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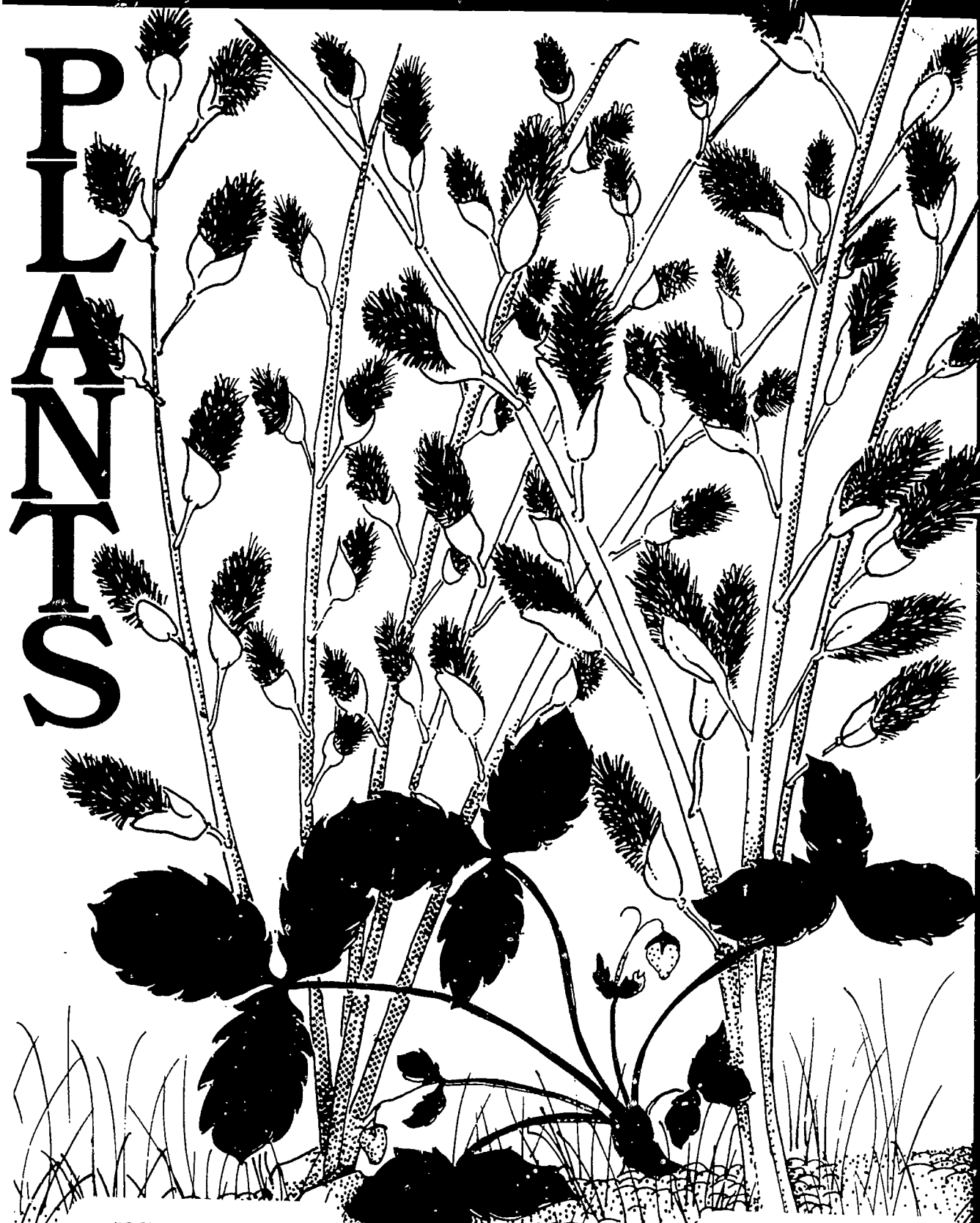
ABSTRACT

One of the basic principles of the Language Development Approach is that students must learn the language necessary to understand, talk, and write about all subject areas in order to succeed in school. This book contains information about teaching primary school science in the Northwest Territories with lessons that emphasize language. The goals of the unit are to (1) develop student language proficiency; (2) provide opportunities for students to use language in many different situations and for many different purposes; (3) develop student listening, speaking, reading, writing, and thinking skills including the science process skills; and (4) expand student knowledge of the science concepts related to plants. Following a section on resources (background information on plants, resources included with this unit--various pictures of plants, related English materials--magazines, lists of children's books about plants, teacher's resources, films, etc., and related native language materials), lesson plans for grades one, two, and three on six topics (plants are living objects, parts of a plant, seeds, how plants grow, types, and how people use plants) are presented. Activity ideas for science/social studies, mathematics, language arts, music/poems/stories, art, physical education/movement, and special activities are suggested. Each lesson plan contains the following segments--exercises or activities: English vocabulary, English sentence patterns, English language concepts, special materials required, concept development/language exposure, language practice, and application. Poems, songs, and stories on this subject conclude the guide. The lessons are appropriate for students whose first language is English as well as for students who are learning English as a second language. (PR/CW)

PLANTS



Plants

A Language Development Unit for Science
Life and the Environment
Grades One, Two and Three

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SCHOOL PROGRAMS
DEPARTMENT OF EDUCATION
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FOREWORD

Parents, educators, and students themselves all recognize the importance of language in the school curriculum. In order to have appropriate language programming, students need to have their experiences, skills, knowledge, and particularly, the language they bring to school identified and used as the basis for the program. Language programs should begin with and build upon these strengths. Where a child is dominant in a language other than English, he should be taught in that language. In many communities in the N.W.T., that means that the language of instruction should be Inuktitut or one of the Dene languages. Students in these communities need to gradually learn English as a second language. In instances where students speak a dialect of English upon school entry, the school's role is to respect and make use of the language the students bring. The school program should also help those students extend their English proficiency by learning the language used in varied communication situations and the language necessary for success with the academic curriculum. The aim of language instruction, where applicable, and where possible, is to produce bilingual students.

Successful bilingual education requires good teaching in both languages. For many years northern educators have wrestled with the difficulties of teaching English with inappropriate commercial materials from the south. Teachers have been requesting assistance with how to most efficiently and effectively teach English as a second language/dialect. The Department of Education has determined that the Language Development Approach is the most suitable way to meet the needs of ESL/D students. The Department has developed these units for teachers to use in their classrooms. The Department therefore expects teachers to implement these units unless they can identify and justify to their Superintendent something more appropriate for their students.

Ed Duggan
Assistant Deputy Minister
School Programs

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Topic A - Plants are Living Objects (1)

1. What are the characteristics of living/ non-living things? (review)
2. How are plants different from animals?

Topic B - Parts of a Plant (1)

1. What are the parts of a plant?
   - roots
   - stems
   - leaves
   - flowers
   - seeds

Topic C - Seeds (2)

1. Where do seeds come from?
2. How do seeds travel?
3. What are the parts of seeds?
4. What seeds do we eat?
5. How do seeds become plants?

The number following each topic heading indicates grade level.

PLANTS

UNIT OVERVIEW

Topic D - How Plants Grow (3)

1. What things do plants need to grow and be healthy?
   - water
   - light
   - soil
   - warmth
   - space
2. Where do plants grow?
3. How do plants adapt to their environment?

Topic E - Types of Plants (3)

1. What plants grow in our community?
   - indoors
   - outdoors
2. What plants grow in the N.W.T.?
3. What plants grow in other parts of the world?

Topic F - We Use Plants (3)

1. How did people in our area use plants long ago?
   - food
   - shelter
   - clothing
   - medicine
   - beauty
   - equipment/materials
2. How do we use plants today?
   - food
   - shelter
   - clothing
   - medicine
   - beauty
   - equipment/materials

HOW TO TEACH THE PLANTS UNIT

How does the topic **Plants** relate to the curriculum?

The Elementary Science Program (1-3 and 4-6, 1985) contains several themes which include concepts related to animals. The following chart shows how the topics outlined on the Unit Overview sheet and the lessons in this unit relate to the concepts suggested in the curriculum guide.

Curriculum Guide	Unit
1.1 Living and Non-living Objects	
1. Objects are living or non-living on the basis of the following characteristics: - need/don't need food and water - grow/don't grow - reproduce/don't reproduce - die/don't die	Topic A - Plants are Living Objects Lesson: What is a Plant? Topic C - Seeds Lesson: All lessons except Seeds We Eat Topic D - How Plants Grow Lesson: Needs of Plants
2.1 Properties of Living Objects	
1. Objects can be classified as living or non-living.	Topic D - How Plants Grow Lesson: Needs of Plants
2. Living things can be classified according to properties.	Topic B - Parts of a Plant Lessons: Parts of a Plant My Plant
3. Plants differ from animals in specific ways relative to how they obtain food, and how they react to stimuli, how they move and how they reproduce.	Topic A - Plants Are Living Objects Lesson: What is a Plant?
4. Plants live in many different habitats within an environment.	Topic D - How Plants Grow Lessons: Plants Live in Different Habitats
7. Plants move in response to stimuli whereas animals have locomotion.	Topic A - Plants are Living Objects Lesson: What is a Plant? Topic D - How Plants Grow Lesson: Needs of Plants

8. Plants require nutrients which they obtain from the water, air and soil. Green plants require light to make food.	Topic D - How Plants Grow Lesson: Needs of Plants
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2. The place of a population is its habitat.	Topic D - How Plants Grow Lesson: Plants Live in Different Habitats
4. The existence and behaviour of living organisms affects the well-being of mankind and/or the overall life of the community and vice versa.	Topic B - Parts of a Plant Lesson: We Eat Plants Topic C - Seeds Lesson: We Eat Seeds Topic E - Types of Plants Lesson: Identification of Local Plants Topic F - We Use Plants Lesson: Traditional Uses of Plants We Use Plants
4.1 Adaptations to the Environment	
2. A structural adaptation may help an organism to survive.	Topic D - How Plants Grow Lesson: Plants Can Adapt to Their Environment
8. Organisms have structural adaptations to their environment.	

LANGUAGE DEVELOPMENT/SCIENCE UNITS

SCIENCE THEME	GRADE/YEAR		
	1	2	3
LIFE AND THE ENVIRONMENT*	- - - - - - - - - LIVING/NON-LIVING THINGS - - - - - - - - -		
	Arctic/Sub-Arctic Land Animals	Birds	Marine Mammals
	- - - - - - - - - - - - - - PLANTS - - - - - - - - - - - - - -		
	- - - - - - - - - - - - - POPULATIONS - - - - - - - - - - - -		
	Polar Bears/Bears	Dinosaurs	Fish
MATTER AND ENERGY	Popcorn	Magnets	Water
	- - - - - - - ENERGY and ENERGY CONSERVATION - - - - - - -		
EARTH, SPACE AND TIME **	- - - - - - - - - - SUN, MOON AND SHADOWS - - - - - - - - -		
	- - - - - - - - - - AIR AND AIR PRESSURE - - - - - - - - - -		

* Other animals are covered under Social Studies topics: Fall, Winter and Spring.

Moose/Caribou	Seals
Beaver/Muskrat	Other fur-bearing animals
Rabbits	

** Weather will be covered in an integrated Science/Social Studies/Math unit.

Using the topic Plants as an organizing theme, this unit thus translates the concepts from the curriculum guide into a set of teaching lessons. As you can see from the chart that outlines all the Science units for grades one through three, other units cover additional aspects of the concepts related to life and the environment.

What part of my program is this unit?

One of the basic principles of the Language Development approach is that students must learn the language necessary to understand, talk and write about all subject areas in order to succeed in school. Most of the material in the "Plants" unit relates primarily to Science; it is therefore part of your Science program. It also contains lessons which emphasize language and concepts from other subject areas. At the beginning of each lesson is a statement which indicates which subject area that lesson emphasizes.

What are the goals of this unit?

The goals of this unit include:

- developing students' language proficiency. The purpose is to increase their storehouse of language items and meanings (vocabulary) and to build their intuitive knowledge of structures (sentence patterns). The intent is not to have students study how the language works or to analyze it.
- providing opportunities for students to use language in many different situations and for many different purposes.
- developing students' listening, speaking, reading, writing, and thinking skills. The thinking skills developed include the scientific process skills described in the Science program guide.
- expanding students' knowledge of the science concepts related to the "Plants" topic.

