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| **Performance Expectation** | **Connections to Orientation and Mobility (O&M) Lessons**  **Students:** | **Questions for Assessment** |
| K-PS2-1. Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes. | * Landmarks and Clues * Directionality | * Did the student utilize directionality and landmarks in creating a tactile map that represents real-world areas? * Can the student match elements of the tactile map to the elements of the setting |
| **Science and Engineering Practices** |  |  |
| Asking Questions and Defining Problems  Analyzing and Interpreting Data | * Construct a tactile map of environmental areas (Wheatley Kit) * Discuss the importance of pushes and pulls needed when traveling within different environments; for example, opening and closing doors to enter or exit areas. * Locate examples of pushes and pull within the environment; both within the school setting and outdoors on the playground setting * “Measure” the impact of force within a given push or pull | * Is the student able to independently construct a tactile map to represent the playground area? * Do the student examples of push and pull accurately represent the concepts being taught? * Does the student recognize that more force equals a greater push or pull? |
| **Disciplinary Core Ideas** |  |  |
| PS2.A. Forces and Motion   * Pushes and pulls can have different strengths and directions * Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it.   PS3.C. Relationship Between Energy and Forces  A bigger push or pull makes things speed up or slow down more quickly. | * Discuss the relationships between self and the environment in relation to travel; emphasis can be demonstrated through the pushing or pulling of the long cane within an environment. (PS2.A) * Explore the school environment to locate various examples of force (pushes and pulls) – i.e. doors, water fountains, vending machines, playground equipment (PS2.A) * Experiment with force using these locations. For example, what happens if I push the door softly; what happens if I push, when I am supposed to pull? (PS2.B/PS2.C) * Explore what happens if the student does not use force to interact with the environment; if a door is open, how did it get open? (PS3.C) * Explore changes in speed when a moving object is touched. (PS2.B)   Measure the speed of an object when it is pushed lightly; measure the speed of the same object when it is pushed forcefully. (ETS1.A) | * Does the student recognize that movement is dependent upon the forces of push and pull? * Can the student recognize various examples of push and pull within a school environment? Within a playground environment? * Does the student recognize that the forces of push and pull are needed to move a long cane? |
| **Crosscutting Concept** |  |  |
| Cause and Effect | * Use of simple tests and explorations to gather evidence that supports or refutes student ideas about causes (K-PS2-1) | * How many examples of cause and effect can the student name? |