Wilmette Public Schools, District 39 Science Curriculum, Kindergarten ***Unit: Physical Properties***

Essential Questions:
What kind of parts are objects made of? How can we describe and sort objects?

Time Frame (in weeks): 6 *(hour daily)* ***or 12 weeks*** *(30 mins. daily)*

VOCABULARY: Classify, observe, identify, design, communicate, conduct, sort, fair test, color, texture, shape, size, sink, float, magnetic, non-magnetic

National Standards or Core Standards

- All substances have characteristic measurable properties that depend on the conditions under which they are observed.
- Objects are generally made of different parts. The parts can be made of different materials.
- Materials can be natural or manufactured from natural resources.
- The identity, characteristics and function of an object depend on the materials/building blocks used to make it, and the way they fit together.

Guiding Questions	Big Ideas of Science	Knowledge and Skills	Teaching Resources & Technology
How can you use your senses to sort objects? How many ways can you measure objects? (non-standard) How many ways can you sort objects by physical properties? (color, size, weight, etc.) How do you fair test the physical properties of objects? What are our safety rules? What scientific tools are used?	Objects can be grouped by their physical properties (visual and tactile). Objects can be grouped in more than one way. When we change an object, sometimes, we can observe new properties. (A ball of clay sinks, but can be shaped into something that floats). Materials with different properties can be matched to different uses. When scientists use tools, they can discover new properties about objects. Scientists conduct fair tests to determine additional properties (magnet strength).	**Formative Understandings** Observe and describe physical properties of objects and materials Use standard and non-standard measurement when describing objects and materials Classify objects by physical properties Communicate rules for grouping Conduct fair tests to determine which magnet is the strongest Interpret a graph to tell which magnet is the strongest Apply knowledge of sinking and floating to clay boat design	**National Geographic** Properties Classroom Set with Science Inquiry Kit Objects at a Party Objects at a Fair Pizza Party Pack a Picnic

Technological Design/ Scientific Inquiry	CONNECTED/ 21st Century Learning
What technological advances represent an understanding of physical properties of objects? What process do you use to invent? Scientists create and draw design plans using background knowledge. Scientists build and test their prototypes. Scientists analyze their results. Scientists use the results to improve or begin a new design. Scientists share their findings with others.	**Nurturing the Characteristics of Successful Learners** Students use inquiry when sorting. **Transforming Technology into a Continuous Knowledge Tool** Using SMART Board to explore and sort **Cultivating Collaboration** Students sort with partner or in small groups. **Evolving Teaching Styles**

How can I design and carry out a fair test? Scientists use their senses to learn about the world around them. Scientists begin a fair test with a question. Scientists make predictions based upon their observations, experiences, and things they read. Scientists only change one thing in a fair test. They keep all the other things the same. Scientists develop a plan to follow. Scientists observe, record, measure, and analyze data to acquire evidence. Scientists use tables and graphs to identify patterns and relationships within data. Scientists develop claims based on their evidence. Scientists embrace unexpected results.	Manipulatives are used to sort Movement through lessons Sorting can be incorporated in centers or stations. Describe observed events. Ask questions based upon observations. Conduct guided inquiry. Use instruments to gather data. Organize and generalize data on charts, pictographs, tables, journals.