What grade level is this unit?

Schools throughout the N.W.T. have different ways of organizing students into classes. There are classrooms which consist of:

- one grade

- two grades
- three grades

It is difficult to present a unit which teachers can use easily in all these different situations. The chart which outlines Science topics for grades one to three lists this unit under Grade One. You will find, however, that the unit includes some concepts which older students might handle more easily. You will also find that some of the language activities in the lessons are more suitable for older students. This was done to accommodate the range of abilities which exist even in classes which are supposed to be one grade level and also for those teachers who have multi-grade classrooms and want to teach the same unit to the whole class.

What else do I need to know before I teach this unit?

It is important to understand the Language Development Approach which forms the basis of this unit and the Language Development Framework which forms the structure of each lesson. Please read the explanation of them which follows this section. It introduces the parts of each lesson and explains their purpose. Once you have read the description several times and taught a few lessons you probably will not have to read it for every unit.

How long should I spend on this unit?

The length of time you spend on the lessons for your grade level will depend in part upon what your students already know about the topic and how interested they are in it. As with any unit you teach, however, the success of this unit will depend largely upon your interest in and enthusiasm about the topic. If you make the lessons stimulating to students, they will want to spend more time studying the topic.

In general, it is more important to cover a few concepts well and ensure that students incorporate the language items for those concepts into their language repertoires than to cover everything in the unit. If students begin to lose interest in the topic, wind up what you are doing and start a new unit.

Which lessons do I teach?

This unit includes a number of lessons for each grade level. As the person who knows your students and their needs best, you must decide which lessons at your grade level are appropriate for your students and which are not. You may decide not to teach certain lessons because:

- students are not interested in that aspect of the topic
- students already know the language covered
- the language is too difficult or is not appropriate
- the concepts are too difficult or are not appropriate

The initial assessment activity for your grade level will help you identify which concepts and vocabulary students already know and therefore which lessons you can skip and which are more appropriate for you to teach. You might also want to check the students' cumulative files and/or discuss with other teachers which topics students have already covered. It is important to keep a record of which lessons you teach so that other teachers will not (unknowingly) repeat that material in future years.

In what order should I teach the lessons?

You can teach the lessons in the order in which they appear for your grade level or you can teach them in any order you think is appropriate for your students.

How do I adjust these lessons to meet the particular needs of my students?

The lessons in this unit are SAMPLE lessons. They provide an example of the kind of language and activities which are most appropriate to teach the concepts related to the topic. You may be able to teach them exactly as they appear here. If you feel some aspect of a lesson is not appropriate for your students, however, feel free to adapt it to meet their needs. In addition, you may wish to make up lessons of your own. Some of the most common ways in which you might need to adjust the lessons include changing the:

a) amount or type of vocabulary and/or sentence patterns in a lesson. You may need to make the language simpler or more difficult, depending upon

your students' proficiency. You may want to introduce fewer or more vocabulary items or sentence patterns. Students who are more proficient may need to concentrate more on vocabulary than on sentence patterns.

b) number of listening and speaking activities. Students who speak little or no English, who are not familiar with a topic, or who are having difficulty reading and writing require extensive aural/oral practice. This is particularly true of Grade one students. You may want to delete reading and writing activities altogether for such students and substitute more listening and speaking activities. Students who are having difficulty speaking need more listening practice. Students who are more proficient may not need as much listening and speaking practice.

c) kinds of activities suggested for listening, speaking, reading, and writing. The kinds of activities you can do depend upon your students' age, interests, abilities, needs, and language proficiency. Students with limited proficiency require more controlled Language Practice activities. Students who are more proficient can handle more open ended activities. Your preferred teaching style and the materials and equipment which are available to you also make a difference when you are planning activities. You may want to change some of the activities to make them more suitable for your students. You may have to change others because you do not have the necessary resources.

d) sequence of activities suggested. Each lesson you teach should contain all three phases of the Language Development Framework: Concept Development/Language Exposure, Language Practice, and Application. You may want to alter the sequence in which you do the activities within each phase. This is particularly true if you have older students who are more proficient in reading and writing. They may need to do some of those activities along with the listening and speaking to keep their interest. This is not as likely for primary students.

e) language in which you teach the lesson. If you teach in a classroom in which a native language is the language of instruction and English is taught as a second language you will want to teach some of the lessons in each language. For students who are just learning to speak English, the

language in some of the lessons is too difficult. Teach those lessons in the native language. In such situations, consider teaching the lessons as follows:

NATIVE LANGUAGE (during Science or Social Studies)	ENGLISH (during ESL)
Grade One	
What is a Plant?	My Plant
Parts of a Plant	We Eat Plants
Grade Two	
Discovering Seeds	Seeds We Eat
How Seeds Travel	The Carrot Seed
Parts of a Seed	From the Seed in the Ground
Grade Three	
Needs of Plants	Plants Can Adapt to their Environment
Plants Live in Different Habitats	Identification of Local Plants
Traditional Uses of Local Plants	We Use Plants

If you teach in a classroom in which English is the language of instruction you will teach all of the lessons in English. In such situations, you might teach some lessons during your Science and Social Studies periods and others during your Language Arts periods. If your students are not very proficient in English you may want to omit some lessons altogether. For example:

Science	Social Studies	Language Arts
Grade One		
What is a Plant?		My Plant
Parts of a Plant		
We Eat Plants		

Grade Two

Discovering Seeds	Seeds We Eat	The Carrot Seed
Parts of a Seed		From the Seed in the Ground
How Seeds Travel		

Grade Three

Needs of Plants	Traditional Uses of Plants	Identification of Local Plants
Plants Live In Different Habitats	We Use Plants	
Plants Can Adapt to their Environment		

How do I group students?

If you want to teach one lesson to the whole class, you can do Concept Development activities with everyone in most instances. They have been designed to be done with all students. Then you can group students for Language Practice activities according to their needs and abilities. Students who require listening and speaking practice can work with the teacher, a classroom assistant, a tape recorder, or a language master while other students do related reading and writing activities. In this way you can work with the whole class on the same lesson, but students can perform at their own individual skill levels.

Sometimes you may want to group students and teach each group a different lesson. You could organize these groups in at least two ways:

1) include students with different levels of proficiency in each group. The students who are more proficient serve as models for less proficient students. Teach each group a different lesson;

   e.g., group A: How Seeds Travel
   group B: Seeds We Eat

   and have students share their work with each other.

2) include students with similar proficiency levels in each group. Teach each group a lesson using material at their proficiency level.

What kind of preparation do I need to do before teaching a lesson?

First of all, you should read over the lesson so that you are familiar with it and with the materials you require to teach the lesson.

Secondly, you should make sure you have all your materials ready, even if it means delaying the introduction of a unit or lesson for several days. This includes whatever resources you require for the Concept Development activities, as well as Language Practice materials: vocabulary cards, pictures, sentence strips, etc.

Initially it may seem as if there is a lot of preparation for each lesson, but one lesson may take several days to teach and most lessons use the same materials over and over again in different ways. Students in small groups use many of the materials from Concept Development activities during Language Practice. Many illustrations that you need for the lessons have been included. (You may have to adjust the size of some to make stencils or other resource materials.) If you work in a school where more than one teacher is using the unit, perhaps you can share the preparation work required. Older students often enjoy making things like sentence strips after school as well.

How do I schedule a lesson on my timetable?

Because the lessons emphasize language related to different subject areas, you may want to teach them during various subject periods. This means you may be working on two or three lessons at the same time, each during a different subject.

As you plan, keep in mind that one lesson is not necessarily equivalent to one day's work. You will require several days to cover most lessons. You need this amount of time to make certain students internalize new language items. The chart below shows how you might teach "We Eat Plants" during your Science period over a week.

Key

CD/LE = Concept Development/Language Exposure
LP = Language Practice
APP = Communicative Application
(L) = Listening activity
(S) = Speaking activity
(R) = Reading activity
(W) = Writing activity

"WE EAT PLANTS"

Monday	Tuesday	Wednesday	Thursday	Friday
CD/LE #1	CD/LE #3	CD/LE #3 review	LP #7 (S)	CD/LE #4
#2	LP #2 (L/S)	LP #2 (L/S)	#8 (S/R)	APP.
LP #1	#3 (L)	#4 (L)	#9 (R/W)	
	#5 (L/S)	#6 (S)		

How do I evaluate student progress in this unit?

Initial Assessment

The initial assessment activity for your grade level which you do with the students before any of the lessons will help you determine which concepts and language students already know and which they need to learn.

Ongoing Assessment

It is important to continue assessing students' success in mastering language items, skills and concepts throughout the unit. Each phase of the framework provides opportunities for assessment. During the Concept Development/ Language Exposure activities you can informally assess students' understanding of new concepts through observation. Watch to see which students have difficulty matching new language items with the appropriate objects or meanings. It is important to ensure that all students understand new vocabulary and sentence patterns before starting Language Practice activities.

The nature of the Language Practice activities allows you to assess individual student performance of listening, speaking, reading and writing skills. You can decide which activity to do next based on student performance in the previous activity. Those students who have difficulty with aural/oral activities require extensive practice before doing reading and writing exercises.

The Application activities have been designed to give you an opportunity to determine how much of the language for that lesson students have learned. You can also determine whether students understand the language and concepts.

In addition to observing students during lesson activities, sometime during the course of the unit each student should have a personal conference with you to review work from various lessons. The one-to-one nature of this meeting allows you to determine more effectively:

1. specific weaknesses and strengths in listening, speaking, reading and writing skills,
2. comprehension of and proficiency using new language items,
3. topics and areas within a topic of particular interest to the student.

For the student this meeting serves as an important opportunity to articulate his thoughts and feelings about the topic, share his work with an interested adult, and identify future projects and directions in his work. You can use the conference to take an in-depth look at one piece of independent reading/writing, to teach skill lessons needed to support and encourage student efforts, and to determine appropriate activities for future lessons.

Final Assessment

The culminating activities for your grade level provide further informal assessment opportunities. During these activities students use all the concepts, skills and language they have learned throughout the unit. In addition, you may want to use your own assessment techniques or instruments to determine what students have learned. There are samples of simple evaluation activities on page 118 for Grades one, two and three.

What kind of records should I keep for this unit?

You will want to keep records for yourself of individual students' progress and mastery of skills, concepts and language. These records can be a combination of anecdotal notes based on observations, check lists, formal or informal tests, taped samples of students' speech and reading, and samples of written work.

Students should also be responsible for keeping records of what they have accomplished. They can keep lists (poems they have learned, stories they have read, books they have written), journals, and their own samples of speech, reading, and writing.

You will find more detailed information on evaluation and record keeping in the ESL/ESD Language Development Guidebook.

Finally, it is also important to keep a list for the next teacher of which units you have taught and which concepts have been covered in those units. Hopefully this will prevent those groans of "We did that last year" or even worse "We've done that every year since grade one!"

INTRODUCTION TO THE LANGUAGE DEVELOPMENT APPROACH

This unit consists of lessons which illustrate how to implement the Language Development Approach in the classroom. In order to use these lessons most effectively, it is important to be familiar with and understand:

a) the principles which form the basis of the approach, and
b) the methodological framework which provides the structure for the lessons and applies the principles to teaching practice.

The following is a brief explanation of the principles and the framework. For a more in-depth discussion of both, refer to the appropriate sections in the Language Development ESL/ESD guide.

PRINCIPLES

The Language Development Approach draws on elements of many approaches to teaching second language and English language arts and integrates these to form a broad set of principles regarding language teaching. These principles include:

1. **Students need to have their experiences, skills, knowledge, and particularly, the language they bring to school identified and used as the basis for the school language program.** The program should begin with and build upon these strengths. Where a child is dominant in a language other than English, he should be taught in that language. In many communities in the N.W.T., that means that the language of instruction should be Inuktitut or one of the Dene languages. Such students gradually learn English as a second language. In instances where students speak a dialect of English upon school entry, the school's role is to respect and make use of the language the students bring, and help them learn the English used in other communication situations and that necessary to success with the curriculum. The aim of language instruction, where applicable, and where possible, is to create bilingual students.

