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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
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| **Science and Engineering Practices** |  |  |
| Asking Questions and Defining ProblemsAnalyzing 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?
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| **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 ForcesA 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?
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| **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?
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