

---

Grade 1

## **Cluster 2: The Senses**

---

### **Overview**

Our awareness of the environment and the many materials that are found within it is based on our sensory experiences.

Through our senses, we can detect items that may be good to eat, pose danger, or be useful. Our senses are immediate and automatic. But the ability to use our senses safely and effectively involves focus, discernment, awareness, and judgement. In this cluster, students learn more about what the senses are, how they operate, and how they must be protected. Students also refine their observation skills. These skills are critical to science (see *Grade 1, Cluster 3: Characteristics of Objects and Materials*) and can be applied to other subject areas.

**PRESCRIBED LEARNING OUTCOMES**

**SUGGESTIONS FOR INSTRUCTION**

*Students will...*

**1-2-01** Use appropriate vocabulary related to their investigations of the senses.

Include: senses, sight, smell, hearing, taste, touch, eye, nose, ear, tongue, skin, eyelash, eyebrow, eyelid, nostril, cartilage, nose hair, as well as descriptive words related to shape, colour, lustre, wetness, temperature, taste, odour, size, texture, pitch.

GLO: C6, D1, D3

- Introduce, explain, use, and reinforce vocabulary throughout the cluster.
- **Classroom Word List**  
Develop a class word list as the cluster progresses. Print the vocabulary words on cards and post them where they are easily visible. Encourage students to use this list as a reference throughout the cluster. Group and label terms according to sense categories.

**1-2-02** Identify the five senses and describe the main body parts with which they are associated.

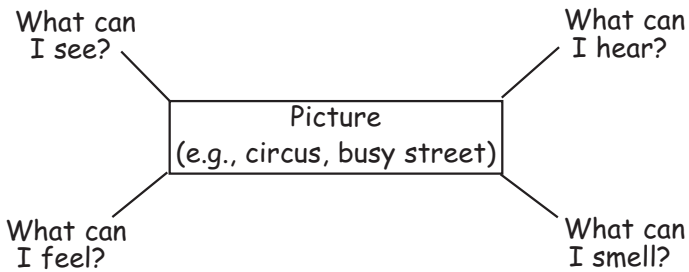
Include: sight and eyes; smell and nose; hearing and ears; taste and tongue; touch and skin.

GLO: D1

- **Activating the Senses**  
Ask students how they get information about the world around them. During the discussion, provide various sense stimulators (take the lid off a strong-smelling substance, turn on an audio tape of common sounds, utilize an overhead projector to show images, have students use touch to identify an object in a mystery box). Have students discuss what type of information they are able to obtain.

**1-0-4g.** Verbalize questions and ideas during classroom learning experiences. GLO: C6  
**1-0-5a.** Observe using a combination of the senses. GLO: C2

- **Sense Clusters**  
Have students work in small groups to talk about and record ideas in a Sense Cluster graphic organizer. Provide each group with a picture rich in sensory information (a busy street scene, a circus, etc.). Have students imagine they are in the scene and provide a graphic organizer such as the one shown below, to describe what they can “observe” in the pictured scene. Students record ideas and share their Sense Cluster in a Sharing Circle. (See *ELA, Grade 1*, p. 88; and *ELA, Strategies*, p. 106.)  
Have students repeat the activity in a convenient and safe real-life location, e.g., playground at recess, school lunchroom, etc.



## TEACHER NOTES

As the cluster on senses progresses, track and post students' questions in order to form the basis of further investigations.

## SUGGESTIONS FOR ASSESSMENT

**Caution:** Care should be taken when dealing with the sense of taste. Students should be discouraged from tasting unknown substances. If tasting activities are used, they must be carefully controlled with attention paid to overall hygiene and possible allergies. Teachers may prefer to have students talk about the taste of familiar foods.

**Paper and Pencil Task: The Senses**

To assess understanding of the five senses and the body parts associated with each, provide students with a picture of a child. Have them label the location of each sense.