2. **Students need to learn to articulate for themselves and to communicate their thoughts, feelings, needs, opinions, and intentions for a variety of purposes in many different communication contexts.** They need to be able to understand, learn from and respond to the communication of others. This involves being able to:

   a) express and inquire about personal needs, desires, feelings
   b) socialize
   c) direct
   *d) express and find out intellectual attitudes
   *e) impart and seek factual information on past and present experiences
   *f) reason logically
   *g) predict
   *h) project, and
   *i) imagine.

   * Success in school depends largely upon the student's abilities to use language in these ways.

3. **ESL/ESD students need to spend more time learning to speak English than they do learning <u>about</u> English.** Until students have an extensive language repertoire, and can use language for a variety of purposes and in many different situations, they are not ready to analyze language. When students have developed an intuitive grasp of how English works, they can begin to study language concepts and how to apply them.

4. **Students need to learn language, but they also use language to learn.** Therefore, language should be taught across the curriculum. Whether students are learning a subject in their first language or in a second language, the development of each student's language skills is essential to achievement in the subject.

5. **Students need to learn language that is meaningful.** It is easiest to accomplish this when teaching language in a context. Therefore, all teachers, in all subject areas, must attend to concept development. Without adequate concept development, the language students learn is either vague or devoid of meaning.

6. **Students need to learn to develop their thinking skills and to engage in more abstract levels of thought as they mature.** They must learn the language that allows them to express their thinking about concepts. Initially, they need to learn concrete vocabulary and functional sentence patterns as they learn to recall, match, sequence, classify, etc., during activities. Eventually they need to learn more abstract terms and more complex sentence patterns as they grow in their ability to think more abstractly: generalizing, analyzing, imagining, predicting, and evaluating.

7. **Students need to participate in language activities that integrate the language strands of listening, speaking, reading, and writing.** When these strands are taught in isolation from each other in the guise of subjects such as spelling, phonics, grammar, reading, etc., student learning becomes fragmented. Students have difficulty understanding the relationships among listening, speaking, reading, and writing and lose the benefit of one or more strands preparing for and/or reinforcing growth in another e.g., discussion and brainstorming which involve listening and speaking prepare students for writing. First and second language programs should therefore integrate listening, speaking, reading, and writing skills. Specific skills taught will vary with the proficiency level of the students. In the initial stages reading and writing activities should use only language students have internalized already through aural/oral work. Strong oral proficiency is a pre-requisite to learning to read.

   a) The successful reader relies on three language cue systems:

      - grapho-phonemic
      - semantic-associational
      - syntactic

      The ability to use the latter two systems is a function of oral language proficiency. The greater the oral proficiency or degree of internalized language of the student in either his first or second language, the more able he is to use the latter two systems.

Reading instruction should not emphasize the use of the grapho-phonemic system to the exclusion of the semantic associational and syntactic systems.

b) The successful writer also relies on three cue systems. He must possess a meaning base on which to draw, a storehouse of vocabulary representing the meaning base (semantic-associational), and an intuitive sense of how the English linguistic system works (syntactic). Mechanical skills (grapho-phonemic) are just the tools which enable students to communicate knowledge more effectively.

8. **Students need to learn "real" language and how to use it in the natural situations in which it is required.** They need opportunities which involve productive interaction with others to learn to use language effectively. They cannot learn language by themselves in isolation from others, or solely through paper and pencil exercises.

Program content, classroom organization, and teaching techniques used to develop concepts and language and skills should:

a) reflect all of the above, and
b) vary according to:

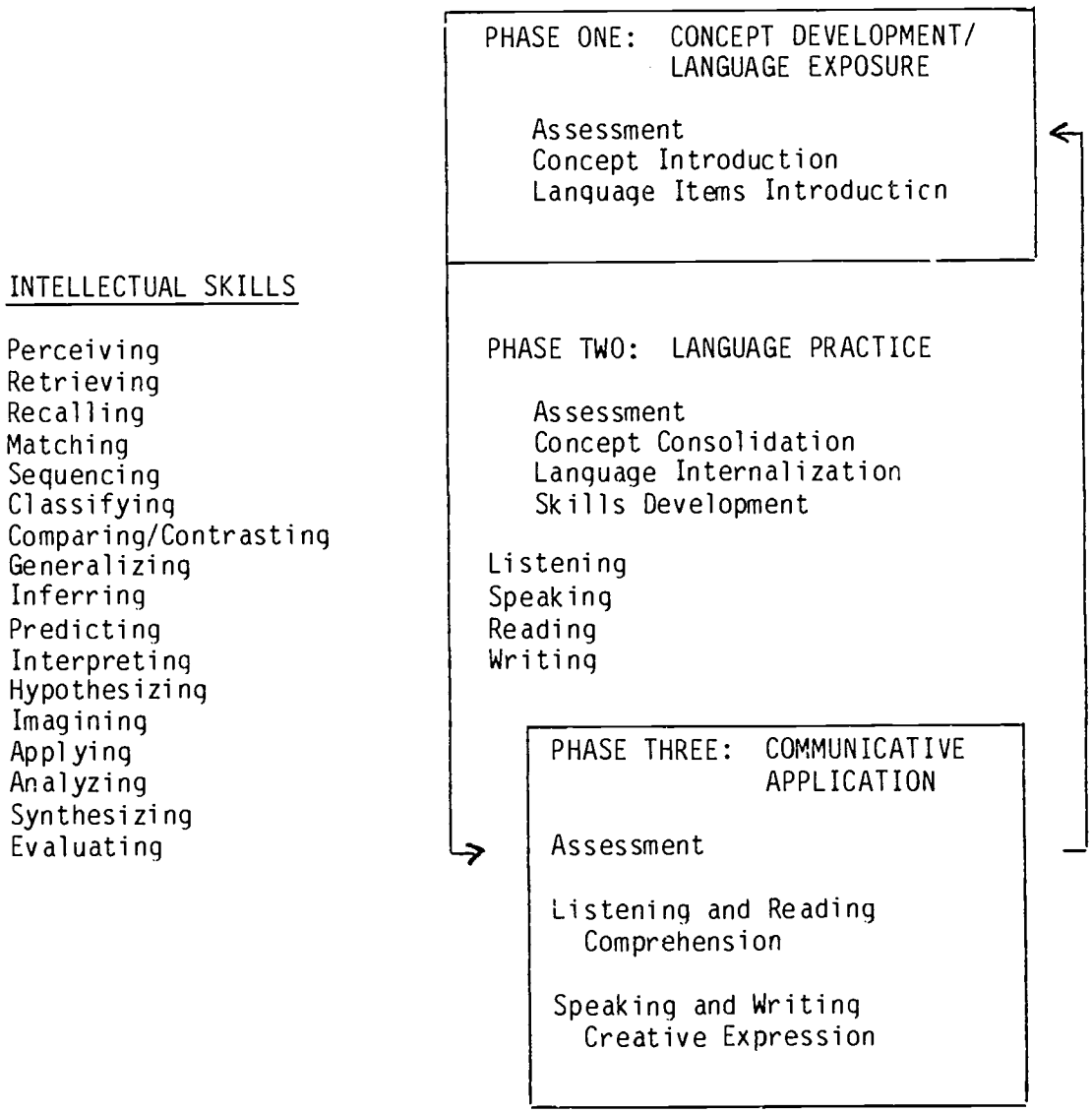
- the language proficiency of the students in the first and second language,
- cultural background (experiences, interests, and cognitive abilities),
- age/grade levels,
- type of topic,
- learning style of students,
- materials and equipment available,
- teaching style of teacher.

FRAMEWORK

The Language Development Approach uses the following framework to structure lessons involving language learning and conceptual development for all subject areas or for any topics of personal or cultural relevance and interest. The framework consists of three phases:

Phase One: Concept Development/Language Exposure
Phase Two: Language Practice
Phase Three: Communicative Application

LANGUAGE DEVELOPMENT FRAMEWORK
(Based on the work of Jim MacDiarmid
Adapted by B. Pugh and C. McGregor)



Phase One: Concept Development/Language Exposure

At the beginning of this phase, it is important to assess what conceptual and linguistic knowledge students already possess for a topic. This assessment establishes the appropriate starting point for instruction and helps determine which concepts, experiences and language items to emphasize.

During this phase, students participate in meaningful activities or experiences through which they learn new concepts related to the topic of study. As much as possible, these activities should involve direct, first-hand, active learning with concrete materials. Where necessary, i.e., a unit on space, indirect or analogous experiences (films, filmstrips) allow students to move beyond the confines of the immediate classroom to explore concepts associated with other times and places. These activities and experiences help students build bridges between what they already know and new concepts.

While they carry out the concept development activities, students hear and use the new language items that express the concepts. They learn to associate new vocabulary with the relevant objects or actions and to express the relationships among concepts with appropriate sentence patterns. It is essential that students learn the meaning of all new language items during this part of the lesson.

You may choose to use the students' native language during this phase when students have little or no English. You can conduct the assessment tasks in their first language to determine the extent of their conceptual knowledge. If the concepts are familiar, concentrate in ESL classes on teaching the related English language items. If the concepts are new, teach them to students in their first language and then introduce English language items. In classrooms where English is the language of instruction, have the Classroom Assistant explain difficult concepts in the students' native language to be sure they understand them.

Phase Two: Language Practice

In Phase Two, students use the new language items introduced in Phase One in a variety of activities that develop listening, speaking, reading and writing

skills. Through intensive practice of items in a variety of ways, students come to "own" the new language, i.e., commit it to memory so that it becomes part of their permanent storehouse of language items. These activities also continue to strengthen the bond developed in Phase One between the new concepts and the language items that represent those concepts. While the whole class may participate in most of the Phase One activities, it is important to group students for language practice according to their language skills and needs. For students who are not proficient in English, use only language items that they are comfortable with aurally/orally in reading and writing activities.

Phase Three: Communicative Application

The final phase of the lesson sequence provides opportunities for students to use their acquired knowledge and language to communicate in a variety of situations. Students show they have understood the new concepts and can use the new language items as they interact with others. Activities involve students in listening, speaking, reading and writing to solve problems, bridge an information gap, share information, complete a task, develop an arts and crafts project, share a finished product and explore related concepts and language. While carrying out these activities, the teacher can work individually with students to assess the extent to which they have mastered the concepts and language from the lesson.

In addition to the communicative application activities for each lesson, there are culminating activities at the end of each unit which provide opportunities for students to use all the concepts and language they have learned throughout the unit. During these activities the teacher meets with students to review their work and assess what they have learned during the unit.

Intellectual Skills

An essential component of the framework is the development of intellectual skills. Learning new concepts and language involves thinking skills. On the other hand, the ability to think abstractly involves conceptual and linguistic knowledge.

A student who lacks the prerequisite basic experiential and linguistic knowledge for a topic cannot engage in activities that require him to apply or solve problems using that knowledge. In moving towards abstract levels of thinking students must:

- acquire simple and concrete concepts and the corresponding labels,
- see patterns and relationships among concepts and form progressively larger and more inclusive conceptual networks in the form of principles and generalizations,
- apply the principles and generalizations to new situations, and
- analyze, synthesize, and evaluate old and new knowledge to solve problems.

In the Concept Development/Language Exposure phase, assessment activities establish whether or not students have basic building block concepts and language to engage in more abstract thinking about a topic. Subsequent activities fill gaps and/or extend the students' background. The structured nature of Language Practice activities demands less high level intellectual activity. Answers are more convergent in nature; the information readily provided or available. However, Communicative Application activities require divergent thinking. Students draw on what they already have learned during the previous two phases to bridge an information gap or solve a problem.

USING THE FRAMEWORK

The Language Development Framework:

- helps students acquire a conceptual background about a topic,
- helps students acquire language to express their knowledge about that topic,

- provides opportunities for students to use their knowledge and related language in a variety of situations and,

- provides opportunities for students to engage in higher levels of thinking.

The framework forms the basis for the following lessons. Keep in mind that the techniques and activities you use with students depend upon many factors:

- cultural background of students
- learning style of students
- age level of students
- proficiency in English
- type of topic
- materials and equipment available, and
- preferred teaching style of teacher.

