Framework for Independent Travel

A Resource for Orientation and Mobility Instruction

Ministry of Education
Framework for Independent Travel: A Resource for Orientation and Mobility Instruction is dedicated to all the students in British Columbia who are blind or visually impaired, particularly in School District No. 23 (Central Okanagan). It is these students who inspired the project and who remind us everyday of our commitment to Orientation and Mobility training. Their ability to travel independently and safely will be the standard of success by which the Framework is measured.

—The Framework development committee

Canadian Cataloguing in Publication Data
Main entry under title:
Framework for independent travel: A resource for orientation and mobility instruction


Acknowledgments

The Ministry of Education wished to gratefully acknowledge School District No. 23 (Central Okanagan) for its work in the development of this resource.

The Special Programs Branch of the Ministry particularly acknowledges the project committee, which included vision resource teachers, orientation and mobility specialists, parents, and others:

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- Lynn Schwartz, School District No. 23 (Central Okanagan)
- Bruce Taylor, Vision Consultant, Sunny Hill Health Centre (Vancouver)
- Nita Wardlow, School District No. 43 (Coquitlam)

The Special Programs Branch thanks the following organizations or groups for their contributions to the development of the resource: Blind Children & Youth Parents’ Association of B.C., the National Federation of the Blind, Advocates for Equality, Orientation and Mobility Instructors of the Canadian National Institute for the Blind, and the B.C. Vision Teachers Association.

In addition, the Ministry gratefully acknowledges the contributions of Janet Briggs, principal writer.
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Introduction

Orientation and Mobility (O & M) has frequently been described as “knowing where you are, knowing where you want to go, and knowing how to get there.” O & M is the ability to move safely, efficiently, and gracefully through all environmental conditions and situations with as much independence as possible. O & M training encourages students with visual impairments to develop essential skills, build confidence in their ability to travel within their schools and all other environments, and take responsibility for their decisions.

The development of these skills allows students with visual impairments to more fully participate in the life of the school and community. The ability to use these skills affects access to educational opportunities and improves quality of life. O & M instruction requires the support of the family throughout the students’ formal training. Most O & M skills are taught within the school setting, with the ultimate goal being the ability to travel independently in all environments. Orientation and mobility training needs to be a part of the Individual Education Plan for every student with significant vision loss, including those with multiple disabilities.

Orientation refers to the thinking part of moving from place to place, which is called travel. It is the process of using knowledge and sensory information to understand one’s location in the environment and how to move to a desired location. Orientation includes using language, understanding cause and effect, and learning about concepts that relate to objects and things. In addition, orientation involves increasing awareness of one’s body, developing sensory skills, and learning to use landmarks to assist in travel.

Mobility refers to the physical part of travel, which includes confident, safe and efficient movement from one place to another. Students’ strength, balance, level of independent movement, and awareness of dangers can affect travel. Confidence and safety may be influenced by factors such as: setting (busy school cafeteria vs. quiet resource classroom), the selective use of adaptive techniques, and the attitudes of parents, students, and community.
Teaching O & M requires specially trained people who are aware of the dangers, responsibilities, and techniques involved. In British Columbia, the Ministry of Education defines a qualified orientation and mobility instructor as one who:

- meets standards established by the Association for the Education and Rehabilitation of the Blind and Visually Impaired (AER); or
- has a Masters degree in orientation and mobility; or
- has completed post-graduate studies in orientation and mobility, which include at least 300 hours of supervised practice in orientation and mobility working with individuals with a variety of visual impairments.

Some school districts employ O & M specialists, while other districts use contractors to respond to this aspect of a student’s education. In some instances, the vision resource teacher is also a qualified O & M instructor.

This resource, *Framework for Independent Travel: A Resource for Orientation and Mobility Instruction*, recognizes that skills are acquired gradually and cumulatively. For people with vision loss, competency in developing an awareness of their surroundings is a result of concentration and practice over a period of training. The Framework is designed to be used by an O & M specialist with students from kindergarten through grade 12. School boards may decide to approve the outcomes of the Framework as a locally developed credit elective course in grade 11 and 12.
Instructions for Using *Framework for Independent Travel*

*Framework for Independent Travel: A Resource for Orientation and Mobility Instruction* provides teachers or instructors who are planning O & M instruction with help in establishing Individual Education Plan (IEP) goals for students. It also gives an overview of skills needed to be an independent traveller. As well as a framework for instruction, the resource can be used as an initial assessment tool to evaluate a student’s functioning level and set performance target levels for the future.

This *Framework* has been designed to include the principal areas of orientation and mobility:

- Concept Development
- Sensory Development
- Orientation and Mapping
- Travel Techniques
- Communication, Personal Safety, and Advocacy.

This *Framework* is modeled after Integrated Resource Packages (IRPs), which comprise the BC curriculum. It includes a continuum of learning outcomes in orientation and mobility, which are divided into three levels to coincide with primary (grades K-3), intermediate (grades 4-7), and secondary (grades 8-12) levels in the IRPs. However, a student may be in different levels in each area; for example, level three in Concept Development, level one in Travel, and level two in Communication. While the *Framework* delineates learning outcomes for each strand and includes both assessments and an appendix of resources, it does not outline instructional strategies. O & M instructors are specially trained in these strategies.

Within each strand, the level one skills are acquired and used in *familiar* environments, beginning with the school building and grounds. By the second level, students are expected to use the basic skills with ease and begin to apply them in *unfamiliar* environments. At level three, students are expected to choose which skills and techniques to use independently in more *complex* environments. While advanced travel
techniques are taught at level three, it is recognized that
O & M skills continue to be refined all through life, and proficiency may not be achieved during the school years.
Orientation & Mobility instructors can select the strands that are most appropriate for each student based on the student’s previous experience and skill level. The strands do not necessarily need to be taught in the order in which they appear in the resource. It is important to recognize that most strands have prerequisite skills (e.g., a student would not be working on crossing streets in a residential area if he or she has not mastered the concept of a city block). The Framework recognizes that the personal safety of the student is paramount. This resource allocates a special strand emphasizing personal safety, Communication, Personal Safety, and Advocacy. In addition, references to safety issues are made throughout each strand.

This resource can be used in conjunction with other O & M resources (see Appendix B).

Appendix C contains a template for entering a student’s profile, which can be used by the instructor as a tool for assessment and record keeping.
Orientation and Mobility Strands

Framework for Independent Travel: A Resource for Orientation and Mobility Instruction has five strands that include the principal areas of orientation and mobility:

- Concept Development
- Sensory Development
- Orientation and Mapping
- Travel Techniques
- Communication, Personal Safety, and Advocacy.
A concept is a mental representation, image, or idea. Concepts are formed by classifying or grouping objects or events with similar properties. Concepts can be attained on three levels: concrete, functional, and abstract.

Individuals who are blind or visually impaired experience difficulty attaining concepts, with both the range and variety of concepts. The importance of establishing a foundation of basic concepts, including object permanence, is fundamental to both orientation and mobility.

The necessary basic concepts related to mobility are called body concepts: body image, body schema, and body awareness. Body image includes body parts, body planes, laterality, and directionality. Concepts necessary for orientation are spatial (positional, relational, shape, measurement, action) and environmental (object in the environment, topography, texture, temperature).
# Concept Development • Learning Outcomes

<table>
<thead>
<tr>
<th><strong>Level One</strong></th>
<th><strong>Level Two</strong></th>
<th><strong>Level Three</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Body Concepts</strong></td>
<td><strong>Spatial Concepts</strong></td>
<td><strong>Environmental Concepts</strong></td>
</tr>
<tr>
<td>• Name and locate body parts</td>
<td>• Apply positional and relational concepts</td>
<td>• Describe features of more complex intersections</td>
</tr>
<tr>
<td>• Identify the motion of body parts</td>
<td>• Identify more complex shapes</td>
<td>• Demonstrate proficiency in understanding and dealing with environmental concepts as they relate to advanced travel</td>
</tr>
<tr>
<td>• Identify body planes, laterality and directionality in relation to self</td>
<td>• Demonstrate a facility with concepts of measurement</td>
<td></td>
</tr>
<tr>
<td>• Describe the location of an object in relation to body parts</td>
<td>• Apply action concepts to travel</td>
<td></td>
</tr>
<tr>
<td><strong>Spatial Concepts</strong></td>
<td>• Apply time/distance and sound/distance relationships</td>
<td></td>
</tr>
<tr>
<td>• Identify positional and relational concepts</td>
<td>• Transfer the notion of body concepts in relation to other people (e.g., put your right hand on the left shoulder of the person facing you)</td>
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<tr>
<td>• Identify basic shapes</td>
<td></td>
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<tr>
<td>• Make comparative judgments</td>
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<td></td>
</tr>
<tr>
<td>• Demonstrate awareness of basic measurement</td>
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<td></td>
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<tr>
<td>• Identify surface planes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Make quarter, full, and half turns</td>
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<td></td>
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<tr>
<td>• Begin to understand time/distance relationships</td>
<td></td>
<td></td>
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<tr>
<td><strong>Environmental Concepts</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identify features and functions of common objects familiar to their environment</td>
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<tr>
<td>• Be aware of potential dangers in home, school, and neighbourhood</td>
<td></td>
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<tr>
<td>• Understand features of a landmark</td>
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<td></td>
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<tr>
<td>• Use concepts of topography</td>
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<td></td>
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<tr>
<td>• Use concepts of texture</td>
<td></td>
<td></td>
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<tr>
<td>• Use concepts of temperature</td>
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</tbody>
</table>
Concept Development • Level One

Body Concepts

It is essential that students understand concepts as they relate to their bodies. Individuals are always the centre of their orientation. People perceive objects in relation to themselves. The students’ development of concepts of space and objects in space depends on the relationship of the objects to the individuals.

