

# **APPENDIX A**

## **Student Activities**

## Activity 1: Plants or Not Plants?

### Outcomes

*Students will be expected to*

Develop vocabulary and use language to bring meaning to what is seen and thought. Include:

- (i) plant
- (ii) seed
- (iii) leaf/stem/roots/flower (100-1)

Observe consistency and pattern in plants and use language to describe these patterns. Include:

- (i) biggest-smallest (size)
- (ii) number
- (iii) colour
- (iv) texture (100-3)

Follow a simple procedure where instructions are given one step at a time. (201-1)

### Assessment

When the activity is completed in Kidspiration, the teacher might review students' ideas together while looking at one student's version of the activity. Students can also print their images, but this becomes time-consuming.

### Questions

Which are the plants?

Which are not the plants?

How can you get evidence to support your predictions?

### Materials

Kidspiration software installed on a computer, copy of the file:

"plntsnot.kid" This file can be downloaded from the URL

<[http://www.ed.gov.nl.ca/edu/science\\_ref/main.htm](http://www.ed.gov.nl.ca/edu/science_ref/main.htm)>, as follows:

Click on the name: "Kindergarten" then "Supplemental Resources", and find the link for "Plants or Not Plants."

### Procedure

Students are provided with an activity sheet on the screen, which provides them with two grouping areas and a variety of images of plants and animals. The number of images is too great for all pictures to fit inside the shape for that category, but they may be asked to put two or four or five images into each space.

When a student has had a chance to complete the requirements of the activity, he/she should choose "No" when asked if he/she wants to save the work. This will keep the file unchanged for the next student.

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## Activity 2: Let's Look at Seeds

### Outcomes

Develop vocabulary and use language to bring meaning to what is seen and thought. Include:

- (i) plant
- (ii) seed
- (iii) leaf/stem/roots/flower (100-1)

Manipulate materials purposefully (201-2)

Communicate questions, ideas, and intentions while conducting their explorations. (203-1)

### Assessment

Observe students' contributions to the senses charts.

Are students able to identify a variety of attributes?

### Questions

What senses did you use to make observations about the seeds?

What were the ways you grouped your collections?

### Materials

Collection of seeds from trees, plants, flowers, fruits, and vegetables (e.g., acorns, pine cones, elm seeds, corn, sunflower seeds) paper plates.

### Procedure

Divide the students into small groups.

Give each group a plate with a variety of seeds to explore with their senses. As a whole class, create senses charts with vocabulary for how the seeds feel, smell, look, taste (when appropriate), and sound.

## Activity 3: Log Hotel

### Outcomes

*Students will be expected to*

Describe the different ways that animals move to meet their needs.

Include:

- (i) running
- (ii) hopping
- (iii) swimming
- (iv) flying (100-7)

### Assessment

Observe children as they observe the log. Are they actually actively engaging in observations or are they recording the observations of others?

Do the children use vocabulary from classroom tools such as the senses charts, word walls, brainstorm charts, illustrations, etc.?

Observe how the children present their findings—does it accurately represent what they observed on, around, and in the rotting log?

Note how students record their observations. Are they able to select from a variety of media to represent their observations of the items in the collection?

### Questions

What did you observe in the log?

How does a log become a home for living things?

How do living things depend on the log to survive? What does the log provide that helps the living things survive?

### Materials

Paper

Pencils

Clipboards

Colouring tools

Outdoor location with two or three rotting logs to observe

Clay, toothpicks, cardboard, and other materials that could be used to make models

## Procedure

Brainstorm with the children prior to beginning the activity so that a starting point is determined. Do the children understand the word “rotting”? What purposes could a rotting log have? What might you expect to find in or around a rotten log? Tell your reasons. What might you not find in a rotten log? Tell your reasons. Move out into the area with the logs. Divide the children into groups so that all have an opportunity to closely observe the log and its contents. What do the children observe? Are the items living or non-living? What can they see living on it, in it, and under the log?