RESOURCES: BACKGROUND INFORMATION ON PLANTS

Refer to pamphlets included with this unit:

Plant Life of the Northwest Territories
Department of Information, GNWT 1978

Common Lichens of the N.W.T.

Common Trees of the N.W.T.

Seed Catalogues may be ordered from:

1. Dominion Seed House
   Georgetown, Ontario
   L7G 4A2

2. Stokes Seeds Ltd.
   39 James Street
   Box 10
   St. Catherines, Ontario
   L2R 6R6

RESOURCES INCLUDED WITH THIS UNIT

Pamphlets/Books

Plant Life of the Northwest Territories
Common Lichens of the N.W.T.
Common Trees of the N.W.T.

Filmstrip

Seeds

Resources to Accompany Lessons

Parts of a Plant/My Plant
- name the parts worksheets
- scrambled words worksheets

Discovering Seeds
- pictures of various seeds

Parts of Seeds
- pattern for model seed
- name the parts worksheet

The Carrot Seet
- outline figures

From the Seed in the Ground
- outline figures

Needs of Plants
- pattern for gameboard

RESOURCES: RELATED ENGLISH MATERIALS

Magazines, Pamphlets, etc.

Owl April 1977 (Vol. 2, #4)
The Young Naturalist Foundation

Notes on the Vascular Plants of the Mackenzie Mountain Barrens and Surrounding Area
Hilah Simmons and Sam Miller
Department of Renewable Resources, GNWT

Seeds (Activity Cards)
Department of Education, GNWT, 1974

Flora and Fauna of the North (small poster kit)
Department of Education, GNWT, 1974

Children's Books

Pocket Patches (p. 69-78), Baker's Dozen, P. 92-104, Alphabet Soup, (p. 82-90), Elbowroom, (p. 62-70)
The New Cornerstone Readers
Addison Wesley Publishing Inc., 1978

Windowsill Garden
Marilyn Bass, Marvin Goldman
Holt, Rinehart & Winston, 1973

Small Garden, Big Surprise. (A Magic Circle Book)
Jan Adkins
Ginn & Company, 1974

Look at Trees (Starters NATURE)
Macdonald Educational, 1974

The Plant Sitter
Gene Zion
Harper & Row, Publishers, 1959

The Big Green Bean, (A Magic Circle Book)
Marcia Wiesbauer
Ginn & Co., 1972

Through a Magic Glass (A Magic Circle Book)
Solveig Paulson Russell
Ginn & Co., 1972

A Not So Ugly Friend
Stan Applebaum, Victoria Cox
Holt, Rinehart & Winston, 1973

There Are Lots of Ways to Grow, You Know!
Sandra & Michael Rokoff
Holt, Rinehart & Winston, 1974

Shrivel - The Story of a Seed (Real and Pretend Stories)
Julie Gosling
Pitman Publishing, 1972

The Remarkable Plant in Apartment 4
Giulio Maestro

I Love My Plant
Marion Schaffer

Lets Find Out About Plants
Surprising Plants
Grass Song
Ellen Obed

Amanda Grows Up
Norma M. Charles

from Knock at My Door
Journeys - Level Six, Book One
Ginn and Company, 1984

Plant or Animal? (Concept Series #3)
Plants (Concept Series #14)
Flowering Plants (Concept Series #15)
Other Kinds of Plants (Concept Series #16)
Methuen's Resources for Reading
Methuen Educational Ltd., 1972

A Little Seed and a Big Tree
The Mount Gravatt Reading Series, Level One
Mount Gravatt College
Addison-Wesley Publishers Pty. Limited, 1977

My Plant
The Mount Gravatt Reading Series, Level Two
Mount Gravatt College
Addison-Wesley Publishers Pty. Limited, 1977

Seeds and Weeds, (Starters NATURE)
Macdonald Educational, 1975

Look at Flowers (Starters NATURE)
Macdonald Educational, 1975

How Flowers Live (Macdonald First Library)
Macdonald & Company, (publishers), 1970

Where Does Food Come From?
Althea
Dinosaur Publications Ltd., 1976

Science: Finding Out
The Macmillan Science Series
The Macmillan Co., 1970

The Carrot Seed
Ruth Krauss
Scholastic Book Services, 1945

Wonder - Fish from the Sea
Josef Guggenmos/Irmgard Lucht
Adapted from the German by Alvin Tresselt
Parents' Magazine Press, 1971

Seeds and More Seeds - An I Can Read Science Book
Millicent E. Selsam
Harper & Row, Publishers, 1959

Lets Read - and - Find - Out Science Books
Plants in Winter
How a Seed Grows
Seeds by Wind and Water
A Tree is a Plant
Thomas Y. Crowell Co., 1973

What Do People Do All Day? p. 54-57
Richard Scarry

My Plant
Herbert W. Wong and Matthew Vessel
Science Series for the Young
Addison Wesley Publishing Company

"Let's Make a Garden" in Gingersnaps
Unicorn Reading and Language Series
McGraw-Hill Ryerson, 1984

"Jack in the Beanstalk" in Gingersnaps
Unicorn Reading and Language Series
McGraw-Hill Ryerson, 1984

Teacher's Resources

Growing Seeds
Elementary Science Study, Teacher's Guide
McGraw Hill, 1967

Starting from Seeds
Elementary Science Study, Teacher's Guide
McGraw Hill, 1971

Harvesting the Northern Wild
A Guide to Traditional and Contemporary uses of
Edible Forest Plants of the Northwest Territories
Marilyn Walker
Outcrop, 1984

Addison-Wesley Science STEM) Levels 1 and 2
Addison-Wesley Publishing Co., 1980

Exploring Science - Blue
The Laidlaw Exploring Science Program
Doubleday Canada, Ltd., 1977

More About What Plants Do
Joan Elma Rahn
Atheneum, 1975

Mr. Mugs at School, p. 34-37
Starting Points in Language Arts
Ginn & Co., Education Publishers, 1977

Seeds and Seedlings (Teaching Primary Science series)
Macdonald Educational, 1975

Days of Wonder, Teacher's Edition
Imogene Forte, Joy Mackenzie
Incentive Publications, Inc., 1973

Creative Science Experiences for the Young Child
Imogene Forte, Joy Mackenzie
Incentive Publications, Inc., 1978

Growing Up Green - Parents & Children Gardening Together
Alice Skelsey, Gloria Huckaby
Workman Publishing Co., 1973

Science Experiences for the Early Childhood Years
Jean Durgin Harlan
Charles E. Merrill Publishing Co., 1976

I Can Make A Rainbow
Marjorie Frank
Incentive Publications, Inc., 1976

Puddles and Wings and Grapevine Swings
Imogene Forte, Marjorie Frank
Incentive Publications, Inc., 1982

Science in a Nutshell
Ilene Follman and Helen Jackson
Kimbo Education

The Jolly Green Classroom
Discovery Studies Series
Veep

Seeds and Weeds: A Book of Country Crafts
Mary Alice Downie & Jillian Hulme Gillialand
Northwinds Press, 1980

Seed Magic: Life Story of a Bean (kit)
The New York Botanical Garden

Stephanie's Necklace (seeds) (Kit)
Stephanie Learns About Buds
Radio-Quebec

Films, Filmstrips and Slides

A Look at Plants (multi-media kit)
Wonders of Learning Kit
National Geographic Society, 1980

A Tree is a Living Thing (film)
National Film Board, 1964

Beans and Seeds (film)
Mini Movies
Moreland Latchford

Green Plants - Producers (slides)
Flora and Fauna of Alberta
Karvonen Films, 1978

Growth of Seeds (film)
Encyclopaedia Britannica Films, 1958

How a Bean Grows (filmstrip)
Encyclopaedia Britannica Films, 1963

How Seeds are Scattered (filmstrip)
Encyclopaedia Britannica Films, 1962

Kingdom of Plants (multi-media kit)
National Geographic Society

Life of a Plant (film)
Encyclopaedia Britannica Films, 1950

Plants Make Food (film)
Churchill Films, 1955

The Tree (film)
Churchill Films

The World of Plants (multi-media kit)
National Geographic Society, 1976

Miscellaneous Resources

Bellybutton (record)
Heather Bishop
Mother of Pearl Records, Inc., 1982

RESOURCES: RELATED NATIVE LANGUAGE MATERIALS

Teaching Inuktitut to Grade 2 (Interim Edition)
Department of Education, GNWT, 1983
Unit #2 - Northern Plants

INITIAL ASSESSMENT ACTIVITIES

Grade One

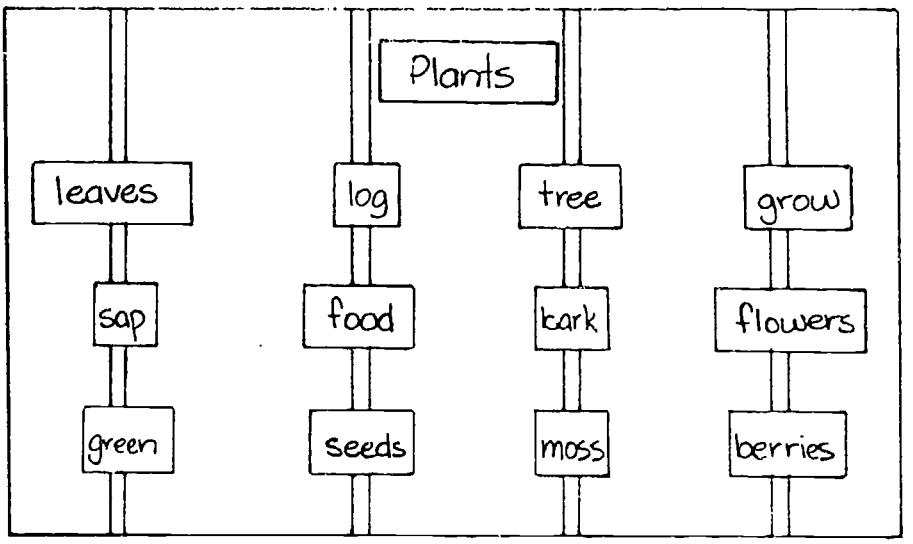
1. Ask the students if anyone saw a plant on the way to school. Encourage them to talk about the plants they saw:

   How big was each plant?
   Where was it growing?
   What did it look like?

2. Take the students on a walk to observe the plants in their community. Discuss the sizes and colours of the plants. Bring samples (or photos) of the plants back to the classroom.

3. a) Brainstorming activity:

   Ask students to tell you all of the things they know about plants. Record all responses on cards and hang them on masking tape strips (sticky surface up) fastened to the chalkboard. (Use sketches where possible to help students remember words.)

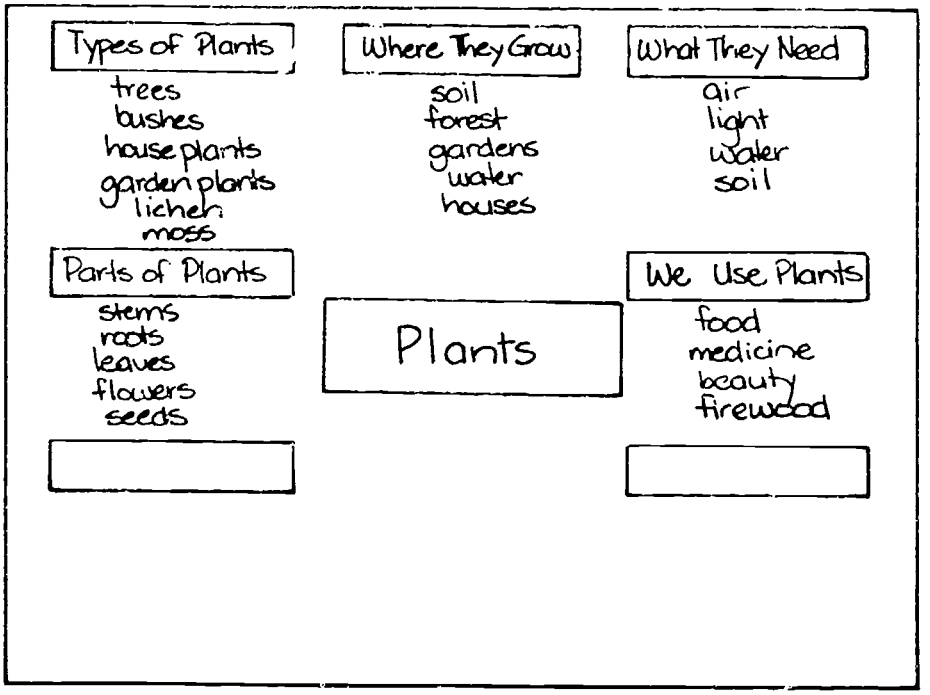


Chant all responses together as you point to the cards.

b) Categorizing:

Distribute the word cards from the brainstorming session. Be sure to tell students the words which you give them. (Give students only one card each to begin.) Ask one student to come to the front of the class and place his/her word card at the top of one of the masking tape strips. Have the student repeat the word to the class. Ask if there is anyone else who has a word that belongs with the first word. Have another student place his/her word card under the first one. Have the student read the word and explain why it belongs with the first word. Give a title to these two cards which now form a category. Ask if anyone can start a new category. After students place all of the brainstormed words in categories, discuss the titles and change them if necessary. Chant the words in each category with students.