**Match the sense to its body part.**

Cut and paste.

sight	hearing	touch
smell	taste	

**PRESCRIBED LEARNING OUTCOMES**

**SUGGESTIONS FOR INSTRUCTION**

*Students will...*

**1-2-03** Use their senses to sort and classify objects.

*Examples: sort according to texture, sound, taste, or smell...*

GLO: C2, D1, E1

**1-2-04** Identify and describe parts of the eye that help to protect it.

Include: eyelash, eyebrow, eyelid.

GLO: D1

**1-0-2a.** Access information using a variety of sources. *Examples: picture and concept books, people, excursions, camps, CD-ROMs...* (ELA 3.2.2, Math SP-II.1.1, TFS 2.1.1) GLO: C6

**1-0-2b.** Recognize when information answers the questions asked. (ELA 3.2.3, 3.2.5) GLO: C6, C8

**1-0-7e.** Describe, in a variety of ways, what was done and what was observed.

*Examples: concrete materials, drawings, oral language...* (ELA 4.1.2, 4.1.3) GLO: C6

➤ **Using the Senses**

Set up four different stations with a collection of objects and materials in each. Have students use a different sense at each station to sort the collection.

Example: touch. Have students cover their eyes and then sort the objects/materials by touch alone.

➤ **Observing Our Eyes**

Have students use small hand mirrors to examine their eyes. As a class, record questions that emerge about the function of different parts. Use these questions as the basis for the next investigation.

➤ **Eye Protection**

Have students use print and multi-media resources to locate information about the parts of the eye and the role each part plays in protecting it. Have students reflect on and discuss the text using the following questions:

- Why do you have eyelashes? Eyebrows? Eyelids?
- The eye blinks every few seconds. Why does it do this?

➤ **Picture Glossary: The Eyes Have It**

Have students draw a large human eye. Have them label the parts and then identify the protective functions of the eyelid, eyebrow, and eyelash (see Moline, 1995).

➤ **Art Extension**

The above learning experience can be extended into a creative art project by having students view various representations of the eye in art from different cultures (Egyptian, Haida, East-Indian, Sumerian, Greek, etc.) Have students use a variety of media to experiment with eye shapes through pattern and repetition.



## TEACHER NOTES

Hint: When having students cover their eyes for different activities, use an old, inexpensive pair of children's sunglasses. Cover the lenses with opaque tape (book binding, masking, duct, etc.). These work well and are easy to use.

The **eyelashes** protect the eye from dust and dirt. The **eyebrow** keeps perspiration from entering the eye. The **eyelid** protects the eye from light, retains moisture, and keeps objects out of the eye.

## SUGGESTIONS FOR ASSESSMENT

**Checklist of Observation Skills: Using the Senses**

1. The student used the following senses for sorting:
  - sight
  - hearing
  - touch
  - smell
2. The student used the following characteristics for sorting:
  - colour
  - texture
  - shape
  - size
  - odour
  - other
3. The student was able to:
  - sort the objects/materials at each centre
  - explain the reason/rule for the sorting
  - identify the sense used for the sorting
4. The student
  - meets the learning outcome
  - requires additional practice/instruction

**Paper and Pencil Task: Parts of the Eye**

Tell students: Draw a picture of your eye. Label its parts. Use words from the word list.

Look for

- eyebrow
- eyelash
- eyelid
- other

PRESCRIBED LEARNING OUTCOMES
<i>Students will...</i>
<p><b>1-2-05</b> Recognize that their fingertips are especially sensitive to touch. GLO: D1</p>
<p><b>1-0-4a.</b> Follow simple directions while undertaking explorations. GLO: C2  <b>1-0-5a.</b> Observe using a combination of the senses. GLO: C2  <b>1-0-5e.</b> Record observations using drawings and tally charts. (ELA 4.1.2., 4.2.5; Math SP-II.1.1) GLO: C2, C6</p>
<p><b>1-2-06</b> Identify the external part of the ear, and explore to determine its function. GLO: D1</p>
<p><b>1-0-1a.</b> Ask questions that lead to explorations of living things, objects, and events in the immediate environment. (ELA 3.1.2, 3.1.3) GLO: A1, C2, C5  <b>1-0-4a.</b> Follow simple directions while undertaking explorations. GLO: C2  <b>1-0-7a.</b> Propose an answer to the initial question based on their observations. GLO: A1, A2, C2</p>

**SUGGESTIONS FOR INSTRUCTION**

➤ **Investigating Sensitivity to Touch**

Plan and conduct an investigation with the class to determine qualitatively which area of the body is most sensitive to touch. Use a variety of materials such as sandpaper, fake fur, steel wool, wood, fabric, or metal. Have students, in turn, touch each item with different parts of their bodies and rank the body parts according to sensitivity to touch.

