, organization • Products should be modified: real world problems, audiences, deadlines, evaluation, transformations • Learning environment should be modified: student-centered learning, independence, openness, complexity, groups varied