Body concepts include body image (a person’s subjective experience of his or her own body), body schema (unconscious knowledge of the body), and body awareness (the knowledge the person has of her or his body). Body concepts can be divided into five components: identification of body parts, body movement, body planes, laterality, and directionality.

<table>
<thead>
<tr>
<th>LEARNING OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>It is expected that students will be able to:</em></td>
</tr>
<tr>
<td>• Name and locate body parts</td>
</tr>
<tr>
<td>• Identify the motion of body parts</td>
</tr>
<tr>
<td>• Identify body planes, laterality and directionality in relation to self</td>
</tr>
<tr>
<td>• Describe the location of an object in relation to body parts</td>
</tr>
</tbody>
</table>
**Concept Development • Level One**

*Body Concepts*

### BODY PARTS

**Head**
- cheeks
- chin
- ears
- eyes
- eyebrows
- eyelids
- face
- forehead
- gums
- hair
- jaw
- lips
- mouth
- neck
- nose
- nostrils
- teeth
- throat
- tongue

**Trunk**
- back
- chest
- hips
- waist
- rear (bottom, seat)
- shoulders
- stomach (tummy, belly)
- spine

**Limbs & appendages**
- ankles
- arms
- biceps
- calves
- elbows
- feet
- fingers
- index finger (pointer, forefinger)
- little finger (pinkie, baby)
- middle finger
- ring finger
- fingertips
- fingernails
- forearms
- hands
- heels
- heel of hand
- knees
- kneecap
- knuckles
- knuckles
- legs
- palms
- shins
- thighs
- thumbs
- toes
- toenails
- upper arm
- wrists

### MOVEMENT
- straighten arm
- bend arm at elbow
- lift arm high into the air
- put arm out in front
- put arm out to the side
- put arm behind
- straighten leg in front
- bend leg at knee
- bend body forward
- bend body backward
- bend body to the side
- squat down, bend at knees (crouch)
- stand up on tiptoes
- jump, move to the side
- twist
- pull
- push

### BODY PLANES
- front
- back
- top
- bottom
- side

### LATERALITY
- left
- right

### DIRECTIONALITY
- to the left
- to the right
As individuals develop an accurate knowledge of their bodies, an understanding of positional and relational concepts is also formed. For children who are blind or visually impaired, it is particularly important to learn how body parts are positioned and how they relate to one another so that the concepts can be transferred to the external environment.

The knowledge of objects in space and their relationships to each other are essential to maintain or regain orientation. Once students with visual impairments understand the body and body parts by developing a clear body image, they are then better prepared to explore the objects in the space around them. Other spatial concepts relate to shape, measurement, and actions or movements.

**LEARNING OUTCOMES**

*It is expected that students will be able to:*

- Identify positional and relational concepts
- Identify basic shapes
- Make comparative judgments
- Demonstrate awareness of basic measurement
- Identify surface planes
- Make quarter, full, and half turns
- Begin to understand time/distance relationships
**Spatial Concepts**

**ASSESSMENT**

**Positional & relational concepts**

- up
- down
- top
- bottom
- over
- under
- high
- low
- in

- out
- next to (beside)
- centre (middle)
- through
- around
- forward
- backward
- parallel
- perpendicular
- front
- back
- in front of
- in back of (behind)
- open
- closed
- toward
- away
- beginning
- end
- between
- straight
- crooked
- near
- far
- odd
- even

**Shapes**

- circle (round)
- triangle

- oval
- square
- rectangle

**Distance**

- centimetre
- metre

**Weight**

- gram
- kilogram

**Amount**

- whole
- half
- quarter

- less
- more
- all

- most
- all

- none
- some

- full
- empty

**Time**

- second
- minute
- hour
- day

- week
- month
- year
- today

- tomorrow
- yesterday
- quarter hour
- half hour

- morning
- afternoon
- evening
- night

**Width, Length, Size**

- wide
- thick
- tall
- long

- large
- little
- narrow
- thin

- short
- big
- small
- tiny

- huge
- great
- vast

**Surface Planes**

- horizontal
- diagonal
- vertical

- quarter (90°)
- half (180°)
- full (360°)

**Turns**

**Time/Distance**

- short time
- long time
- per minute

- per hour
- per second
In order to maintain orientation and move safely and efficiently, it is essential that students develop an understanding of the environment they will most likely encounter. This category of concepts related to travel includes objects in the environment, topography, texture, and temperature.

**LEARNING OUTCOMES**

*It is expected that students will be able to:*

- Identify features and functions of common objects familiar to their environment
- Be aware of potential dangers in home, school, and neighbourhood
- Understand features of a landmark
- Use concepts of topography
- Use concepts of texture
- Use concepts of temperature
### Concept Development • Level One

#### Environmental Concepts

**Assessment**

**Objects in the Environment**

- student’s desk
- teacher’s desk
- blackboard/whiteboard
- traffic light
- traffic
- city block
- neighbourhood
- highway
- road
- street
- street corner
- crosswalk
- shoreline
- grassline
- grass
- hedges
- dirt
- bush
- plant
- fence
- path
- landmark
- car idle
- curbs
- wheelchair ramp
- gutter
- grates
- alley
- driveway
- parking lot
- railroad crossing
- park
- playground
- house
- store
- building
- floor, story, level
- door (doorway)
- hallway
- stairs (step)
- wall
- room
- radiator
- ceiling
- floor
- rug, carpet, mat
- window (screen)
- vent
- roof
- chimney
- elevator
- escalator
- manhole cover
- trash can
- park bench
- bus bench
- bus shelter
- street sign
- bus stop
- bus (city, school)
- fire engine
- truck
- car
- police car
- guide wire
- utility pole
- fire hydrant
- parking meter
- street sign
- newspaper box
- water fountain
- ambulance
- van
- train
- plane
- boat
- ship
- lamp post
- sandwich board
- street vendor
- sidewalk furniture

**Topography**

- side
- border
- edge
- end
- corner
- angle
- hill
- ramp
- slope
- dip
- raised
- lean
- flat
- level
- straight
- line
- broken line
- curved (curve)
- crooked
- open
- closed

**Textures**

- pavement
- cement
- asphalt
- stone
- gravel
- icy
- slippery
- snowy
- coarse
- cobblestone
- brick
- interlocking brick
- wood
- glass
- plastic
- linoleum
- tile
- carpet
- hard
- soft
- wet
- dry
- fine
- sharp
- dull
- rough
- jagged
- bumpy
- smooth
- torn
- grassy
- sticky

**Temperature**

- hot
- cold
- warm
- cool
- mild
- chilly
- dry
- wet

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**A Resource for Orientation and Mobility Instruction**

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# Learning Outcomes

*It is expected that students will be able to:*

- Apply positional and relational concepts
- Identify more complex shapes
- Demonstrate a facility with concepts of measurement
- Apply action concepts to travel
- Apply time/distance and sound/distance relationships
- Transfer the notion of body concepts in relation to other people (e.g., put your right hand on the left shoulder of the person facing you)
### Spatial Concepts