From a list of choices provided by the teacher, the children select a method for recording their observations. These choices reflect the various learning styles of the class and the many ways to “show what you know” (for example, through art, drama, models, journals, oral communication).

**A wrap-up:** Did the observations match the predictions? Perhaps suggest some reasons why they did/didn't. Additional questions for discussion could be as follows:

- What makes you think the log is dying? Rotting?
- Would living things tend to live in the log or eat the log?
- What do you think is inside the log?
- What does the log look like?
- What does the log feel like?
- Did you see any living things living under the bark?
- What is a hotel?
- What did you find inside the log?

## Activity 4: Insect Party

### Outcomes

*Students will be expected to*

Describe the different ways that animals move to meet their needs.

Include:

- (i) running
- (ii) hopping
- (iii) swimming
- (iv) flying (100-7)

### Assessment

Students show appreciation of differences between body parts of humans and insects.

Students show an interest in observing shape and function of the body parts of insects and other bugs.

### Questions

What do you think it would be like being an insect and having to find food?

What differences did you notice between how you eat and how an insect does?

### Materials

Chopsticks

Straws

Craft sticks

Teaspoons (plastic)

Styrofoam plates

Pencils

Paper towel

Each plate should have a variety of the following food:

A variety of cereal of different shapes and colours: small pieces of celery, lettuce, slices of carrots, and (for fun and as a treat) tiny pieces of colourful gummy candy, colourful (red) fruit juice.



**Note: Be aware of food allergies.**

**Optional:** Each student may like to wear a simple insect mask (made in school or at home) or wear a simple insect costume.

## Procedure

Begin the activity by discussing with students how insects pick up and carry things as well as eat and drink. Then introduce the activity.

What do you think insects do all day every day?

How does an insect pick up things, carry things, eat, and drink?

What do you do when you pick up things, carry things, eat, or drink?

At our insect party we'll pretend to be insects.

You have to eat and drink using chopsticks, popsicle sticks, straws, spoons or your mouth.

On a worksheet you check off if it was easy, or hard to do.

Students buzz around the room while the plates, chopsticks, straw, and popsicle sticks and worksheets and food are being distributed. At regular intervals the children have to buzz around. When all food is finished pour some fruit juice on the plates. Close the activity by discussing students' observations.

Is it possible to pick things up using different methods?

Does it matter where you hold the objects (top, middle, bottom)?

Is it hard for insects to pick up the different types of food?

Are there any other things that would be difficult to pick up with these utensils?

Do insects give up when they cannot do something?

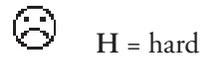
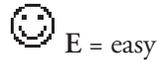
Do all insects eat the same food? Why do you think this is so?

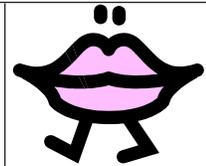
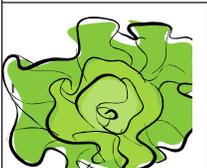
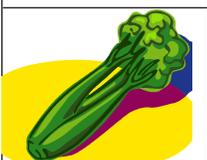
Discuss the results of their recording charts.

**Teacher Note:** *Volunteers would be helpful for this activity.*

# Insect Party Activity Sheet

Fill in the following chart.



Food					
					
					
					
					
					
					

## Activity 5: Developing a Touch Vocabulary

### Outcomes

*Students will be expected to*

Develop vocabulary and use language to bring meaning to what is seen and thought. Include:

- (i) set
- (ii) properties (smooth, rough, colour and shape)
- (iii) sort (100-1)

### Assessment

Students demonstrate and extend the vocabulary they use to make observations. Note the types of words and phrases the students are using to describe different textures.

### Questions

Why do we have the sense of touch?

How does this sense help to protect us?