Transfer the words to a flow chart to provide a reference.



As you teach the unit, you may wish to add new information to the chart. Review the chart with students at the end of the unit. Keep it as a reference for future use.


Science/Social Studies

1. Go for a walk to collect a variety of objects. Classify them according to living/non-living.
2. Classify items in the classroom/store/home as living/non-living.
3. Classify objects in the aquarium as: living/non-living
   plant/animal

*4. Classify pictures as plant/animal.

Teacher's Notes

These are possible activity ideas for this topic. They can be used in lessons you make up, as enrichment activities, or as learning centre activities. Most can be done in any language. Activities with an * are actually used in the sample lessons which follow. Spaces have been left for you to record your own activity ideas.

ACTIVITY IDEAS

TOPIC A: **PLANTS ARE LIVING OBJECTS**

Math

43

Language Arts

*1. Make charts listing the differences between: living/non-living objects
   plants/animals

2. Make books using frame sentences.
   e.g., A _____ is a living object.

43

Music, Poems, Stories

Art

*1. Make murals showing: living/non-living objects
plants/animals

Physical Education/Movement

45

Special Activities

*1. Keep lots of plants in your classroom. Add plant tending to your daily job chart.

46

LESSON: **WHAT IS A PLANT?**

As this lesson emphasizes language related to science concepts, you may wish to teach it during your Science period.

English Vocabulary (* actually developed in this lesson)

* plant	* move about
* animal	* walk
* food	* crawl
* green	* run
* roots	* swim
	* fly

English Sentence Patterns (* actually developed in this lesson)

* A _____ has roots.
* A _____ doesn't have roots.
* A _____ can make its own food.
* A _____ can't make its own food.
* A _____ can't (move about/fly/swim/walk/etc.)
* A _____ can (move about/fly/swim/walk/etc.)
* A _____ is a plant. A _____ isn't a plant.
  Is a _____ a plant? Yes, it is.

English Language Concepts (* actually developed in this lesson)

Special Materials Required

Pictures of living/non-living things
Pictures of plants and animals

Concept Development/Language Exposure

1. Review living/non-living objects. Have students sort pictures of objects according to whether they are living or non-living. Establish that plants are living objects.

2. Develop vocabulary:

   Students may dramatize verbs - move about, walk, crawl, run, fly, swim

   Examine various plants; locate the roots.

3. Explain the differences between plants and animals, using the sentence patterns. Make a chart showing the differences. (Use pictures as much as possible.)

   Prepare a set of picture cards of plants and animals. Hold up one picture and describe it using the sentence patterns. (Use pictures of plants and animals for which students already know the names.)

   A spruce tree has roots.
   A spruce tree makes its own food.
   A spruce tree can't move about.
   Ask students: "Is a spruce tree a plant?"

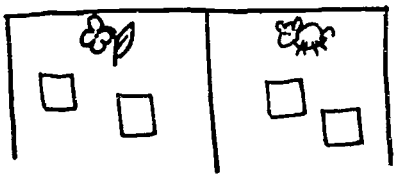
   Encourage them to respond using a full sentence: "Yes, it is."

Language Practice

L 1. a) Teacher holds up a picture and makes a statement about it.

   e.g., A rose bush is a plant.

   Have one student place the picture on the appropriate side of a pocket chart.



S b) Point to each picture in the chart and chant with the students:

A spruce tree is a plant.	A moose isn't a plant.
A dandelion is a plant.	A bear isn't a plant.
etc.	etc.

L/S 2. Hold up one picture. Make statements about it:

e.g., A rose has roots.
A rose can make its own food.
A rose can't walk.

Have students repeat the statements. After practice, let students take turns being "teacher."

S 3. Have each student pick a picture from the pile. S/he must say whether it is a plant and give reasons for her/his choice using sentence patterns.

S/R 4. Have students dictate the difference between plants and animals. Record their statements on chart paper. e.g.,

A plant has roots A plant can make its own food. A plant can't fly. A plant can't walk. A plant can't swim.	An animal does not have roots. An animal can't make its own food. An animal can move.

Have them also provide statements about objects that are/are not plants. Record these as well.

e.g.,

A tree is a plant. A flower is a plant.	A bear isn't a plant. A beaver isn't a plant.

Read the charts over several times with the whole class. Have individuals read the charts.

R 5. Cut the charts into sentence strips. Cut the strips in half. Students must put the strips back together to make true statements.

e.g.,

A plant	can fly
	has roots
A bear	isn't a plant
	is a plant

W 6. Have each student choose a picture to illustrate. S/he must then write (or dictate and copy) statements about it.

Application

1. Divide a large sheet of paper in half. Label one side PLANTS and the other ANIMALS. Have students sort the picture cards and place them on the appropriate side of the paper. Have them justify their decisions to other students.


Science/Social Studies

*1. Grow plants in water. Have students examine the parts and note how they are similar/different.
*2. Introduce names of plant parts using a flannelboard plant. Match labels to the parts, play "What's Missing?' games, etc.
*3. Learn other names for plant parts (trunk, branch, blossom, etc.)
*4. Go for a walk outdoors. Collect specimens of each plant part.
5. Do experiments with various plant parts. e.g., Put celery in a glass with red food colouring. What happens?
*6. Make a chart showing the parts of plants that we eat (e.g., leaves - spinach, lettuce).
7. Classify: leaves by shape/size/colour/types of veins
blossoms by shape/size/colour/number of petals
8. Count rings on tree stumps to determine age. (If you have trees!)
*9. Buy different plant parts that you can eat at the store. Classify and have a feast!

Teacher's Notes

These are possible activity ideas for this topic. They can be used in lessons you make up, as enrichment activities, or as learning centre activities. Most can be done in any language. Activities with an * are actually used in the sample lessons which follow. Spaces have been left for you to record your own activity ideas.

Science/Social Studies (continued)

*10. Discuss the functions of the various plant parts.

ACTIVITY IDEAS

TOPIC B: **PARTS OF A PLANT**

Math

1. Measure: circumference of trees (where appropriate)
height of plants.
2. Measure fruits and vegetables to find out which are the longest/shortest, biggest/smallest, heaviest/lightest, etc.

Language Arts

1. Read Shrivel - The Story of a Seed. Compare the growth of your plants to the one in the story.
2. What kind of plant would you like to be? Why? Draw a picture of what you would look like and write/tell a story about your life.

Music, Poems, Stories

* "A Little Seed" - have students dressed as the various plant parts to dramatize the poem.
* "Flowers, Leaves, Stems and Roots"
* "My Plant"

Art

1. Make collages from dried grasses, leaves, flowers, seeds and twigs.
2. Go outside to make bark rubbings. Collect leaves for leaf rubbings or spatter paintings.
3. Seal leaves, flowers and grasses between sheets of waxed paper. Cut out and hang in windows.
4. Use various parts to make prints. Make gift wrap, note pads, etc., decorated with prints. Or use the plant parts to print parts of scenes. (The book Wonder - Fish from the Sea will give you lots of ideas!)
5. Dry and press flowers, leaves, etc. Use them to decorate book marks, note paper, etc.

*6. Plant some seeds. Record their growth in pictures.

*7. Make "giant" plants from mural paper. Use them to decorate your classroom.

Physical Education/Movement

Special Activities

*1. Try to grow new plants from parts other than seeds: roots
leaves
stems

LESSON: **PARTS OF A PLANT**

As this lesson emphasizes language related to science concepts, you may wish to teach it during your Science period.

English Vocabulary (* actually developed in this lesson)

* leaf/leaves
* stem/s
* flower/s
* root/s
* seed/s
* soil/ground/dirt
* plant

English Sentence Patterns (* actually developed in this lesson)

* This is a/the _____.
* That's the/a _____.
* Those/these are the _____.

What does a plant have?

* A plant has _____.

What do plants have?

Plants have _____.

English Language Concepts (* actually developed in this lesson)

Special Materials Required (See illustrations 4, 5, 6, 7, 8, 9, 10)

Plants rooted in water
Flannelboard figures
Crepe and tissue paper
Stencils

Concept Development/Language Exposure

1. Grow several plants (in water) a few weeks before you begin the unit so that they will have developed enough for students to examine the various parts. As students study the plants, ask questions to assess their knowledge of "plant vocabulary." Provide the vocabulary to describe the plant parts using the sentence patterns.

2. a) Recite the poem "A Little Seed"; place appropriate figures on the flannelboard as you mention each plant part.

"A Little Seed"
(Tune: I'm a Little Teapot)

Here's a little seed, tiny and round
Take it and plant it in the ground.
Here are the roots; now the stem, it grows
What comes next, do you suppose?
Two little leaves, shiny and green,
And soon, the prettiest flower
That you have ever seen.

b) Point to each part of the plant and say its name using the sentence patterns.

Example: This is a plant.
Those are the roots.
That's the stem.
etc.

OR

3. a) Dress the students up as plant parts. Recite the poem; as you mention each part, the appropriate student(s) wiggle.

Seed: Wrap one student in white or brown crepe paper; have him/her crouch on the floor and curl up into a little round "seed."

Roots: Wrap one or two students' legs in brown crepe paper; have them lie on the floor with legs spread apart, behind the seed.

Stem: Wrap one student in dark green crepe paper; have him/her stand between the "roots."

Leaves: Wrap one student's arms in light green crepe paper; have him/her stand behind the "stem and raise arms upward in a V-shape.

Flower: Have one student wear a brightly coloured tissue paper hat, have him/her stand on a chair behind the "stem" and "leaves" so that only the "flower" appears.

b) Point to each part of the plant and say its name using the sentence pattern. (as in #1)

Language Practice

L 1. Have students clap their hands when they hear a specified word.

e.g., Clap when you hear the word "roots"
"leaf, stems, roots, flower, leaves, seed, roots"

To increase the difficulty of this activity, have students listen for two words.

e.g., Clap when you hear the words "roots" and stamp your feet when you hear the word "flower."

L 2. Use flannelboard plant: Remove one part of the plant and make a statement about it:

e.g., "These are the roots."

Students indicate if you have made a correct statement.

L 3. Flashlight Drill: Hang pictures of the plant parts around the room. Make a statement:

e.g., "Those are the leaves."

Student holding the flashlight shines it on the correct picture.

L/S 4. Make parts of plants from construction paper. Pass one part to each student. Group students in a circle. One person is the caller. When s/he calls a part, all students holding that part must change places. The caller also attempts to get a place. Person left without a place becomes the caller. (This may also be done as a reading activity - use flash cards.)

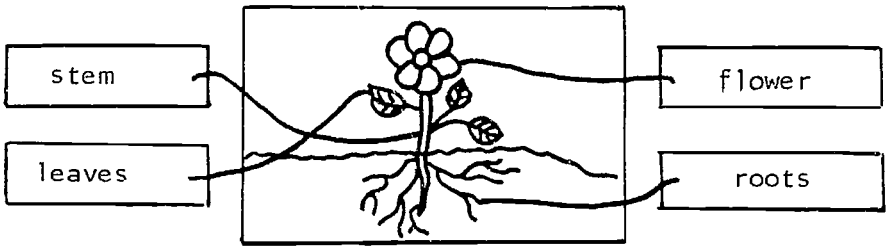
S 5. Tell students to pretend that they are plants. Their heads are flowers, their arms are leaves, their legs are stems, and their feet are roots.