#### Positional & relational
- face
- facing
- before
- ahead
- rear
- after
- above
- upward
- bottom
- below
- downward
- beneath
- underneath
- next
- next to
- out of
- out of
- inside
- inward
- outside
- off
- adjacent
- medial
- median
- diagonal
- horizontal
- vertical
- point
- line
- overhang
- overhead
- anterior
- posterior
- superior
- inferior
- Positional & relational:
  - face
  - facing
  - before
  - ahead
  - rear
  - after
  - above
  - upward
  - bottom
  - below
  - downward
  - beneath
  - underneath
  - next
  - next to
  - out of
  - out of
  - inside
  - inward
  - outside
  - off
  - adjacent
  - medial
  - median
  - diagonal
  - horizontal
  - vertical
  - point
  - line
  - overhang
  - overhead
  - anterior
  - posterior
  - superior
  - inferior

#### Secondary shapes
- sphere
- octagon
- hexagon
- pentagon
- cylinder
- figure 8
- cube
- cubical
- cone
- pyramidal
- trapezoid
- parallelogram
- rectangular
- rounded
- square
- pear shaped
- rain drop
- tear drop
- heart shaped
- ring shaped
- box shaped
- diamond shaped
- H shaped
- L shaped
- O shaped
- S shaped
- T shaped

#### Distance
- block
- kilometre

#### Volume
- litre
- millilitre

#### Action
- 45° turn
- 90° (1/4 turn, right angle turn)
- 180° (1/2 turn, about face, U-turn)
- 360° (full turn)
- creep
- squat
- kneel
- crawl
- roll
- stretch
- bend
- sit
- stand
- squat
- kneel
- gallop
- jump
- hop
- skip
- climb
- march
- leap
- forward
- backward
- sideways
- movement
- movement
- movement
- movement
- jaywalk
- put
- place
- grasp
- push
- pull
- swing
LEARNING OUTCOMES

*It is expected that students will be able to:*

- Describe features of roads and intersections
- Understand features associated with larger geographical settings
- Describe vehicular and pedestrian traffic patterns
- Use concepts of topography
- Use concepts of temperature
ASSESSMENT

Features of roads & intersections
- crown of road
- camber of road
- parkway
- boulevard
- median strip
- safety island
- traffic lanes
- freeway
- toll road
- through street
- 1 way street
- 2 way street
- court
- cul-de-sac
- audible signal
- intersection
- 2 way stop
- 3 way stop
- 4 way stop
- grid pattern
- pedestrian traffic control device
- T intersection
- + intersection

Features of larger geographical settings
- universe
- planet
- continent
- country
- city
- business district
- residential district

Traffic patterns
- traffic surge
- revving motor
- traffic jam
- pedestrian
- crowd
- crowd surge
- right of way

Topography
- seam
- joint
- perimeter
- ridge
- decline
- incline
- tilt
- irregular
- off set
- kitty corner
- point
- reference point
- focal point
- arc

Temperature
- centigrade °C
- fahrenheit °F
- humid
- muggy
- sweltering

A Resource for Orientation and Mobility
LEARNING OUTCOMES

It is expected that students will be able to:

- Describe features of more complex intersections
- Demonstrate proficiency in understanding and dealing with environmental concepts as they relate to advanced travel
Concept Development • Level Three

Environmental Concepts

**ASSESSMENT**

- solid line
- broken line
- irregular intersection
- Y intersection
- off-set intersection
- advanced green signal
- delayed green signal
- public transportation terminals
- bus loops
The development of orientation and mobility skills goes hand in hand with the ability to gather and interpret sensory cues. Information from sight, sound, smell, and touch support purposeful movement and exploration of objects and the environment. Through the process of sensory integration, it is possible to establish and maintain one’s position, locate objects, establish and confirm landmarks, and recognize safety cues.

By using the senses, students can access additional information (braille, print, voice, and tactile diagrams) that assist them in becoming familiar with a travel setting.

Practice and familiarity with a setting often enhances sensory awareness and responsiveness. The ability to use one’s senses may be compromised by illness, fatigue, and stress.
## Sensory Development • Learning Outcomes

<table>
<thead>
<tr>
<th>Level One</th>
<th>Level Two</th>
<th>Level Three</th>
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</thead>
<tbody>
<tr>
<td><strong>Vision</strong></td>
<td><strong>Vision</strong></td>
<td><strong>Vision</strong></td>
</tr>
<tr>
<td>• Use vision to establish and maintain orientation</td>
<td>• Visually identify dangers in unfamiliar environments</td>
<td>• Demonstrate proficient use of vision to establish and maintain orientation and safety when travelling in complex environments</td>
</tr>
<tr>
<td>• Name eye condition and functional implications</td>
<td>• Use vision to “read” business area traffic</td>
<td>• Understand the features and use of low vision devices</td>
</tr>
<tr>
<td>• Visually identify dangers in familiar environments</td>
<td>• Use visual memory for orientation</td>
<td></td>
</tr>
<tr>
<td>• Use vision to identify features of a residential area</td>
<td>• Maximize use of residual vision when travelling</td>
<td></td>
</tr>
<tr>
<td><strong>Auditory</strong></td>
<td><strong>Auditory</strong></td>
<td><strong>Auditory</strong></td>
</tr>
<tr>
<td>• Locate, identify, and discriminate information from sounds</td>
<td>• Use sound cues and echo location for orientation</td>
<td>• Demonstrate proficient use of hearing to establish and maintain orientation and safety when travelling in complex environments</td>
</tr>
<tr>
<td>• Use sound cues to identify dangers</td>
<td>• Use sound to “read” vehicle flow and traffic control systems at intersections</td>
<td>• Use sound to “read” traffic flow at high speed and heavy volume intersections</td>
</tr>
<tr>
<td>• Understand sound masking</td>
<td></td>
<td>• Understand the characteristics of electronic travel devices in providing or enhancing auditory information</td>
</tr>
<tr>
<td><strong>Touch</strong></td>
<td><strong>Touch</strong></td>
<td><strong>Touch</strong></td>
</tr>
<tr>
<td>• Interpret and respond to tactile information using hands, feet, and body</td>
<td>• Use touch for orientation in unfamiliar settings</td>
<td>• Understand the use of alternative travel devices</td>
</tr>
<tr>
<td>• Interpret and react to tactile information when using a pre-cane, cane, walker, or wheelchair</td>
<td>• Discriminate more complex tactile information</td>
<td>• Be aware of changes in tactile sensitivity due to weather and environmental conditions</td>
</tr>
<tr>
<td></td>
<td>• Understand the impact of clothing on masking tactile cues</td>
<td></td>
</tr>
<tr>
<td><strong>Proprioceptive/Kinesthetic</strong></td>
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</tr>
<tr>
<td>• Demonstrate awareness of the position of body parts and monitor their movement in space</td>
<td>• Monitor and compensate for changes of the vestibular system</td>
<td></td>
</tr>
<tr>
<td>• Accurately complete turns</td>
<td></td>
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<tr>
<td><strong>Vestibular</strong></td>
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<td><strong>Olfactory</strong></td>
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<td><strong>Olfactory</strong></td>
</tr>
<tr>
<td>• Use scents for orientation</td>
<td>• Use the sense of smell to detect danger</td>
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</tbody>
</table>
Most students have some residual vision that can be used to establish and maintain orientation and safety when travelling. In addition, vision is important for developing concepts, encouraging movement, and integrating sensory cues.

**LEARNING OUTCOMES**

*It is expected that students will be able to:*

- Use vision to establish and maintain orientation
- Name eye condition and functional implications
- Visually identify dangers in familiar environments
- Use vision to identify features of a residential area

**Auditory**

Students with visual impairments must use information from sound to remain safe and oriented to their surroundings. Training in auditory skills can help them to develop awareness and understanding of the world, particularly about objects that may not be seen or may not be within arm’s reach.

**LEARNING OUTCOMES**

*It is expected that students will be able to:*

- Locate, identify, and discriminate information from sounds
- Use sound cues to identify dangers
- Understand sound masking
VISION

Orientation
☐ Visually explores the surroundings to identify characteristics of objects, people, and places (e.g., size, shape, amount)
☐ Uses vision to establish and maintain line of travel
☐ Uses vision to establish landmarks

Eye condition/implications
☐ Describes how the visual impairment affects everyday activities

Identifying dangers
☐ Uses vision to identify dangers (e.g., vehicles, obstacles, drop offs)

Identifying features of a residential area
☐ Uses vision to identify features of two-lane residential streets
☐ Identifies T and +shaped intersections
☐ Uses vision to read traffic flow (e.g., one-lane versus two-lane)
☐ Recognizes traffic signs by shape and colour
☐ Identifies traffic lights and observes their control on traffic flow at intersections
☐ Scans for traffic at driveways and two-lane residential street crossings

AUDITORY

Orientation
☐ Identifies common sounds (e.g., animals, people, vehicles)
☐ Identifies characteristic sounds in a building (e.g., stairwells, rooms, hallways)
☐ Interprets information from sounds (e.g., accelerating vehicle, distance, crowds)
☐ Uses sound to establish landmarks
☐ Localizes and turns to face direction of sound source
☐ Tracks a moving sound source
☐ Demonstrates awareness of echo location (open versus closed space)

Identifying dangers
☐ Reacts to dangers that are identifiable by sound (e.g., school bells, alarms, sirens, barking dogs, tire squeals)

Sound masking
☐ Aware of how changes in health, clothing, and environment mask auditory cues
Students with visual impairments can gain information about surface and object textures, shapes, size, and density through the development of tactile sensitivity. In addition, touch can be used to detect, explore, orient, and protect from hazards. Tactile cues from a dog guide or travel device (cane, electronic travel aid) or protective arm techniques can facilitate protection from objects.