In order to obtain accurate results, have students touch the object only with the listed body part.

➤ **Braille**

Contact the Canadian National Institute for the Blind to obtain Braille books or cards. Teach students three letters and have them find the letters in their Braille book or on their card. Use the following question for discussion: Why are fingertips so important to people who are blind?

➤ **Ear Investigation**

Pose the following question to the students, or refer to this question on the class list if it has already been proposed:

How does the outer part of the ear (what you can see) help you to hear? Use an investigation such as the following to answer this question.

**Testing Ear Shape**

Play music. Have students cup their hand in front of their ear and listen to the sound. Then have them cup their hand behind their ear. Have students make a large ear shape out of paper. Use the paper ear to listen to the music.

**Questions for Discussion**

Ask students the following questions:

- What happened to the sound when you cupped your hand in front of your ear? behind your ear?
- Why do you think our ears are cup-shaped?
- Does the size of the outer ear affect the clarity of sound?

Extension: Look at the ear size and shape of various animals and discuss how these characteristics may aid hearing.

## TEACHER NOTES

Have students use Blackline Master 1: Scientific Inquiry Recording Sheet: Grades 1 and 2.

The outer or external part of the ear helps funnel sound to the inner parts (auditory canal, middle, and inner ear) where sound is eventually changed to nerve impulses. These impulses send a message to the brain. The brain interprets the information.

## SUGGESTIONS FOR ASSESSMENT

**Interview: Outcomes 1-2-02 to 1-2-06 The Senses, Part 1**

Before the interview gather the following materials: pictures of the eye, ear, and nose; a picture that lends itself to a description using the senses such as a busy street, playground, zoo, etc.; and a box with an unknown object in it (select an object that students can identify using the senses such as a cinnamon stick or a piece of cedar).

- Can you name the five senses and tell me where they are found?
 

<input type="checkbox"/> sight and appropriate body part	<input type="checkbox"/> touch and appropriate body part
<input type="checkbox"/> taste and appropriate body part	<input type="checkbox"/> hearing and appropriate body part
<input type="checkbox"/> smell and appropriate body part	
- Look at this picture. Tell me about the picture using your five senses.
 

<input type="checkbox"/> describe sights	<input type="checkbox"/> describe textures
<input type="checkbox"/> describe tastes	<input type="checkbox"/> describe odours
<input type="checkbox"/> describe sounds	
- Look at the picture of the eye. Can you show me the parts that help protect the eye?
 

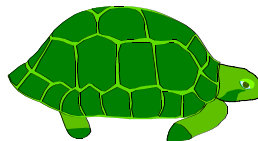
<input type="checkbox"/> eyebrow	<input type="checkbox"/> eyelid
<input type="checkbox"/> eyelash	<input type="checkbox"/> other

**Part 2**

- Look at the picture of the ear. How does the outer part of the ear help you to hear?

The student

- indicates that it catches or directs the sound



Look at the pictures of the two animals. Which animal do you think can hear better? Why?

The student

- chooses the rabbit
- discusses ear size and shape — the larger the ears, the better the hearing

**PRESCRIBED LEARNING OUTCOMES**

**SUGGESTIONS FOR INSTRUCTION**

*Students will...*

**1-2-07** Use smell to identify familiar substances, following safe procedures.

*Examples: vinegar; cinnamon, lemon, shampoo...*

GLO: C1, C2, D3

**1-2-08** Identify parts of the nose and describe their functions.

Include: nostril, cartilage, hairs.