Introduce song: (To tune: "Head and Shoulders, Knees and Toes")

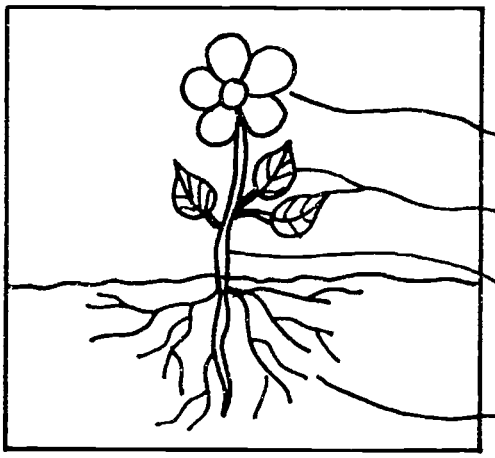
Flowers, leaves, stems and roots,
Stems and roots, stems and roots.
Flowers, leaves, stems and roots,
Roots, stems, leaves and flowers.

Students touch the correct part of their bodies as they sing. Increase speed each time you repeat the song.

S/R 6. Students match labels to parts of the flannelboard plant and repeat sentence patterns as they do so. e.g., "This is the flower."



S/R 7. Make a story with students about plants next to the flannelboard plant. Use sentence strips and flashcards.



That's a plant.

That's the flower.

Those are the leaves.

That's the stem.

Those are the roots.

R/W 9. Stencils: Scrambled Words
Name the Part

R/W 10. Students make individual books: This is a plant.
There's the _____.
Those are the _____.

Application

1. Divide the class into groups of four. Have students work together to make giant plants. Provide large sheets of mural paper. Encourage students to use the words for the parts of the plants they are making. Ask the students to describe the plants they have made.

2. Go for a walk. Identify the parts of plants that you see. What other names do we have for plant parts? (e.g., trunk, branch, needles, buds, etc.)

   Make a collection of different types of:

   roots - tree roots, weed roots, carrots, etc.
   stems - branches, slices of logs, celery, etc.
   leaves - classify leaves according to size, color, shape, hairy/smooth
   flowers - blossoms
   seeds - pips, nuts

   Learn the song "A Little Seed."

LESSON: **MY PLANT**

As this lesson emphasizes language related to science concepts, you may wish to teach it during your Science period.

English Vocabulary (* actually developed in this lesson)

* roots
* stem
* leaves
* flowers
* seeds

English Sentence Patterns (* actually developed in this lesson)

* My plant has a/some _____ to _____.

English Language Concepts (* actually developed in this lesson)

Special Materials Required (See illustration 4)

Flannelboard plant
Stencil of plant parts

MY PLANT

(Tune: Did You Ever See a Lassie?)

M. Gilmour, C. McGregor

My plant has some roots,
some roots,
some roots,
My plant has some roots
To keep it in place.

My plant has a stem,
a stem,
a stem,
My plant has a stem
To hold the leaves.

My plant has some leaves,
some leaves,
some leaves,
My plant has some leaves,
To help it make food.

My plant has some flowers,
some flowers,
some flowers,
My plant has some flowers,
To make the seeds.

My plant has some seeds,
some seeds,
some seeds,
My plant has some seeds,
To grow new plants.

Concept Development/Language Exposure

1. Review the parts of a plant with students. Discuss the reasons why a plant needs to have each part. Ask students what might happen if a plant didn't have these parts. Record students' ideas.

2. Introduce the song using the flannelboard plant from the previous lesson. Point to each part as it is named. Sing the song several times encouraging the students to join in as soon as they can.

Language Practice

L 1. Provide each student with a stencil of the plant parts to colour and cut out. As the teacher sings the song, students place the appropriate plant part on their desks. When the teacher finishes singing the song each student will have "built" a complete plant.

L 2. Change game: Have pairs of students stand back to back with their elbows interlocked. When they hear a specified word/phrase they must change partners.

e.g., Change partners when you hear "My plant has some seeds to grow new plants."

My plant has some seeds to hold the leaves.
My house has some seeds to grow new plants.
My plant has some seeds to grow new plants.

L 3. Make statements about the various plant parts. Students must determine which statement is true.

e.g., "My plant has a stem to hold the leaves."
"My plant has a stem to make the seeds."

L/S 4. Sing the song leaving out key words or phrases. Students sing along, providing the omitted words/phrases.

S 5. Divide class into five groups. Give each group one part of the flannelboard plant. Have them rehearse the appropriate verse for that part. Have groups sing their verses in turn as they place the plant parts on the flannelboard.

L/S 6. Put paper plant parts in a bag. Each student must withdraw one part and make a statement about it. Other students listen to make sure the statement is correct.

S/R 7. Write song on an experience chart. Sing it several times with students as you point to the words. Do various chart activities:

e.g., Have students point to specified words.
Match pictures to specified words.
Cut chart into sentence strips. Have students reassemble verses.
etc.

S/R 8. Have students match labels to parts of the flannelboard plant and repeat sentence patterns as they do so.

e.g., My plant has some roots to keep it in place.
(See activity #6 in previous lesson.)

S/R 9. Repeat activity #6 using word cards in place of plant parts. Student withdraws a word card and makes a statement using that word.

W 10. Have students copy, trace, or write the vocabulary items using a variety of media: water on chalkboard
plasticene
fingerpaint
etc.

Application

1. Have students plant seeds. Have them check the plants each day and record through pictures and labelling the new growth that appears. This activity should generate much discussion and comparison.

2. Write new versions of the song about other items. Brainstorm ideas with students.

Some possibilities: My body
My bike
My dog

LESSON: **WE EAT PLANTS**

As this lesson emphasizes language related to science concepts, you may wish to teach it during your Science period.

English Vocabulary (* actually developed in this lesson)

* leaf/leaves
* stem/stems
* flower/flowers
* root/roots
* seed/seeds
* fruit/fruits
* names of fruits and vegetables

English Sentence Patterns (* actually developed in this lesson)

* _____ is a _____.
  _____ are _____.

Directions: Show me a _____.

English Language Concepts (* actually developed in this lesson)

Special Materials Required

Samples of a variety of fruits and vegetables
Picture cards of fruits and vegetables
Stencil of fruits and vegetables

Concept Development/Language Exposure

1. Ask students to raise their hands if they eat plants. If they are unsure, ask if they eat apples, potatoes, carrots, etc. Explain that all of these things are parts of plants and that we eat only certain parts of some plants.

2. Review the names of fruits and vegetables using actual items or picture cards. Use only those with which students are familiar.

3. Make a chart on the bulletin board showing the parts of plants that we eat. Assist students in placing the picture cards in the appropriate categories. Use the sentence pattern as you do so: e.g., "A carrot is a root."

leaves	flowers	roots	stems	fruits	seeds
lettuce	broccoli	carrot	celery	apple	pea
cabbage	cauliflower	onion		orange	corn
		beet		banana	bean

4. Prepare a food from each of the categories. Have a tasting party.

Language Practice

L/S 1. Place the picture cards on a table. Make a statement: e.g., "A banana is a fruit." Call upon one student to select the appropriate picture. You may wish to have him/her repeat the statement.

L/S 2. Group students in a circle. Place the picture cards on the floor in the centre of the circle. Touch two students and direct them to find a specified item: e.g., "Show me a root." Make a statement about the picture they hold up: e.g., "A carrot is a root." Have the class repeat the statement if it is true.

L 3. Make up riddles about the items using vocabulary students know:

e.g., It's orange.
It's long.
It's a root.
What is it?

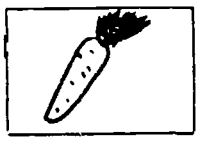
Have students point to the appropriate picture and call out its name.

L 4. Provide each student with a stencil of the various fruits and vegetables to colour and cut out. Say, for example, "a fruit, a stem, a seed." Students must lay appropriate pictures on their tables in the correct sequence.

L/S 5. Substitution drill: Make a statement, e.g., "A beet is a root. carrot." Students must repeat the statement, making the substitution, e.g., "A carrot is a root."

S 6. Seat students in a line. Sit in front of them with a ball. Roll the ball to a student and say, "root." The student must name an appropriate food, e.g., "An onion is a root.," and return the ball to you. Repeat with other categories.

S 7. Pass out picture cards to students. Each student holds up his/her picture and makes a statement about it.

e.g.,  "A carrot is a root."

S/R 8. Place a picture card in the pocket chart and have students make a statement about it. Record the statement on a sentence strip and place it in the pocket chart. Repeat with other pictures.

 A carrot is a root

 A radish is a root

 A turnip is a root

 A beet is a root

Chant with students. Have them identify specified words. Remove sentence strips from chart, have students replace them in the correct sequence.

R/W 9. Divide class into six groups. Have each group make a big book for one of the categories.

Application

1. Have students work on a mural showing the fruits and vegetables they eat. They may copy/write statements onto the mural.

CULMINATING ACTIVITIES

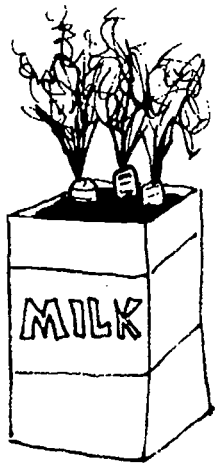
1. Plant pumpkin and sunflower seeds in large plastic buckets. Keep a record of their development.

2. Have potted plants growing in your classroom. Add plant tending to your daily job chart. Comment on changes that take place: new leaves, buds, etc.

3. Let students experiment with different ways of growing new plants:

avocado pit

carrot tops



Try stem and leaf cuttings, too!

Grade Two

1. Review Grade One concepts and associated language.

2. Divide class into small groups. Provide each group with a tray displaying a group of objects - beads, seeds, buttons, etc. Ask students to identify the seeds, explaining their decisions.

3. Conduct a brainstorming session with the whole class to determine what they know about seeds. Direct students' thinking by asking questions such as:

   "What do seeds look like?"
   "Where can you find seeds?"
   "What do people do with seeds?"
   etc.

   Record and categorize responses. (See Grade One - Initial Assessment Activity #3).



Science/Social Studies

*1. Visit the store and look through magazines to find seeds/seed products that we eat. Make a display.
*2. Pop some popcorn/Make peanut butter.
*3. What animals eat seeds? What kinds do they eat?
*4. Gather seeds from outdoors. Identify.
*5. Cut open fruits and vegetables to reveal seeds.
*6. Make a display of all the seeds you find.
*7. Give students a list of specific types of seeds (flying seeds, seeds that float, etc.) Go on a scavenger hunt to locate these seeds.
8. Which seeds sink, float?
*9. Soak seeds, cut them apart; examine the parts. Compare varieties of seeds: Do they have the same parts?
*10 Germinate a variety of seeds. Observe: How do they change? Which germinated first?
*11 Collect a variety of seeds. Predict how they travel. Test your ideas. Classify according to the ways seeds travel.

Teacher's Notes

These are possible activity ideas for this topic. They can be used in lessons you make up, as enrichment activities, or as learning centre activities. Most can be done in any language. Activities with an * are actually used in the sample lessons which follow. Spaces have been left for you to record your own activity ideas.

Science/Social Studies (cont.)

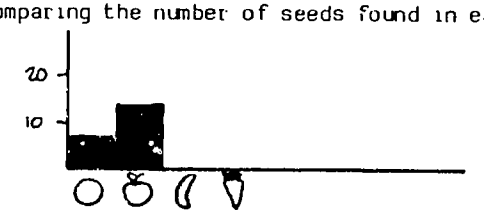
12. Do all seeds grow into plants? Why? Why not?
13. What other parts of a plant do new plants grow from: roots, stems, leaves, bulbs. Try to grow one plant from each plant part.
*14. Sort seeds by size, shape, colour.
15. Does it matter which way up you plant seeds? Try to find out.
16. Collect cones from evergreen trees. Dry them and shake out the seeds.