**Learning Outcomes**

> It is expected that students will be able to:

- Interpret and respond to tactile information using hands, feet, and body
- Interpret and react to tactile information when using a pre-cane, cane, walker, or wheelchair

**Proprioceptive/Kinesthetic**

Students with visual impairments can focus upon the position of body parts by using muscle memory and joint receptors. Repetitive training can be used to develop a “feel” for movement and action.

**Learning Outcomes**

> It is expected that students will be able to:

- Demonstrate awareness of the position of body parts and monitor their movement in space
- Accurately complete turns
Sensory Development • Level One

**ASSESSMENT**

**TOUCH**

*Response to tactile information*
- Using hands, body, or feet detects and responds to characteristics of objects (e.g., temperature, shape, texture, position of objects)
- Uses a systematic pattern of tactile exploration
- Uses touch in a socially acceptable manner
- Demonstrates awareness of the effects of clothing in masking or reducing tactile sensitivity
- Uses touch to identify landmarks and hazards in a familiar setting
- Demonstrates trailing, shorelining, and squaring off, etc.
- Uses touch to establish and maintain a line of travel

*Travel device*
- Using a mobility device (precane, cane, walker, wheelchair) detects and responds to information (e.g., slope, texture)

**PROPRIOCEPTIVE/KINESTHETIC**

*Movement*
- Self-monitors a head up position
- Self-monitors posture and positioning when sitting or moving
- Self-monitors grasp and alignment when using a guide
- Self-monitors posture and positioning when using a cane or travel device
- Detects changes of surface planes (incline, decline, level)
- Uses appropriate reach in locating objects
- Follows instructions for unfamiliar movement (e.g., creative dance)
- Anticipates distances and direction of turns in familiar environments
- Begins to estimate distances (width of street)

*Turns*
- Accurately makes quarter, half, and full turns
Vestibular

Inner ear receptors monitor and signal the central nervous system to changes in movement and balance. In order to sit, stand, and travel with controlled movement, students must be aware of and respond to changes of vestibular sensory cues.

**LEARNING OUTCOMES**

*It is expected that students will be able to:*

- Monitor and compensate for changes of the vestibular system

Olfactory

Information from smell can help students to locate and confirm a destination (e.g., bakery or woodwork shop). In addition, the sense of smell can help them to detect dangers.

**LEARNING OUTCOMES**

*It is expected that students will be able to:*

- Use scents for orientation
- Use the sense of smell to detect danger
Sensory Development • Level One

ASSESSMENT

VESTIBULAR

Response to vestibular cues

- Self-monitors a calm, attentive state
- Uses defensive reactions in response to loss of balance
- Adjusts body posture and body positioning when moving (knee flex, weight shift on an incline)
- Demonstrates adaptive stance, gait, or travel technique (use of sighted guide) to deal with vestibular changes

OLFACTORY

Orientation

- Associates a variety of scents with people, objects, and places (e.g., perfumes, plants, smoke, cooked foods, school cafeteria)
- Uses smell in a socially acceptable manner
- Uses other senses to compensate when the sense of smell is compromised or masked by other odours

Identifying danger

- Identifies a variety of smells associated with danger (e.g., smoke, chemicals)
**LEARNING OUTCOMES**

*It is expected that students will be able to:*

- Visually identify dangers in unfamiliar environments
- Use vision to “read” business area traffic
- Use visual memory for orientation
- Maximize use of residual vision when travelling

**Auditory**

**LEARNING OUTCOMES**

*It is expected that students will be able to:*

- Use sound cues and echo location for orientation
- Use sound to “read” vehicle flow and traffic control systems at intersections
Sensory Development • Level Two

ASSESSMENT

VISION

Identifying danger

☐ Selects safe pathway
☐ Recognizes changes in weather conditions that may reduce visual efficiency
☐ Uses caution in dangerous areas (e.g. street crossings, subway platforms, stairwells)

Reading traffic

☐ Reads traffic flow in business areas (e.g., traffic circles, multi-lane crossings, vehicle speed)
☐ Identifies traffic control systems (e.g., advance or delayed turn lane, crosswalk lines, lights)

Using visual memory

☐ Recognizes shape, colour, topography, and distinctive objects for orientation

Using residual vision

☐ Compensates for lighting, glare, or darkness
☐ Uses sequential scanning when travelling
☐ Positions self at corner for optimum visibility
☐ Uses preferred corner for safest crossing
☐ Recovers from veers

AUDITORY

Using sound cues

☐ Uses sound to establish and maintain line of travel
☐ Uses echo location for orientation and to avoid obstacles
☐ Demonstrates understanding of sound/distance relationships
☐ Uses sound to establish a parallel line of travel
☐ Uses sound to establish parallel and perpendicular alignment and street crossings

Reading traffic

☐ Detects a variety of traffic control systems (e.g., one way stop, two way stop, lights)
☐ Determines traffic flow (e.g., one-way versus two-way)
☐ Determines intersection shape (T, +, Y)
LEARNING OUTCOMES

It is expected that students will be able to:

- Use touch for orientation in unfamiliar settings
- Discriminate more complex tactile information
- Understand the impact of clothing on masking tactile cues
ASSESSMENT CONTINUED

TOUCH

Orientation

- Detects positional placement and location of objects
- Uses touch to establish landmarks in unfamiliar settings
- Reorients after crossing open space or passing an obstacle

Interpreting complex tactile information

- Uses touch to locate hazards in unfamiliar settings
- Uses touch in a more refined way
- Identifies more complex shapes (e.g., octagon)
- Discriminates tactile information (braille, watch, compass)

Effects of masking

- Demonstrates awareness of the effects of clothing related to the weather
Sensory Development • Level Three

Vision

LEARNING OUTCOMES

It is expected that students will be able to:

- Demonstrate proficient use of vision to establish and maintain orientation and safety when travelling in complex environments
- Understand the features and use of low vision devices

Auditory

LEARNING OUTCOMES

It is expected that students will be able to:

- Demonstrate proficient use of hearing to establish and maintain orientation and safety when travelling in complex environments
- Use sound to “read” traffic flow at high speed and heavy volume intersections
- Understand the characteristics of electronic travel devices in providing or enhancing auditory information

Touch

LEARNING OUTCOMES

It is expected that students will be able to:

- Understand the use of alternative travel devices
- Be aware of changes in tactile sensitivity due to weather and environmental conditions
VISION

Orientation to complex environments
- Selectively uses the timing method to confirm visual cues at street crossings
- Recovers from veers and blocked passageways
- Locates places of safety and information
- Uses visual landmarks and references for orientation on drop off lesson
- Uses visual cues for orientation at airports, public transit stations, or conference centres

Low vision devices
- Describes the uses of near and distance devices
- Determines when to use a device
- Determines which device to use

AUDITORY

Orientation to complex environments
- Uses sound cues for orientation to unfamiliar settings
- Uses echo location to maintain position and detect hazards (e.g., van with mirror projecting into sidewalk space)
- Compensates for the impact of weather, environment, and health by selecting alternative travel technique or mode of travel

Reading Traffic
- Uses sound to determine traffic flow
- Uses sound cues to evaluate traffic control
- Uses the timing method to establish and confirm safe crossing

Electronic travel devices
- States range and coverage of signal from an electronic travel device
- Identifies quality of signal based on distance and texture of objects
- Discriminates between the sound of the device and sounds from the environment

TOUCH

Alternative travel devices
- Identifies characteristics of alternative travel devices (e.g., dog guides, ETAs)

Adapting to the environment
- Uses adaptive techniques to compensate for reduced tactile information (see Travel Techniques Level Two; Adverse Weather)
Orientation and mapping skills are an essential part of a student’s orientation and mobility instruction. Map reading promotes the integration of concepts with skills, enhances comprehension of spatial relationships, and enables the student to travel independently in all environments.
## Orientation & Mapping • Learning Outcomes