### Materials

Sandpaper

Paper

Fabric

Foam

Vegetable oil

Scissors

Damp cloth

Cotton ball

Stone

Pine cone

Additional materials as suggested in procedures

### Procedure

Whole-class introductory experience: Develop a touch chart and add words and phrases as students develop them. Some touch words that may be suggested could include flat, wet, moist, damp, dry, crisp, firm, flabby, gummy, sticky, woolly, spongy, velvety, furry, silky, soft, cold, cool, chilly, hot, warm, sleek, slippery, slimy, greasy, oily, rough, bumpy, jagged, pointed, and sharp. Provide experiences with a wide variety of objects and materials to ensure that students have the opportunity to use the kind of vocabulary suggested here. Take the students outside to expand their experiences with touch. Discuss safety issues in doing this.

**Teacher Note:** *You may wish to use a digital camera to take pictures of the objects used and place them by the vocabulary words developed.*

## Activity 6: Where Did the Colour Go?

### Outcomes

*Students will be expected to*

Identify common objects and events, using terminology and language that others understand. Include:

- (i) colour
- (ii) texture
- (iii) size
- (iv) shape (203-2)

Use personal observations when asked to describe characteristics of materials and objects studied. (202-1)

- (vi) sort (100-1)

Select and use materials to carry out their own explorations. (200-4)

### Assessment

Students are able to describe what they observed when viewing objects using different transparent colours.

Students are able to describe their observations.

Students are able to select a variety of materials to carry out their observations.

### Questions

What words did the students use to describe what they observed?

What changes did they notice when they looked at objects with their colour viewers?

### Materials

Food colouring

Rectangular or square transparent plastic containers with lids

Water

Optional: colour filters

Coloured cellophane name-tag holders (without pins)

**Note:** *There are a variety of materials to choose from.*

### Procedure

Place a few drops of food colouring in the plastic container. Add water and put the lid on the container. Ask students to look through the sides of the container. Invite them to move about the classroom or outside using their new looking glasses. Challenge them to look at a variety of different coloured objects. Ask them to draw what they observed with and without the looking glasses and to describe what happened. What caused some objects to seem to disappear? How could this affect which clothes to wear at night so that automobile drivers will see you? Animals often use camouflage to hide from their enemies. Can you think of animals that do this? Discuss these questions with your students.

## Activity 7: Our World in Colour

### Outcomes

*Students will be expected to*

Identify common objects and events, using terminology and language that others understand. Include:

- (i) colour
- (ii) texture
- (iii) size
- (iv) shape (203-2)

Develop vocabulary and use language to bring meaning to what is seen and thought. Include:

- (i) set
- (ii) properties (smooth, rough, colour and shape)
- (iii) sort (100-1)

### Assessment

Observe student participation in this activity. Does the student use drawing, painting, and beginning writing to record some of the observations made through sight?

### Questions

What would the world be like without colour?

Can you give an example of different shades of blue (or any other colour) in our world?

### Materials

Colour chips from a paint store/hardware store/building supply store or crayons (boxes of 24/64)