GLO: D1

**1-0-2b.** Recognize when information answers the questions asked. (ELA 3.2.3, 3.2.5) GLO: C6, C8

**1-0-5e.** Record observations using drawings and tally charts. (ELA 4.1.2., 4.2.5; Math SP-II.1.1) GLO: C2, C6

**1-0-8a.** Recognize that learning can come from careful observations and investigations. (ELA 3.3.4) GLO: A1, A2, C2

➤ **Identifying Odours**

Using empty film canisters, prepare samples of a variety of substances for students to identify through their sense of smell. Make holes in the lid of each canister, place substances inside, and number each one. Instruct students to identify each substance according to its odour. After all students have had an opportunity to identify the substances, discuss and chart the findings. Resolve differences by making additional observations.

➤ **Know the Nose**

Have students listen to, read, or view informational text that identifies parts of the nose and describes their functions. Discuss and chart the information.

**Part**

nostril

nose hairs

cartilage

**Purpose**

takes in air

trap dust and dirt

gives the nose shape

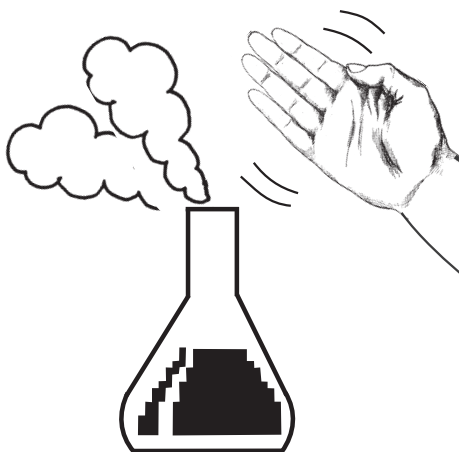


**TEACHER NOTES**

**SUGGESTIONS FOR ASSESSMENT**

**Nostrils** allow air into and out of the body. They also detect smell. **Cartilage** is a flexible type of bone that gives the nose its shape. **Nose hairs** filter dust that enters the nose.

**Caution:** Teach students how to use their hands to waft odours toward their noses instead of smelling them with their nose in direct proximity to the substance. While smelling something directly may only be unpleasant at this level, it can be harmful when dealing with chemicals at higher grades. Students should learn the proper procedure early.



**Performance Assessment: Identifying Odours**

For this assessment provide students with four translucent film canisters. Put the following liquids into the canisters: vinegar, peppermint water, orange juice, and syrup. Label the canisters 1, 2, 3, and 4.

**Student Directions:** Your teacher filled these canisters with different liquids. He/she knows that one has vinegar, one has orange juice, one has syrup, and one has peppermint water. Help your teacher figure out which is which.

- Without touching the canisters, predict which liquid is in each canister.

Canister 1 \_\_\_\_\_

Canister 2 \_\_\_\_\_

Canister 3 \_\_\_\_\_

Canister 4 \_\_\_\_\_

- Now, use your senses to find out about the liquids.

Complete the sentences.

Canister 1 is \_\_\_\_\_ because \_\_\_\_\_.

Canister 2 is \_\_\_\_\_ because \_\_\_\_\_.

Canister 3 is \_\_\_\_\_ because \_\_\_\_\_.

Canister 4 is \_\_\_\_\_ because \_\_\_\_\_.

- What was the best sense to use to tell the liquids apart? Why?

**Scoring Rubric**

Scale	Task Performance
4	followed directions independently made predictions identified the liquids using senses, explanation clear
3	followed directions with limited assistance made predictions identified the liquids using senses, explanation clear
2	followed directions with limited assistance made predictions identified the liquids using senses, explanation unclear
1	required direct assistance made predictions identified liquids, explanation missing

**PRESCRIBED LEARNING OUTCOMES**

**SUGGESTIONS FOR INSTRUCTION**

*Students will...*

**1-2-09** Identify parts of the body that are involved directly and indirectly in tasting.  
 Include: the tongue is involved directly, the nose is involved indirectly.  
 GLO: D1