<table>
<thead>
<tr>
<th><strong>LEVEL ONE</strong></th>
<th><strong>LEVEL TWO</strong></th>
<th><strong>LEVEL THREE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Locate a dropped object</td>
<td>• Orient to a more complex environment</td>
<td>• Use tactile, auditory, and visual maps in unfamiliar settings</td>
</tr>
<tr>
<td>• Orient to familiar environments</td>
<td>• Locate specific destination by address</td>
<td>• Orient to unfamiliar settings and proceed to a predetermined destination</td>
</tr>
<tr>
<td>• Interpret a simple map</td>
<td>• Interpret more complex maps</td>
<td></td>
</tr>
<tr>
<td>• Travel to a familiar destination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Develop the concept of a city block</td>
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</tr>
</tbody>
</table>
LEARNING OUTCOMES

It is expected that students will be able to:

· Locate a dropped object
· Orient to familiar environments
· Interpret a simple map
· Travel to a familiar destination
· Develop the concept of a city block
Orientation & Mapping • Level One

**ASSESSMENT**

**Locating dropped objects**
- uses circular search pattern
- uses gridline search pattern
- establishes perimeter of search area
- uses appropriate protective techniques to recover dropped object

**Orientation**
- uses systematic perimeter method
- uses systematic gridline method
- identifies landmarks and/or significant features (auditory, tactile, visual, olfactory)
- labels walls for reference (door wall, window wall, blackboard wall, etc.)
- establishes focal point for orientation
- describes relationship between two points (i.e., teacher’s desk and blackboard)
- uses clock face for referencing object positions
- uses sensory cues to locate exits and entrances (mats, sound of doors, etc.)
- understands concept of intersection (hallways, sidewalks)
- uses sensory cues to establish parallel/perpendicular line of travel

**Interpret a simple map**
- traces graphic line symbols and perimeter
- establishes orientation to map (top)
- scans map in systematic pattern
- uses and develops auditory maps
- understands symbol representation (shapes and textures)
- comprehends relative size, distance, direction
- assists in reconstruction of a visual/tactile map

**Travel to a familiar destination in or out of school**
- describes a route
- travels to a destination
- returns to a starting point (reverse direction)
- travels a route represented by a tactile/visual/auditory map
- demonstrates simple problem solving enroute

**Concept of a city block**
- establishes focal or start point
- identifies components of a city block
- constructs a simple visual/tactile map
- records an auditory map of area
- understands intersecting streets
LEARNING OUTCOMES

It is expected that students will be able to:

- Orient to a more complex environment
- Locate specific destination by address
- Interpret more complex maps
Orientation & Mapping • Level Two

**ASSESSMENT**

*Orientation to more complex environments*
- uses landmarks and environmental cues for orientation
- applies information from maps to the environment
- travels to a destination
- uses map to reorient
- uses compass
- uses cardinal directions
- solicits aid to establish orientation
- identifies actual location on map

*Locating a specific address*
- understands patterns of numbering systems
- establishes focal point in reference to a numbering system (street and building)
- aware of exceptions in patterns of numbering (unnumbered doors, A/B addresses, etc.)

*Interpreting a more complex map*
- locates north indicator
- understands more complex symbols (varied size, shape)
- uses a legend for interpretation
- tactually travels a route on a map, pointing out symbols and landmarks
- understands concepts of parallel and perpendicular
- understands map of residential neighbourhood
- estimates distance using concepts of scale
LEARNING OUTCOMES

It is expected that students will be able to:

• Use tactile, auditory, and visual maps in unfamiliar settings
• Orient to unfamiliar settings and proceed to a predetermined destination
Orientation & Mapping • Level Three

**ASSESSMENT**

*Using maps*
- ☐ uses an unfamiliar map to plan and execute a route
- ☐ uses a compass to orient to a map and surroundings
- ☐ uses a map and/or compass to plan an alternate route
- ☐ accesses information from a mall or building directory
- ☐ creates an auditory map for personal use and use by others

*Drop off lesson*
- ☐ establishes present location and determines direction of travel
- ☐ applies the use of a compass and map
- ☐ solicits aid

**OPTION:** Investigate new technologies (e.g., Global Positioning System, night vision goggles).
ndependent and safe mobility involves the development of motor skills, acquisition of basic concepts, and awareness of the travel setting. Teaching these outcomes in a developmentally sequential manner allows the student to acquire the necessary skills on which to build more complex orientation and mobility techniques.

The ability to travel independently is integral to every aspect of personal, educational, and social development. The effective use of appropriate travel techniques enables students who are visually impaired to participate in activities as independently as is individually possible.
### Travel Techniques • Learning Outcomes

#### LEVEL ONE
- Follow proper sighted guide technique
- Demonstrate a basic understanding of the uses of the long cane or adaptive mobility device (e.g., walker, hula hoop)
- Establish and maintain posture and balance while travelling with or without a cane
- Move safely in a familiar environment
- Use the full range of beginning O & M skills to travel safely and independently in familiar environments

#### LEVEL TWO
- Instruct and use correct sighted guide technique
- Use basic cane techniques proficiently
- Travel safely and independently in unfamiliar indoor environments
- Travel safely and independently in residential neighbourhoods
- Safely and independently cross residential streets
- With supervision, travel safely in business areas
- With supervision, safely cross streets in business or commercial areas
- Travel safely in adverse weather conditions in familiar environments
- Travel a familiar route safely at night
- With supervision, use public transportation

#### LEVEL THREE
- Apply the use of all cane techniques
- Plan and execute routes to unfamiliar commercial areas
- Use advanced travel techniques with supervision (e.g., cross multi-laned streets with high speed and high volume traffic)
- Use public transportation independently
- Independently travel to a stated destination from a drop off starting point
It is expected that students will be able to:

- Follow proper sighted guide technique
- Demonstrate a basic understanding of the uses of the long cane or adaptive mobility device (e.g., walker, hula hoop)
- Establish and maintain posture and balance while travelling with or without a cane
- Move safely in a familiar environment
- Use the full range of beginning O & M skills to travel safely and independently in familiar environments
ASSESSMENT

Sighted guide technique
- initiates contact
- uses proper arm, hand and body position
- transfers sides
- reverses directions
- ascends and descends stairs
- accepts and refuses aid
- uses proper doorway technique
- uses proper seating technique
- holds cane in proper position

Using a long cane/mobility device
- uses proper grip
- uses proper arm position
- detects obstacles and drop offs
- identifies surfaces
- explores objects and surroundings
- locates doorknobs and handles
- moves the cane/device in a controlled manner
- stores cane/device appropriately
- enters and exits vehicles
- negotiates stairs using cane
- negotiates doorways using cane
- selects appropriate canes/devices

Posture
- maintains upright head position
- holds body erect
- maintains relaxed shoulder position
- moves in a coordinated fashion
- maintains posture on curbs and stairs
- uses appropriate gait

Moving safely
- uses upper and lower protective arm technique
- uses trailing
- traverses open doorways
- uses foot slide
- locates handrail on stairways
- squares off
- recovers balance
- takes line of direction
- problem solves
- clears before moving
- uses diagonal technique (both hands)
- uses shortened grip
- uses “freeze” (no foot movement)
LEARNING OUTCOMES

It is expected that students will be able to:

- Instruct and use correct sighted guide technique
- Use basic cane techniques proficiently
- Travel safely and independently in unfamiliar indoor environments
- Travel safely and independently in residential neighbourhoods
- Safely and independently cross residential streets
- With supervision, travel safely in business areas
- With supervision, safely cross streets in business or commercial areas
- Travel safely in adverse weather conditions in familiar environments
- Travel a familiar route safely at night
- With supervision, use public transportation
Travel Techniques • Level Two

ASSESSMENT

Sighted guide technique
- uses the “switch and catch” technique in doorways
- seats oneself in an auditorium or theatre
- holds doors open on own
- transfers cane to maneuver through doorways without needing verbal cues
- uses proper technique on escalators and elevators
- corrects improper sighted guide technique

Cane techniques
- constant contact
- 2 point touch
- shorelining
- touch and drag
- gate position at crossings