### Procedure

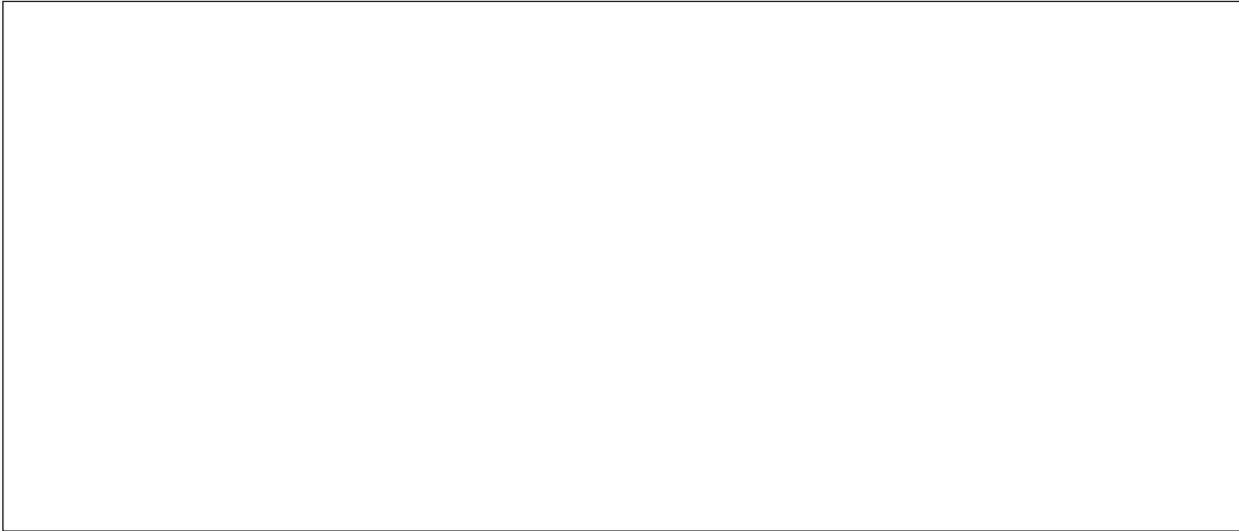
Provide each student or pair of students with several different colour chips or crayons. Ask them to walk around the classroom or other designated area to find something that matches each colour chip or crayon. Ask them to record their findings on the student activity sheet or in their science journals. Discuss the term “shading” and the many shades of colour in our world.

## **Our World in Colour Activity Sheet**

Draw and colour the item that matched your colours. Use a different box for each colour.

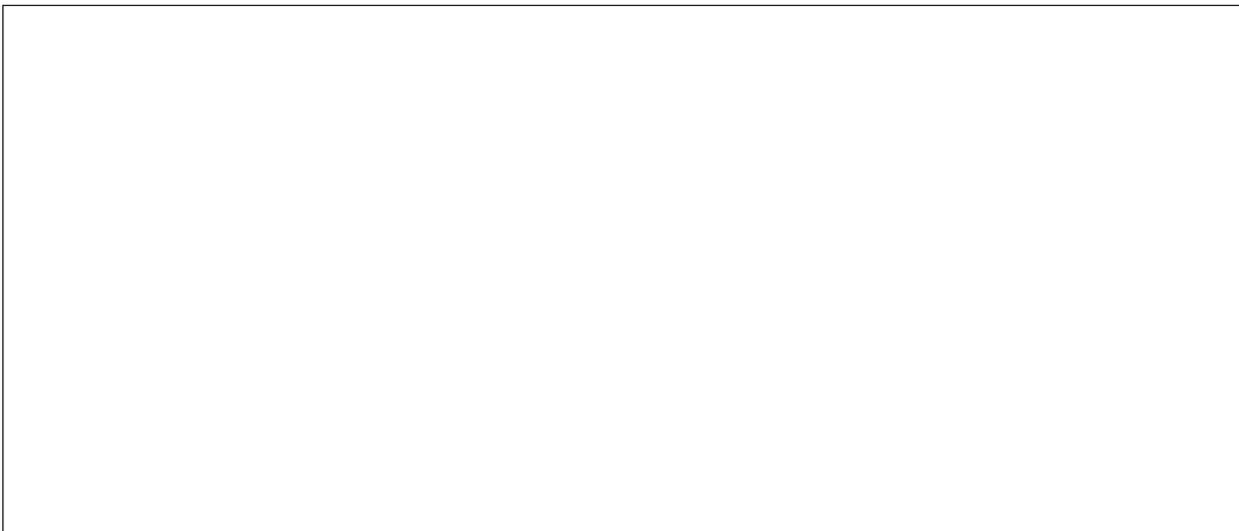
**Item:**

**Colour of Picture:**



**Item:**

**Colour of Picture:**



## Activity 8: Picture the Texture

### Outcomes

*Students will be expected to*

Identify common objects and events, using terminology and language that others understand. Include:

- (i) colour
- (ii) texture
- (iii) size
- (iv) shape (203-2)

Develop vocabulary and use language to bring meaning to what is seen and thought. Include:

- (i) set
- (ii) properties (smooth, rough, colour and shape)
- (iii) sort (100-1)

### Assessment

Note the students' rubbings and how they use vocabulary to describe them.