ACTIVITY IDEAS

TOPIC C: **SEEDS**

Math

*1. Place seeds on graph paper. How many squares does each seed cover?
2. Provide a variety of fruits and vegetables. Help the students find the seeds in each sample. Count the seeds from each sample. (If there are many seeds, put them in piles of 10, then add up the piles.) Make a graph comparing the number of seeds found in each sample.



3. Use seeds as counters.
*4. Graph favourite seed foods.
5. Fill a jar with seeds. Have students estimate how many seeds there are.

Language Arts

*1. Brainstorm words that describe seeds. Use these words to compose a poem.
*2. Make paper models of seeds. Name the parts. Label.
3. Compose a poem about seeds we eat.
*4. Describe the taste/texture of seeds/seed food we eat.
*5. Make a class book: How Seeds Travel
*6. Make a big book of the song "From the Seed in the Ground."

Music, Poems, Stories

"Baby Seeds" (1)
"Baby Seeds" (2)
* "Seed Song"
* "From the Seed in the Ground"
"Seeds"
"A Little Seed"
"The Seed"
* The Carrot Seed

1. Make shakers by putting seeds in small jars.

Art

1. Make seed mosaics using a variety of seeds.
*2. Make seed pictures.
3. String seeds to make necklaces.
*4. Make some "Hairy Monsters." (see Culminating Activities)

Physical Education/Movement

1. Dramatize the ways in which seeds travel.

Special Activities

1. Hold a seed scavenger hunt. Have the students search for:
   a "flying" seed — 10 seeds that are the same
   a small seed — a seed that floats
   a large seed — a black seed
2. Make up two sets of cards; one set with pictures of fruits and vegetables, the other with samples of seeds. Play "Go Fish." (Match the seed to the appropriate fruit or vegetable.)
*3. Plant an indoor garden. Observe and record growth.
*4. Make a bulletin board showing what you have learned about seeds.

DISCOVERING SEEDS

As this lesson emphasizes language related to science concepts, you may wish to teach it during your Science period.

English Vocabulary (* actually developed in this lesson)

* seed/seeds
* names of fruits and vegetables (These should be items with which students are familiar)
* names of local plants
* descriptive words - large, big, small, tiny, round, flat, long, brown, black, white, yellow, green

English Sentence Patterns (* actually developed in this lesson)

* _____ seeds are _____.

English Language Concepts (* actually developed in this lesson)

Special Materials Required (See illustrations 12 and 13)

Variety of fruits and vegetables
Seeds ordered from commercial seed catalogues
Graph paper

Concept Development/Language Exposure

1. a) Gather seeds from as many sources as possible:

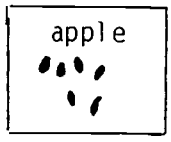
   i) go for a walk outdoors to look for seeds,
   ii) cut open fruits and vegetables to find seeds,
   iii) purchase seed packets from a seed catalogue or the store.

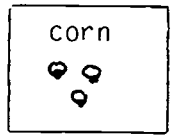
   b) Place each type of seed on graph paper. Draw around the squares that each seed covers. Classify the seeds as large or small.

   e.g., A ___ covers ☐☐.

   c) Classify the seeds by colour and shape. Brainstorm words to describe each seed.

2. Paste seeds on cards and label. Display on a bulletin board or table.





Students may add to the display as they discover new seeds.

* During these activities, use the sentence patterns as often as possible. Encourage the students to respond to questions or describe the seeds using models that you provide.

Language Practice

L 1. Seat students in a circle. Place the seed cards in the centre. Teacher taps two students and makes a statement: e.g., "Some seeds are big." Students must clap their hands twice, then run and try to find a seed card that fits that description.

(When students becomes more familiar with the types of seeds, you can make more specific statements: e.g., "Bean seeds are big.")

L 2. Hold up a seed card and make a statement about it. Students indicate whether the statement is true or false: e.g., "Radish seeds are white."

L 3. a) Distribute seed cards to students. Make a statement such as: "Some seeds are tiny." Any students with seeds that fit that description hold up their cards.

L/S b) The teacher models the pattern with each type of seed: "Radish seeds are tiny." Students repeat the statements. Vary this activity by making incorrect statements. Students have to say them correctly.

S/R 4. Place a sentence strip in the pocket chart and read it to students:

e.g., Some seeds are round.

Place several sentence strips below this that say:

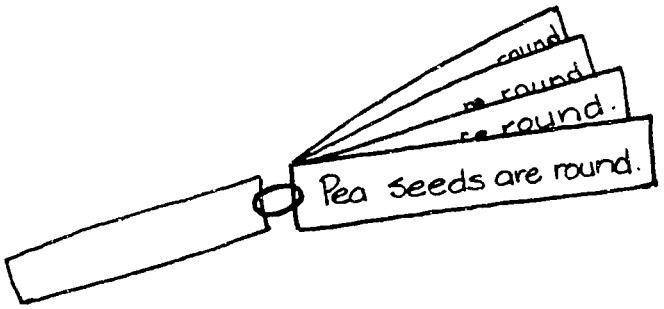
_____ are round.

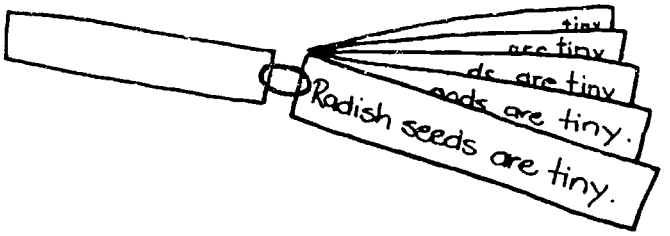
Have each student holding a seed card that fits this description come and place the card in the blank, then recite the statement:

are round. "Pea seeds are round."

Chant all statements with the class.

R/W 5. Divide class into groups to make sentence strip books* for each description. Students may copy or dictate statements. (* Punch the sentence strips and hold them together on snap-rings.)





Have students chant the book several times. Shuffle the pages from time to time so that students don't memorize the sequence.

Application

1. Students work in pairs or small groups to make seed pictures. Discuss with them as they work where and why they will use different kinds of seeds.

2. Have students learn the poem "The Seed (1)" (see p. 123) and recite it for other classes.

PARTS OF SEEDS

As this lesson emphasizes language related to science concepts, you may wish to teach it during your Science period.

English Vocabulary (* actually developed in this lesson)

* seed food
* leaf/leaves
* root/s
* seed coat

English Sentence Patterns (* actually developed in this lesson)

* A seed has (a) _____.
* Seeds have _____.
* This is the _____.
* These are the _____.

English Language Concepts (* actually developed in this lesson)

Special Materials Required (See illustrations 15 and 16)

Seeds
Seed pattern
Stencil

Concept Development/Language Exposure

1. a) Soak dried seeds in water overnight. (Use large seeds - broad beans are good.) Have students carefully pull their seeds apart in order to see how many parts their seeds have. Point out the parts using the sentence patterns.

   If you have used several types of seeds, have students compare their type of seed to others. Do they have the same parts?

   b) Have each student make a paper model of a seed (pattern included). Name each part of the seed as you point to it. Have students compare the models to the real seeds that have been cut apart.

Language Practice

L/S 1. Use paper models from Concept Development #2. Make statements about the parts of the seed.

e.g., "Seeds have food."
"These are the leaves."

Students point to correct part on their models. You can also do this as a speaking activity: Teacher points to the part, students provide a statement.

L 2. Teacher makes a statement: e.g., "Seeds have legs." Students indicate whether the statement is true or false.

S 3. Teacher whispers a statement about seeds in the first student's ear. S/he (whispers) repeats it to the next student and so on. The last student says the statement out loud.

S/R 4. a) Make a large chart picture of a seed. Make labels for the various parts. Have students match labels to chart and use the words in sentences.

b) Make an experience chart.

A seed has seed food.
A seed has a seed coat.
A seed has a root.
A seed has leaves.

Do chart activities: Have students point to specified words. Cut chart into sentence strips. Make a statement: e.g., "A seed has a root." Have students choose the appropriate strip. Cut sentence strips into words. Have students reconstruct the sentences. Display chart next to the picture chart.

5. Stencil - have the students trace over the words and use these words as models when labelling the picture.

Application

1. Leave some seeds soaking for several days. Every day or two, examine a few seeds to observe the changes in the germinating seeds. Discuss the changes.

HOW SEEDS TRAVEL

As this lesson emphasizes language related to science concepts, you may wish to teach it during your Science period.

English Vocabulary (* actually developed in this lesson)

* blowing
* floating
* flying
* sticking
* falling
* water
* wind
* animals
* people
* travel
* spread

English Sentence Patterns (* actually developed in this lesson)

* How do seeds travel?
* Some seeds travel by _____.
* Some seeds are spread by _____.

English Language Concepts (* actually developed in this lesson)

Special Materials Required

Variety of seeds

Concept Development/Language Exposure

1. a) Go for a walk to collect many different kinds of seeds (dandelions, cattails, pine cones, burrs). Have students examine the seeds. Brainstorm for ideas about how the seeds travel. Test some of these ideas - e.g., blowing the seeds, floating them in water, sticking them to your clothes, etc. Estimate and count how many seeds each cattail, cone, etc contains. (A single cattail has one million seeds.)

*Questions to stimulate discussions

A. WIND

1. How does the wind spread seeds?
2. What seeds does the wind spread?
3. Why do some seeds carry in the wind better than others?
4. How far does the wind take the seeds?

B. WATER

1. How do the seeds get into the water?
2. How does water carry the seeds?
3. Do all seeds float?
4. Do the seeds of water plants float?
5. Does the water ever put the seeds up on land?
6. How far does the water carry the seeds?

C. ANIMALS

1. What kinds of seeds do animals carry?
2. Are they all fruit?
3. Are they all burrs?
4. Are they all carried by mouth?
5. How do birds spread seeds?
6. What birds like seeds?
7. How can you tell a seed-eating bird?

D. EXPLOSION

1. What makes the pods explode?
2. How far does the explosion carry the seeds?
3. What tree or shrub is a good example of explosion?
4. Does the wind help carry these seeds too?

E. PEOPLE

1. How do people spread seeds?
2. How does a child spread dandelion seeds?
3. Do people spread seeds on purpose? How?
4. Do all seeds grow? Is this good? Why?

(Questions taken from: Seeds and Plants, a lesson aid published by the British Columbia Teacher's Federation)

* You will want to adapt these questions to suit the language level of your students.

b) Classify the seeds according to the way in which they are spread. (You may wish to mount and laminate them.) Use the sentence patterns as you classify.

2. Recite the poem "Seed Song." Hold up actual seeds that you have gathered or use pictures in the appropriate places in the poem.

SEED SONG

Some seeds fall and some seeds float;
Some seeds ride on a fox's coat;
Some are large and some are small;
Some you can scarcely see at all.
Some are round and some are flat;
Some have stickers and things like that;
And something else that's nice to know -
When you plant a seed, it starts to grow.
It might be a flower; it might be a weed;
But something grows from most every seed.

Language Practice

L 1. Change game: Have pairs of students stand back to back with their arms interlocked. Make statements about the ways in which seeds travel. If the statement is false, students maintain their position; if it is true they must quickly change partners and lock arms with the new one.

e.g., Some seeds travel by dogsled.
Some seeds are spread by birds.
Some seeds travel by sticking to your pants.

L/S 2. Pass out the gathered seeds and/or pictures. Make a statement: "Some seeds are spread by the wind."

Any student who has an appropriate seed holds it up and repeats the statement.

L/S 3. Chain drill: Each student holds a picture/seed. Teacher begins by holding up her picture and saying:

"Some seeds travel by floating."

She then asks a student: "How do seeds travel?"

The student responds using vocabulary appropriate to his picture and then asks the question of another student.

S/R 4. a) Have students classify the seeds according to the way they travel. Have them provide statements to describe each grouping.

e.g, Some seeds travel by flying.) Both statements describe the same seeds.

Some seeds are spread by the wind.)

Write the statements on sentence strips. Read them over as a group. Pass them out and have individuals or pairs read them to the class.

R b) Cut the sentence strips in half. Have students put them back together and read the statements.

e.g., [Some seeds travel] [by water.]

W 5. Have each student pick one type of seed to illustrate and write a sentence about. Make a class book: How Seeds Travel.