Unfamiliar indoor environments
- anticipates environmental hazards and uses appropriate protective or cane technique (diagonal and touch techniques, trailing, touch and drag)
- knows when and how to use low vision devices
- uses indoor numbering systems
- identifies and uses landmarks (fire extinguishers, water fountains, pop machines, etc.)
- independently negotiates stairs using a cane
- uses appropriate cane techniques (2 point touch, constant contact, shortened grip, shorelining)
- uses a cane to locate door handles
- detects intersecting hallways
- knows and uses procedures for exiting buildings in an emergency
- uses low vision devices
- uses elevators, escalators, automatic and revolving doors (under supervision)

Residential Neighbourhoods
- uses outdoor numbering systems
- uses appropriate cane techniques (with or without sidewalks)
- recovers from a veer
- maintains a straight line of travel past gas stations, driveways, and parking lots
- detects intersecting sidewalks and corners
- recovers from encounters with obstacles (e.g., parked cars, bikes)
- identifies landmarks for reference
- uses information from the environment (wind, sun)
- maintains orientation
- uses cardinal directions
- follows multi-step directions
- uses low vision devices

A Resource for Orientation and Mobility
Crossing residential streets

- identifies shapes of intersections (+, T)
- evaluates traffic patterns (two-way stop, four-way stop, one-way) and forms of traffic control (signs, lights)
- determines safest time to cross
- uses low vision devices
- maintains straight line of travel when crossing
- maintains correct alignment at crossings (grassline, parallel vehicles)
- demonstrates time/distance judgment
- reads the “crown” and slope of road
- recovers from a veer or obstacle
- maintains desired direction of travel after crossing
- determines and uses appropriate cane techniques

Business areas (supervised)

- safely moves through a parking lot
- detects intersecting sidewalks and corners
- accesses building or store entrances
- uses low vision devices
- recovers from obstacles (sandwich boards, construction, newspaper boxes, etc.)
- applies use of cane techniques
- locates specific destinations
- uses landmarks for reference
- safely crosses driveways and parking lots to access buildings set back from the street
- uses vending machines
- uses pay phones
- moves along with a line up
- travels in a grocery store

Crossing commercial streets (supervised)

- uses skills from crossing residential streets (see above)
- understands off-set intersections and factors deterring crossing safely
- crosses at intersections that feature high volume traffic patterns
- assesses traffic pattern and speed
- identifies traffic control systems used in high volume intersections:
  - advance and delay turn lights
  - pedestrian control lights
  - audible signal
- negotiates intersections that feature turn lanes and traffic islands
- maintains orientation to desired direction of travel after crossing
- applies appropriate cane technique
Adverse weather
- adapts for ice and snow travel
- selectively uses cane or sighted guide
- recognizes when auditory and tactile cues are distorted
- dresses appropriately for weather
- gathers weather information in advance
- assesses need for alternate mode of travel (i.e., taxi)
- locates a taxi

Night travel
- uses a flashlight and reflective clothing
- uses eccentric head tilt to avoid glare from headlights
- uses shadows to gain information
- distinguishes between daytime and night time sounds
- compensates for the motorist’s reduced visibility and reaction time

Using public transportation (supervised)

*Bus*
- accesses bus schedule information
- locates correct bus stop
- indicates and confirms destination with driver
- boards the bus safely
- establishes and maintains orientation at drop off points

*Taxi*
- acquires and records information specific to a taxi trip
- travels to rendezvous spot and locates the taxi
- indicates and confirms destination with driver
- enters and exits the taxi safely
- pays the fare
- establishes and maintains orientation at drop off point
### Learning Outcomes

It is expected that students will be able to:

- Apply the use of all cane techniques
- Plan and execute routes to unfamiliar commercial areas
- Use advanced travel techniques with supervision (e.g., cross multi-laned streets with high speed and high volume traffic)
- Use public transportation independently
- Independently travel to a stated destination from a drop off starting point
Travel Techniques • Level Three

ASSESSMENT

Cane techniques
- 3 point touch
- touch and slide

Unfamiliar commercial travel
- uses appropriate self-protective techniques
- selects and uses low vision devices appropriately
- selects and uses ETAs
- uses appropriate cane skills as dictated by the environment
- applies orientation strategies
- safely crosses streets
- uses public transportation
- uses stairs, escalators, elevators, and revolving doors
- uses Hines Break
- negotiates railroad crossings and open sidewalk spaces (gas stations, parking lots)
- travels in airports, bus stations, railway stations

Advanced travel techniques
- uses skills from crossing commercial streets (see Level Two Crossing Commercial Streets page 43)
- assesses traffic pattern and speed
- traverses traffic islands and lane dividers

Using public transportation

Bus
- phones and records information specific to a bus route
- locates correct bus stop
- indicates and confirms destination with driver
- establishes and maintains orientation at drop off points
- recovers from a missed stop by problem solving
- completes a bus route, including transfers
- uses rapid transit system

Taxi
See Level Two Taxi (page 44)
Effective communication skills, the knowledge and application of personal safety procedures, and the ability to be an effective self-advocate are fundamental in reaching one’s destination, safely and efficiently.
## Communication, Personal Safety, and Advocacy • Learning Outcomes

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<tr>
<td>• Demonstrate appropriate social interactions at home, school, and in public</td>
<td>• Demonstrate appropriate interactions with the public</td>
<td>• Independently demonstrate appropriate social interactions with the public</td>
</tr>
<tr>
<td>• Identify basic safety rules</td>
<td>• Demonstrate more complex personal safety rules</td>
<td>• Independently demonstrate the rules of safe travel in unfamiliar environments</td>
</tr>
<tr>
<td>• Discriminate denominations of coins and bills</td>
<td>• Communicate with the public regarding the use of dog guides or low vision devices</td>
<td>• Advocate on behalf of persons with visual impairments</td>
</tr>
<tr>
<td>• Understand personal medical issues</td>
<td></td>
<td></td>
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<tr>
<td>• Understand safety implications of eye condition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Know emergency procedures</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### LEARNING OUTCOMES

*It is expected that students will be able to:*

- Demonstrate appropriate social interactions at home, school, and in public
- Identify basic safety rules
- Discriminate denominations of coins and bills
- Understand personal medical issues
- Understand safety implications of eye condition
- Know emergency procedures
Communication, Personal Safety, and Advocacy • Level One

ASSessment

Communication
☐ communicates need
☐ accepts or refuses assistance appropriately
☐ uses the rules of social etiquette
☐ asks clear questions and confirms answers
☐ identifies appropriate sources of assistance
☐ makes simple monetary exchanges at stores

Basic safety
☐ states name, address, and phone number
☐ states parents’ and teachers’ names
☐ demonstrates ‘Stop, look and listen’ rule
☐ defines “stranger” and safety rules with respect to strangers
☐ participates in early self-defence program if available
☐ demonstrates understanding of personal space and private body parts
☐ demonstrates strategies for refusing unwanted touch
☐ knows basic first aid

Medical issues
☐ takes appropriate precautions related to eye condition
☐ communicates pertinent medical information, including use of glasses and other low vision devices

Emergency procedures
☐ demonstrates how to use a phone
☐ exits home or school safely in an emergency
☐ demonstrates effective use of 911 emergency access through role play
☐ identifies a variety of emergency vehicles
Communication, Personal Safety, and Advocacy • Level Two

LEARNING OUTCOMES

It is expected that students will be able to:

• Demonstrate appropriate interactions with the public
• Demonstrate more complex personal safety rules
• Communicate with the public regarding the use of dog guides or low vision devices
Communication, Personal Safety, and Advocacy • Level Two

ASSESSMENT

Communication with the public
☐ communicates politely and clearly
☐ communicates appropriately (knows what level of information to share)
☐ uses appropriate stance, facial expressions, and gestures
☐ uses appropriate language when interacting with the public
☐ gathers transit information and directions for travel
☐ solicits aid from appropriate sources

Personal safety
☐ accesses and operates public telephones
☐ assesses and reacts to unsafe situations
☐ monitors personal space and appropriateness of touch
☐ safely and independently exits buildings in emergencies
☐ carries and stores wallet safely
☐ participates in first aid training
☐ keeps track of valuables while using public transportation
☐ handles money discretely
☐ sits near driver on the bus

Advocacy
☐ answers queries about the need or use of dog guides

OPTIONAL: Consider participating in a first aid and self-defence training course.
Communication, Personal Safety, and Advocacy • Level Three

LEARNING OUTCOMES

It is expected that students will be able to:

- Independently demonstrate appropriate social interactions with the public
- Independently demonstrate the rules of safe travel in unfamiliar environments
- Advocate on behalf of persons with visual impairments
Communication, Personal Safety, and Advocacy • Level Three