### Question

How might a scientist or the police use a form of texture rubbings?

### Materials

Crayons  
Bond paper  
Objects from the texture collection

### Procedure

Ask students to choose an item(s) they wish to do texture rubbings on. Take students outside to make rubbings of tree bark, licence plates, leaves, etc. Explain the process for doing it. Ask them to record the name of the object and its texture on their rubbing.

Teachers may wish to use the student activity sheet for this activity or have students put their work in a class or individual booklet.

## Picture the Texture Activity Sheet

<b>Name of object:</b>
<b>Texture:</b>

<b>Name of object:</b>
<b>Texture:</b>

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## Activity 9: Floating and Sinking

### Outcomes

*Students will be expected to*

Use personal observations when asked to describe characteristics of water studied. (202-1)

Communicate ideas, and predictions while conducting their water investigations. (203-1)

- describe the effect of temperature change on the amount of evaporation
- describe the effect of temperature change on the amount of melting/freezing
- students will place objects in groups according to whether they will float or sink
- investigate the properties of floating and sinking by exploration

### Assessment

Contributions to the class chart on floaters and sinkers can be used as indications of whether students are beginning to understand the concept of floating and sinking.

### Questions

Using the sorting rings, how do the given materials sort as “floaters” and “not floaters”?

What words describe how the objects float?

What ways can you use to show how water moves?

What ways can you show how water makes sound?

### Materials

Collection of articles that float and sink

Materials (styrofoam, plasticine, plastics, wood, milk cartons) from which to shape boats

Sorting rings

### Procedure

Students will ask questions and then test their questions. Teachers should look for indications that concepts of floating and sinking are being formed.

A chart of student predictions about what will sink and what will float can be made before students begin experimenting. After experiencing floating and sinking articles, students can contribute to a class chart of their observations.

**Extension**

Students could create dance routines to illustrate any of the following concepts:

- water flowing in small streams, larger streams, rivers of various sizes
- waves landing on a beach
- stormy/calm water

Students could use musical instruments (ones they create or commercial ones) to create the sounds water might make as it flows, drips, crashes, rains, etc.

Sturdy glasses filled at different heights can be used to create musical sounds. Students could be introduced to other musicians who produce this type of music. Searching the internet using the keywords “water with music” can produce some examples.

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## Activity 10: I Can Float or Not

### Outcomes

*Students will be expected to*

Use personal observations when asked to describe characteristics of water studied. (202-1)

Communicate ideas, and predictions while conducting their water investigations. (203-1)

- describe the effect of temperature change on the amount of evaporation
- describe the effect of temperature change on the amount of melting/freezing
- students will place objects in groups according to whether they will float or sink
- investigate the properties of floating and sinking by exploration

### Assessment

Students are able to observe the difference between sinking and floating.

Students are able to decide which type of container holds more cargo than another.

Students are able to record through illustration observations from their experiments.

### Questions

Did the shape of the container make a difference in how much cargo it could hold?

What was the most cargo that a container could hold?

### Materials

Various types of containers that float

Centicubes or other standard materials for cargo

Buckets or containers to hold water

Water

### Procedure

Have students work in groups. Give students buckets with water and a variety of containers that float. Ask them to try the various containers in water to see if they float. Then ask them to add cargo to see which one will hold the most. As the children are doing this activity, discussions should take place around the shape of the container, how heavy it is, how deep it is, how wide it is, and the relationships these have on the amount of cargo they hold.

An extension to this would be for students to add movement to the water to see the impact it has on the floating of the containers and the amount of cargo they can hold. This activity can be related to the “real” world with discussions around objects that float (e.g., boats, canoes, rafts).

## I Can Float or Not Activity Sheet

**Illustration of a container that floats**



**Illustration of a container that sinks**