**1-0-7d.** Connect new experiences and information with prior knowledge. (ELA 1.2.1) GLO: A2  
**1-0-8a.** Recognize that learning can come from careful observations and investigations. (ELA 3.3.4) GLO: A1, A2, C2

**1-2-10** Identify objects and procedures that protect the body and preserve each of the senses in explorations and in daily life.  
*Examples: sunglasses and safety goggles for eyes, gloves and tongs for hands, plugs for ears, washing hands regularly to avoid getting a cold or pinkeye...*  
 GLO: B3, C1

**1-0-2a.** Access information using a variety of sources. *Examples: picture and concept books, people, excursions, camps, CD-ROMs...* (ELA 3.2.2, Math SP-II.1.1, TFS 2.1.1) GLO: C6  
**1-0-4h.** Follow given safety procedures and rules. GLO: C1  
**1-0-4i.** Recognize safety symbols in their surroundings. GLO: C1

➤ **Tasty Words**  
 With students, brainstorm and list words to describe taste. Include sweet, sour, salty, hot (spicy), and bitter. Add these words to the class word list.

➤ **Investigating Taste and Smell**  
 Provide two small sections of apples for each student. Have each student eat one section and describe the taste. Have each student then smell a piece of onion, cover his or her nose, and eat the second piece of apple. Use the following questions for discussion:

- Was there a difference in the taste of the two apple pieces?
- Why did the second apple piece taste different from the first?
- What body parts are involved in tasting?

➤ **Science Journals**  
 Use the following prompt to focus students’ science journal entries.

1. Two interesting facts I learned about my sense of taste are \_\_\_\_\_.
2. One question I have is \_\_\_\_\_.

➤ **Safety Picture Splash**  
 Show students a page filled with pictures of a variety of objects used to protect the senses. Have students work in small groups to link objects together. Use a Sharing Circle for students to discuss reasons for the links they made. (See *ELA, Strategies*, p 106; and *Success For All Learners*, p. 29.)

➤ **Interviews: Protecting the Senses**  
 With the students, develop interview questions they can ask parents, relatives, or neighbours to find out how people protect their senses when they are at work and at play. Have students share their findings. Develop a class list of protective devices and how they protect the senses.

**TEACHER NOTES**

**SUGGESTIONS FOR ASSESSMENT**

Science catalogues are good sources for pictures of safety equipment.

PRESCRIBED LEARNING OUTCOMES	SUGGESTIONS FOR INSTRUCTION
<p><i>Students will...</i></p>	
<p><b>1-2-11</b> Explore to determine ways that the appearance, texture, sound, smell, and taste of objects can be altered.</p> <p><i>Examples: sanding, cooking, painting, tuning instruments, shaping clay...</i></p> <p>GLO: D3, E3</p>	<p>➤ <b>Safety Posters: Be Sensible About Your Senses</b></p> <p>Have students design and make safety posters to encourage others to protect their senses. Each poster should feature one safety device.</p> <p>➤ <b>Changes</b></p> <p>Undertake a variety of activities to facilitate students’ explorations of different ways that the appearance, texture, sound, smell, and taste of objects can be altered. Consider the activities below and discuss the changes with students:</p> <ul style="list-style-type: none"> <li>• making popcorn</li> <li>• painting a piece of wood</li> <li>• modelling and texturing clay</li> <li>• making dried apple-head faces or dolls</li> <li>• drying meat</li> </ul> <p>➤ <b>Math Connection</b></p> <p>Have students measure, compare, and explain their observations before and after cooking activities. For example, how much did the popcorn weigh before being popped? How much more room did it need (volume)? What was the height of the highest pop?</p>
<p><b>1-0-5b.</b> Use, with guidance, appropriate materials and tools to measure and construct.</p> <p><i>Examples: use paper clips to measure the width of a desk...</i> (Math SS-IV.1.1) GLO: C2, C3, C5</p> <p><b>1-0-5c.</b> Estimate and measure the passage of time using non-standard units, and compare the duration of activities. (Math SS-VI.1.1) GLO: C2, C3, C5</p> <p><b>1-0-9c.</b> Express enjoyment of science-related classroom activities. GLO: C5</p>	
<p><b>1-2-12</b> Describe ways in which the senses can both protect and mislead.</p> <p><i>Examples: seeing enables us to avoid obstacles, smell of smoke tells us something is burning, smell is not reliable when we have a cold, skin may not immediately tell us when we are getting sunburned or frostbitten...</i></p> <p>GLO: B3, C1, D1</p>	<p>➤ <b>Safety Scenarios</b></p> <p>Provide picture scenarios illustrating how our senses can alert us to danger. Include both sense-based observations and warning devices that utilize the senses. Have students work in small groups to discuss one scenario and present it to the class. After each presentation have students discuss how information from our senses can help to protect us and how particular safety devices work with our senses to keep us safe. Examples of scenarios include:</p> <ul style="list-style-type: none"> <li>• sirens, fire alarms, and smoke detector buzzers</li> <li>• flashing lights</li> <li>• smell of burning food</li> <li>• smell of spoiled food</li> </ul>
<p><b>1-0-4i.</b> Recognize safety symbols in their surroundings. GLO: C1</p>	
	<p>➤ <b>Role Play: Misleading Senses</b></p> <p>Provide simple situations in which human senses may provide misleading or inadequate information resulting in harmful or dangerous experiences. Environmental hazards, such as sunburn or frostbite, are good examples. Have students work in groups to role-play and rehearse each scenario, including the preventative measures that should be taken.</p>