**ASSESSMENT**

**Communication**
- knows how to get attention from an appropriate source, in person or by phone
- engages in conversational etiquette
- communicates with motorists and cyclists through body language and gestures
- communicates need or advocacy issue clearly
- confirms and clarifies information received
- uses and stores debit card or credit cards, and cheques
- interacts with motorists and cyclists

**Personal safety**
- chooses to refuse or accept assistance or attention verbally or physically if necessary
- carries oneself confidently and purposefully
- monitors personal space and appropriateness of touch
- identifies and takes measures to avoid potential dangers
- physically removes oneself from potential danger and locates a safe haven
- clearly reports emergencies and critical information
- safely exits buildings, vehicles, and public transportation in emergencies
- clearly communicates the intent to cross or not to cross a road
- stays clearly visible in all conditions
- understands and assesses personal safety issues while travelling

**Advocacy**
- communicates needs to public officials (architectural modifications, audible signals)
- initiates information sharing about one’s blindness and related issues (e.g., use of cane, dog guides, low vision devices)

**OPTIONAL:** Consider carrying a safety survival kit containing emergency money, cell phone, etc.
Appendix A

Learning Outcomes
<table>
<thead>
<tr>
<th>Concept Development</th>
<th>Sensory Development</th>
<th>Orientation &amp; Mapping</th>
<th>Travel Techniques</th>
<th>Communication, Safety &amp; Advocacy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental Concepts</strong></td>
<td><strong>Vision</strong></td>
<td><strong>Use tactile, auditory, and visual maps in unfamiliar settings</strong></td>
<td><strong>Apply the use of all cane techniques</strong></td>
<td><strong>Independently demonstrate appropriate social interactions with the public</strong></td>
</tr>
<tr>
<td>Describe features of more complex intersections</td>
<td>Demonstrate proficient use of vision to establish and maintain orientation and safety when travelling in complex environments</td>
<td>Orient to unfamiliar settings and proceed to a predetermined destination</td>
<td>Plan and execute routes to unfamiliar commercial areas</td>
<td>Independently demonstrate the rules of safe travel in unfamiliar environments</td>
</tr>
<tr>
<td>Demonstrate proficiency in understanding and dealing with environmental concepts as they relate to advanced travel</td>
<td>Understand the features and use of low vision devices</td>
<td><strong>Use advanced travel techniques with supervision (e.g., cross multi-laned streets with high speed and high volume traffic)</strong></td>
<td><strong>Use public transportation independently</strong></td>
<td>Advocate on behalf of persons with visual impairments</td>
</tr>
<tr>
<td><strong>Auditory</strong></td>
<td><strong>Demonstrate proficient use of hearing to establish and maintain orientation and safety when travelling in complex environments</strong></td>
<td><strong>Use sound to “read” traffic flow at high speed and heavy volume intersections</strong></td>
<td><strong>Independently travel to a stated destination from a drop off starting point</strong></td>
<td></td>
</tr>
<tr>
<td>Demonstrate proficient use of hearing to establish and maintain orientation and safety when travelling in complex environments</td>
<td>Understand the characteristics of electronic travel devices in providing or enhancing auditory information</td>
<td><strong>Understand the characteristics of electronic travel devices in providing or enhancing auditory information</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Touch</strong></td>
<td><strong>Understand the use of alternative travel devices</strong></td>
<td><strong>Be aware of changes in tactile sensitivity due to weather and environmental conditions</strong></td>
<td><strong>Independently demonstrate the rules of safe travel in unfamiliar environments</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Use tactile, auditory, and visual maps in unfamiliar settings</strong></td>
<td><strong>Use tactile, auditory, and visual maps in unfamiliar settings</strong></td>
<td><strong>Independently travel to a stated destination from a drop off starting point</strong></td>
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</tr>
</tbody>
</table>

**Level Three**
<table>
<thead>
<tr>
<th>CONCEPT DEVELOPMENT</th>
<th>SENSORY DEVELOPMENT</th>
<th>ORIENTATION &amp; MAPPING</th>
<th>TRAVEL TECHNIQUES</th>
<th>COMMUNICATION, SAFETY &amp; ADVOCACY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPATIAL CONCEPTS</strong></td>
<td><strong>VISION</strong></td>
<td><strong>Orientation &amp; Mapping</strong></td>
<td><strong>Travel Techniques</strong></td>
<td><strong>Communication, Safety &amp; Advocacy</strong></td>
</tr>
<tr>
<td>• Apply positional and relational concepts</td>
<td>• Visually identify dangers in unfamiliar environments</td>
<td>• Orient to a more complex environment</td>
<td>• Give instruction to a sighted guide</td>
<td>• Demonstrate appropriate interactions with the public</td>
</tr>
<tr>
<td>• Identify more complex shapes</td>
<td>• Use vision to “read” business area traffic</td>
<td>• Locate specific destination by address</td>
<td>• Use correct sighted guide technique</td>
<td>• Demonstrate more complex personal safety rules</td>
</tr>
<tr>
<td>• Demonstrate a facility with concepts of measurement</td>
<td>• Use visual memory for orientation</td>
<td>• Interpret more complex maps</td>
<td>• Use basic cane techniques proficiently</td>
<td>• Communicate with the public regarding the use of dog guides or low vision devices</td>
</tr>
<tr>
<td>• Apply action concepts to travel</td>
<td>• Maximize use of residual vision when travelling</td>
<td>• Give instruction to a sighted guide</td>
<td>• Travel safely and independently in unfamiliar indoor environments</td>
<td></td>
</tr>
<tr>
<td>• Apply time/distance and sound/distance relationships</td>
<td>• AUDITORY</td>
<td>• Use sound cues and echo location for orientation</td>
<td>• Safely and independently cross residential streets</td>
<td></td>
</tr>
<tr>
<td>• Transfer the notion of body concepts in relation to other people (e.g., put your right hand on the left shoulder of the person facing you)</td>
<td>• Use sound to “read” vehicle flow and traffic control systems at intersections</td>
<td>• With supervision, travel safely in business areas</td>
<td>• Travel safely and independently cross streets in business or commercial areas</td>
<td></td>
</tr>
<tr>
<td>• ENVIRONMENTAL CONCEPTS</td>
<td>• TOUCH</td>
<td>• With supervision, safely cross streets in business or commercial areas</td>
<td>• Travel safely in adverse weather conditions in familiar environments</td>
<td></td>
</tr>
<tr>
<td>• Describe features of roads and intersections</td>
<td>• Use touch for orientation in unfamiliar settings</td>
<td>• Travel a familiar route safely at night</td>
<td>• Travel a familiar route safely at night</td>
<td></td>
</tr>
<tr>
<td>• Understand features associated with larger geographical settings</td>
<td>• Discriminate more complex tactile information</td>
<td>• With supervision, use public transportation</td>
<td>• With supervision, use public transportation</td>
<td></td>
</tr>
<tr>
<td>• Describe vehicular and pedestrian traffic patterns</td>
<td>• Understand the impact of clothing on masking tactile cues</td>
<td>• Give instruction to a sighted guide</td>
<td>• Demonstrates more complex personal safety rules</td>
<td></td>
</tr>
<tr>
<td>• Use concepts of topography</td>
<td></td>
<td>• Use correct sighted guide technique</td>
<td>• Communicate with the public regarding the use of dog guides or low vision devices</td>
<td></td>
</tr>
<tr>
<td>• Use concepts of temperature</td>
<td></td>
<td>• Use basic cane techniques proficiently</td>
<td>• Demonstrates appropriate interactions with the public</td>
<td></td>
</tr>
<tr>
<td>CONCEPT DEVELOPMENT</td>
<td>SENSORY DEVELOPMENT</td>
<td>ORIENTATION &amp; MAPPING</td>
<td>TRAVEL TECHNIQUES</td>
<td>COMMUNICATION, SAFETY &amp; ADVOCACY</td>
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</tr>
<tr>
<td><strong>BODY CONCEPTS</strong></td>
<td><strong>VISION</strong></td>
<td><strong>Locates a dropped object</strong></td>
<td><strong>Follow proper sighted guide technique</strong></td>
<td></td>
</tr>
<tr>
<td>• Name and locate body parts</td>
<td>• Use vision to establish and maintain orientation</td>
<td>• Orient to familiar environments</td>
<td>• Demonstrate a basic understanding of the uses of the long cane or adaptive mobility device (e.g., walker, hula hoop)</td>
<td></td>
</tr>
<tr>
<td>• Identify the motion of body parts</td>
<td>• Name eye condition and functional implications</td>
<td>• Interpret a simple map</td>
<td>• Establish and maintain posture and balance while travelling with or without a cane</td>
<td></td>
</tr>
<tr>
<td>• Identify body planes, laterality and directionality in relation to self</td>
<td>• Visually identify dangers in familiar environments</td>
<td>• Travel to a familiar destination</td>
<td>• Move safely in a familiar environment</td>
<td></td>
</tr>
<tr>
<td>• Describe the location of an object in relation to body parts</td>
<td>• Use vision to identify features of a residential area</td>
<td>• Develop the concept of a city block</td>
<td>• Use the full range of beginning O &amp; M skills to travel safely and independently in familiar environments</td>
<td></td>
</tr>
<tr>
<td><strong>SPATIAL CONCEPTS</strong></td>
<td><strong>AUDITORY</strong></td>
<td></td>
<td></td>
<td>• Demonstrate appropriate social interactions at home, school, and in public</td>
</tr>
<tr>
<td>• Identify positional and relational concepts</td>
<td>• Locate, identify, and discriminate information from sounds</td>
<td></td>
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<td>• Identify basic safety rules</td>
</tr>
<tr>
<td>• Identify basic shapes</td>
<td>• Use sound cues to identify dangers</td>
<td></td>
<td></td>
<td>• Discriminate denominations of coins and bills</td>
</tr>
<tr>
<td>• Make comparative judgments</td>
<td>• Understand sound masking</td>
<td></td>
<td></td>
<td>• Understand personal medical issues</td>
</tr>
<tr>
<td>• Demonstrate awareness of basic measurement</td>
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<td>• Understand safety implications of eye condition</td>
</tr>
<tr>
<td>• Identify surface planes</td>
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<td>• Know emergency procedures</td>
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<tr>
<td>• Make quarter, full, and half turns</td>
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<tr>
<td>• Begin to understand time/distance relationships</td>
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<tr>
<td><strong>ENVIRONMENTAL CONCEPTS</strong></td>
<td><strong>TOUCH</strong></td>
<td></td>
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</tr>
<tr>
<td>• Identify features and functions of common objects familiar to their environment</td>
<td>• Interprets and respond to tactile information using hands, feet, and body</td>
<td></td>
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</tr>
<tr>
<td>• Be aware of potential dangers in home, school, and neighbourhood</td>
<td>• Interpret and react to tactile information when using a pre-cane, cane, walker, or wheelchair</td>
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<tr>
<td>• Understand features of a landmark</td>
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<tr>
<td>• Use concepts of topography</td>
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<tr>
<td>• Use concepts of texture</td>
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<tr>
<td>• Use concepts of temperature</td>
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<tr>
<td><strong>PROPRIOCEPTIVE/KINESTHETIC</strong></td>
<td><strong>VESTIBULAR</strong></td>
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<tr>
<td>• Demonstrate awareness of the position of body parts and monitor their movement in space</td>
<td>• Monitor and compensate for changes of the vestibular system</td>
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<tr>
<td>• Accurately complete turns</td>
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<tr>
<td><strong>olfactory</strong></td>
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<tr>
<td>• Use scents for orientation</td>
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<tr>
<td>• Use the sense of smell to detect danger</td>
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</tr>
</tbody>
</table>
ORIENTATION AND MOBILITY TEACHER RESOURCES