TEACHER NOTES

SUGGESTIONS FOR ASSESSMENT

--

**Paper and Pencil Task: Safety**

Tell students: Choose one of the senses. Show four ways that you can protect the sense you have chosen. Use pictures and words.

My sense is _____	
Four ways to protect your _____ are:	

**PRESCRIBED LEARNING OUTCOMES**

**SUGGESTIONS FOR INSTRUCTION**

*Students will...*

**1-2-13** Recognize and appreciate that humans have different capabilities for sensing the environment and can use aids to assist them.

*Examples: glasses and guide dogs are used to assist people with visual impairment...*

GLO: B1, C5, E1

**1-2-14** Recognize and appreciate that humans may have different interpretations of similar sensory observations.

*Examples: one student likes the taste of broccoli, another does not...*

GLO: C5, E1

**1-0-1a.** Ask questions that lead to explorations of living things, objects, and events in the immediate environment. (ELA 3.1.2, 3.1.3)

GLO: A1, C2, C5

**1-0-9a.** Willingly consider other people's views.

GLO: C5, C7

➤ **Investigation**

Have students develop questions about how the visually or hearing impaired use aids to assist them in daily life. The class can plan group investigations to find the answers to their questions. The findings of each group can be presented to the class. Some possible questions include the following:

- How does a person with a hearing impairment know when to get up in the morning (can't hear an alarm clock), or know when a fire alarm is going off?
- How does a person with a visual impairment know when it is safe to cross a busy street?

➤ **Personal Favourites**

Have students use words and pictures to illustrate their two favourite items or experiences for each sense, e.g., smell: cinnamon and pine trees; taste: pizza and chocolate cake; and sight: sunsets, forests, etc. In small groups, have students share their lists of favourites. Model recognition and appreciation of differences among students. Lead students in a discussion using the following types of questions:

- Why do people have different likes and dislikes when tasting foods?
- Why do people have different likes and dislikes when listening to music?
- Why do people have different likes and dislikes when touching different textures?
- Why do people have different likes and dislikes when smelling different aromas?
- Why do people have different likes and dislikes when seeing different sights?

➤ **Math Connection**

Have students develop survey questions, collect their data, and make graphs of their favourite things.

TEACHER NOTES

SUGGESTIONS FOR ASSESSMENT

**Self-Assessment:**

Note: Teachers may choose to read these to students.

Answer Yes or No to questions 1–6.

1. Some people use aids to help them see or hear.
2. It is okay to make fun of people.
3. You should help others.
4. Everyone likes the same types of food.
5. You should make a person eat something he or she doesn't like.
6. Everyone likes the same smells.
7. What would you tell someone who is teasing a person with glasses? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_.

**PRESCRIBED LEARNING OUTCOMES**

**SUGGESTIONS FOR INSTRUCTION**

*Students will...*

**1-2-15** Give examples of how the senses are important in various activities, hobbies, and jobs.

*Examples: smell is important to a chef, sight is important to a baseball player...*

GLO: B4

**1-0-4f.** Work in cooperative partnerships and groups. (ELA 5.2.1) GLO: C7

**1-0-9b.** Willingly observe, question, and explore. GLO: C5

➤ **Hobbies and Jobs**

Have students work with partners to brainstorm and list hobbies and jobs in which the senses play important roles. Students should record their information on a chart and identify the senses that are most important for the activities or occupations involved. Encourage students to think about jobs that their parents have, hobbies that they have themselves, and common occupations in their community.

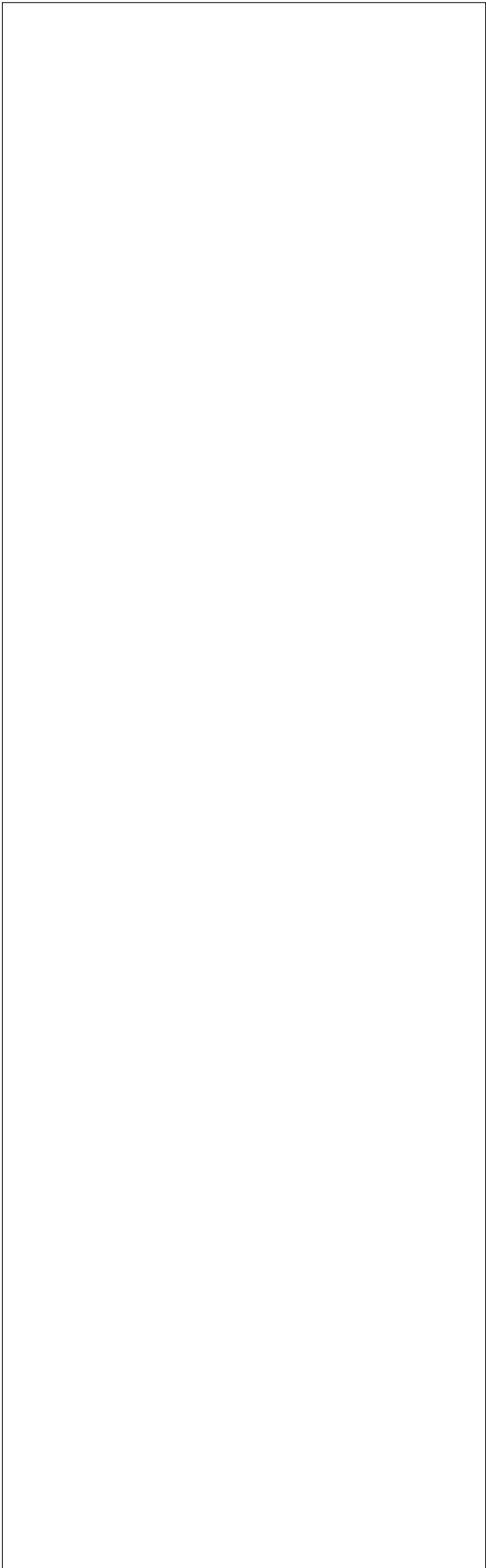
<u>Job</u>	<u>Activities</u>	<u>Senses Used</u>
chef	cooking and presenting food	smell, sight, touch

Link: *Native Studies: Early Years (K-4)*, p. 39, includes a learning experience addressing the importance of the senses in helping hunters and trappers ascertain their location and direction.



**TEACHER NOTES**

**SUGGESTIONS FOR ASSESSMENT**

A large, empty rectangular box with a thin black border, intended for the teacher to write notes. It occupies the left half of the page below the 'TEACHER NOTES' header.

NOTES