TAPS: AN ORIENTATION & MOBILITY CURRICULUM FOR STUDENTS WITH VISUAL IMPAIRMENTS (1993)
Texas School for the Blind.

THE ART AND SCIENCE OF TEACHING ORIENTATION AND MOBILITY TO PERSONS WITH VISUAL IMPAIRMENTS (1993)
Author: W.H. Jacobson
American Foundation for the Blind.

CONCEPT DEVELOPMENT FOR VISUALLY HANDICAPPED CHILDREN: A RESOURCE GUIDE FOR TEACHERS AND OTHER PROFESSIONALS WORKING IN EDUCATIONAL SETTINGS (1985)
Authors: W.T. Lydon & M.L. McGraw
American Foundation for the Blind.

FOUNDATIONS OF ORIENTATION AND MOBILITY (1980)
Authors: R.L. Welsh & B.B. Blasch, Eds.
American Foundation for the Blind.

HAND IN HAND: ESSENTIALS OF COMMUNICATION AND ORIENTATION AND MOBILITY FOR YOUR STUDENTS WHO ARE DEAF-BLIND. 2 VOLS. (1995)
American Foundation for the Blind

THE HILL PERFORMANCE TEST OF SELECTED POSITIONAL CONCEPTS (1981)
Author: E.W. Hill
Stoelting Co.

Author: D. Sauerburger.
American Foundation for the Blind.
ORIENTATION AND MOBILITY TECHNIQUES: A GUIDE FOR THE PRACTITIONER (1976)
Authors: E.W. Hill & Ponder
American Foundation for the Blind.

COGNITIVE LEARNING THEORY AND CANE TRAVEL INSTRUCTION: A NEW PARADIGM (1995)
Author: Richard Mettler
State of Nebraska, Department of Public Institutions, Division of Rehabilitation Services for the Visually Impaired.

BEYOND ARMS REACH: ENHANCING DISTANCE VISION (1992)
Authors: Audrey J. Smith, Lizabeth N. O’Donnell
Pennsylvania College of Optometry Press

LOW VISION: A RESOURCE GUIDE WITH ADAPTATIONS FOR STUDENTS WITH VISUAL IMPAIRMENTS, SECOND EDITION (1994)
Author: Nancy Levorh
Texas School for the Blind.

CARE AND FEEDING OF THE LONG WHITE CANE: INSTRUCTIONS IN CANE TRAVEL FOR BLIND PEOPLE
Author: Thomas Bickford
National Film Board.

ORIENTATION & MOBILITY CURRICULUM
W. Ross Macdonald School for the Visually Impaired.

Child Light
London, Ontario

TRAVEL TALES – A MOBILITY STORYBOOK (1988)
Authors: Julia Halpern-Gold, Shelly Faust-Jones, and Robin Weinstock Adler
Mostly Mobility.

GAMES FOR PEOPLE WITH SENSORY IMPAIRMENTS: STRATEGIES FOR INCLUDING INDIVIDUALS OF ALL AGES (1996)
“SIMON SAYS” IS NOT THE ONLY GAME (1982)
Authors: B. Leary & M. von Schneden
American Foundation for the Blind.

AN ORIENTATION AND MOBILITY PRIMER FOR FAMILIES AND YOUNG CHILDREN (1989)
Authors: B. Dodson-Burk, E. Hill
American Foundation for the Blind.

A RESOURCE MANUAL FOR UNDERSTANDING AND INTERACTING WITH INFANTS, TODDLERS AND PRESCHOOL AGE CHILDREN WITH DEAF-BLINDNESS
SKI*HI Institute
Utah State University, Logan, UT.

OPTICAL DEVICES – Reference hand-outs
University of Waterloo, School of Optometry – Low Vision Clinic, Waterloo, ON. (elstief@quark.uofw.ca)

ORIENTATION & MOBILITY TRAINING
CIL Instructional Kit
New York Center for Independent Living, NY.

O & M TEAM EVALUATES SENSORY 6 (1990)
Authors: J. McKinley, R. Lundt, T. Johnson
Technology Today, June 1990.

PRECANE MOBILITY DEVICES (1986)
Author: S. Bashbach
Journal of Visual Impairment and Blind, 88(9).
PROJECT IVEY: INCREASING VISUAL EFFICIENCY (1986)
Florida Bureau of Education for Exceptional Students
Department of Education, Tallahassee, FL.

SENSORY DEVELOPMENT – CIL INSTRUCTIONAL KIT
New York Center for Independent Living, NY.

THE OUT OF SYNC CHILD (1998)
Author: C. Stock-Kranowitz
Perigee Press.
Appendix C

Student Profile Forms
## Framework for Independent Travel Student Profile

<table>
<thead>
<tr>
<th>STUDENT NAME</th>
<th>CONCEPT DEVELOPMENT</th>
<th>SENSORY DEVELOPMENT</th>
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<td>Environmental Concepts</td>
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<td>Touch</td>
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<td>Proprioceptive Kinesic</td>
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<td>Vestibular</td>
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<td>Olfactory</td>
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<td>DATE</td>
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</tr>
</tbody>
</table>

### Level 3
- Achieved
- Working toward

### Level 2
- Achieved
- Working toward

### Level 1
- Achieved
- Working toward

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*A Resource for Orientation and Mobility*
### Framework for Independent Travel
#### Student Profile

<table>
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<th>Concept Development</th>
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<tr>
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</tr>
</tbody>
</table>

#### Levels

**Level 3**

**Level 2**

**Level 1**
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