Application

1. Divide the class into groups. Have each group illustrate one way seeds travel using paint, seeds, seed pods, fur, pieces of cloth, etc.

2. Talk about the ways people/animals move using the sentence patterns:

   e.g., Some people travel by car.
   Some people travel by bus.
   etc.

   Some animals travel by hopping.
   Some animals travel by crawling.
   Some animals travel by swimming.
   etc.

   Make books using these sentences.

3. Have some students learn the poem "Seed song" and recite it for other classes using appropriate props and pictures.

4. Have other students learn the poem "Seeds" (see p. __) and recite it for other classes using appropriate props and pictures.

SEEDS WE EAT

As this lesson emphasizes language related to science concepts, you may wish to teach it during your Science period.

English Vocabulary (* actually developed in this lesson)

* peanuts
* peanut butter
* peas
* beans
* sunflower seeds
* cucumber
* raspberries - jam
* strawberries
* popcorn
* corn

etc.

English Sentence Patterns (* actually developed in this lesson)

* Do we eat _____ seeds?

We eat _____ seeds.

We don't eat _____ seeds.

Is _____ made from seeds?

Yes, it is; No, it isn't.

(product) is made from _____ seeds.

English Language Concepts (* actually developed in this lesson)

Special Materials Required

Pictures of items made from seeds (or actual items)

Peanuts

Popcorn

Concept Development/Language Exposure

1. Plan a visit to the store to find seeds and seed products that people eat. Talk about the items using the sentence patterns. Take pictures of each item (or purchase) to use in making a classroom display.

2. Look through magazines (or seed catalogues) to find pictures to add to your display. As students cut out pictures and set up the display, use the sentence patterns as often as possible.

3. Make peanut butter and popcorn to demonstrate foods made from seeds.

   Peanut Butter

   1. Shell and skin peanuts.
   2. Spin them in a blender at low speed with a tablespoon of oil or soft margarine. Stop the blender often to scrape the sides. Blend until smooth.
   3. Store the peanut butter in a covered jar in the refrigerator.

Language Practice

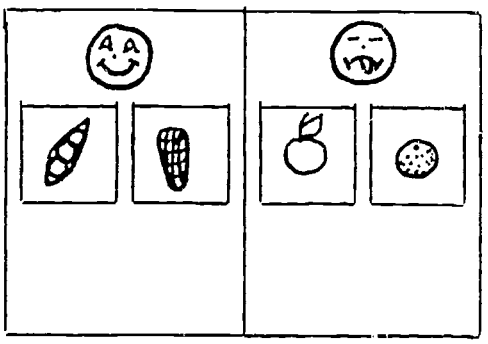
L 1. Make a set of cards with pictures of various foods (some that are "seed" foods). Hold up a card and make a statement about it.

Students indicate if statement is true or false.

e.g., Teacher: "Do we eat apple seeds?"
Students indicate "No." (May be physical response)
Teacher: "We don't eat apple seeds."

L/S 2. Pass out one or two cards to each student. The student must show his card to the student next to him and ask an appropriate question (using the sentence patterns). The other student must provide a correct answer using the sentence patterns.

S 3. Divide a pocket chart into two parts. Have students place the cards on the appropriate side.



Chant with them:

We eat pea seeds.
We don't eat apple seeds.
We don't eat orange seeds.
etc.

R 4. Make sentence strips: (several of each)

We eat _____ seeds.	We don't eat _____ seeds.

Place the cards face down beside the sentence strips. Have students pick one card and the appropriate sentence strip. Each student, in turn, may then place his/her sentence in the pocket chart and read it to the class.

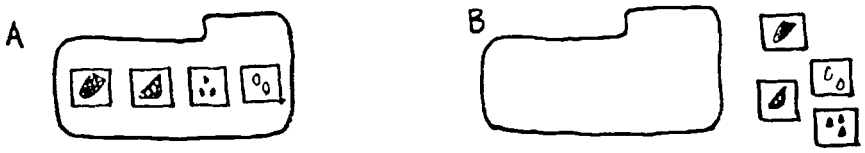
We eat  seeds.

W 5. a) Have students make individual books. Provide models for them to copy.

b) Have students make sentence strips to place in the display of "seed foods."

Application

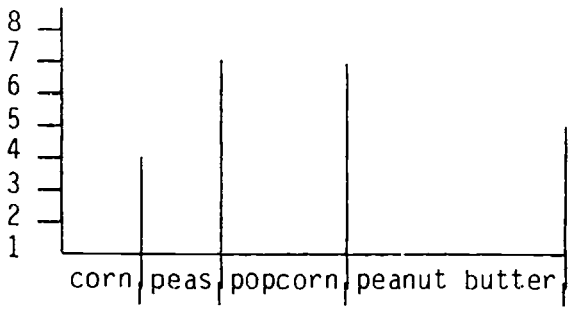
1. Give Student 'A' a file folder with a set of pictures pasted in a series in the folder.



Give Student 'B' a folder with the same pictures loose inside. 'A' must describe each picture one by one. 'B' must try to place his pictures in the same order as 'A's'.

e.g., 'A': "The first picture is yellow."
"We eat the seeds."
"Oil is made from the seeds."

2. Survey other classes to determine their favourite "seed foods." Make graphs.



3. Discuss how "seed foods" taste. Brainstorm as many descriptive words as you can.

e.g., Peanut butter -- nutty, crunchy, sticky, gooey
Popcorn -- salty, chewy, buttery

Brainstorm with students the names of seeds that birds and animals eat.

Please refer to the book

The Carrot Seed

by Ruth Kraus

Scholastic Book Services, 1945

THE CARROT SEED

This lesson was developed by Mark Stainer, Teacher Consultant

As this lesson emphasizes language related to science concepts, you may wish to teach it during your Science period.

English Vocabulary (* actually developed in this lesson)

* seeds
* carrot
* weeds
* ground
* planted
* sprinkled
* pulled

Phrases

* won't come up
* nothing came up

English Sentence Patterns (* actually developed in this lesson)

* A little boy planted a carrot seed.
  His _____ said, "I'm afraid it won't come up."
  But he still pulled up the weeds around it every day and sprinkled the ground with water.

English Language Concepts (* actually developed in this lesson)

Special Materials Required (See illustrations 18 and 19)

Outline figures

Concept Development/Language Exposure

1. Develop vocabulary items:

seeds:	1.	Observe, touch and taste different types of seeds.
	2.	Go on an outdoor field trip. See if you can locate any seeds. Bring them back to the classroom.
	3.	Use the seeds to make a seed picture.
carrots:	1.	Observe, touch and taste a carrot seed.
	2.	Draw a picture of a carrot seed.
	3.	Observe, touch and taste a carrot.
	4.	Use paper, other seeds, straws etc. to create a Mr. Carrot Head.
	5.	Have students peel and cut carrots. Use them in a specific recipe or boil them.
weeds"	1.	Go on an outdoor field trip. Collect as many different types of weeds as possible.
	2.	Create a weed display.
	3.	If you can find some weed seeds, plant them.
	4.	Look in outdoor magazines, seed catalogues, garden magazines; cut out and display weed pictures.
ground:	1.	Go outside and play the following game. Students follow directions given by the teacher. "Run on the ground. Hop on the ground. Turn cart wheels on the ground. Kneel on the ground. Touch the ground. Add water and make mud. Model something with it." If it is covered with snow: "Dig to find the ground. Clear the snow away from your patch of ground."
planted:	1.	Teacher gives each student some dirt in a cup and some seeds, plant the seeds.
	2.	Plant a stick in the snow.
	3.	Plant a pencil in the plasticene.
sprinkled:	1.	Teacher gets a watering can (cup with holes) and sprinkles water. Students can create their own watering cans.
	2.	Sprinkle salt, sugar, flour, water on students' hand. What does each feel like? How does it taste? What does it smell like?
	3.	Run through the sprinkler.
	4.	Go outside and sprinkle each other with snow.
pulled:	1.	Teacher demonstrates pulling. Put a very long piece of string in a drawer; pull and pull and pull to get it out.
	2.	Have a piece of plasticene with many straws in it. Everyone has a turn to pull out a straw.
	3.	Play tug-of-war.
	4.	Pull a piece of thread from a cloth.
	5.	Pull a hair from your head????

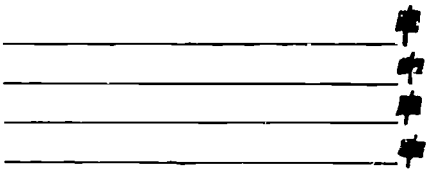
won't come up
nothing came up:

1. Meet "won't come up" the magician. Nothing works. The rope won't come up, the coins won't come up, the rabbit won't come up out of the hat, the student won't 'leviate' (come up off the table). Too bad "nothing came up."

2. Teacher tells the story using the overhead projector/felt story.

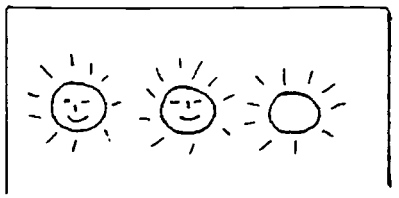
Language Practice

L 1. Teacher puts masking tape rows on the floor. Each time students hear a specified word they bend down and pretend to dig a hole, plant an imaginary seed, cover it up, water it. They then walk a step ahead for the next planting.



L 2. Each time the students hear a specified word they walk along the masking tape row. Teacher says stop. Students wait for the next word.

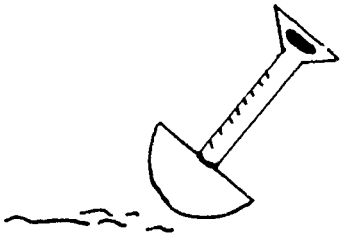
L 3. Each time the students hear a specified word they draw a happy face on a blackboard sun.



L 4. Each time students hear a specified word they pull a paper weed from a plasticene stand.

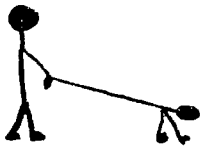
L 5. Students listen for a specified word. When they hear it they drop a seed into a cup.

L 6. Students listen for a specified word. When they hear it they pretend to shovel out some dirt. Make a paper shovel.

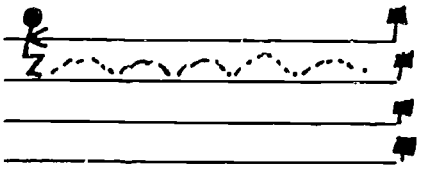


L/S 7. Students repeat a specified word/phrase/sentence, then they have a wheel race. Children can make paper wheels by putting a two inch strip of paper together to form a circle.

L/S 8. Students first repeat a specified word/phrase/sentence then have a wheel barrow race. To make it more challenging the student (wheelbarrow) can carry something on his back.



L/S 9. Students first repeat a specified word/phrase/sentence. They then pretend to be rabbits after the carrots. They have a hopping race between the rows of carrots.



L/S 10. Student first repeat a specified word/phrase/sentence. One student then catapults a cardboard water drop into the air. Other students try to catch it.

S 11. Teacher tells the story using the overhead. Teacher leaves out key words; students fill in missing words.

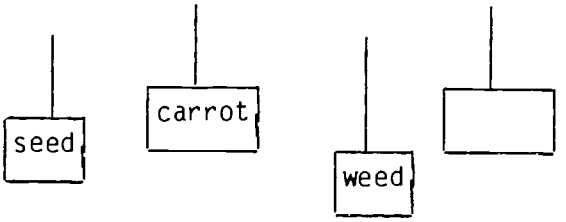
S 12. Teacher acts out the story. Students act/tell the story along with the teacher.

S 13. Students select a water drop. They read the water drop card, then use the word in a sentence. (Pattern sentence or original)

R 14. Students jump (with their eyes closed) onto the garden rows. Which ever words they touch they use in a sentence. (Pattern sentence or original)

seed	weed
carrot	planted

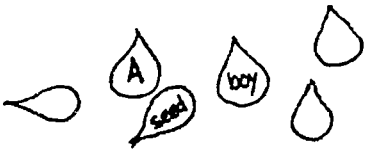
R 15. Teacher hangs word cards from the ceiling. Students are blindfolded, then walk into the cards. Whichever one they touch they use in a sentence. (Pattern sentence or original)



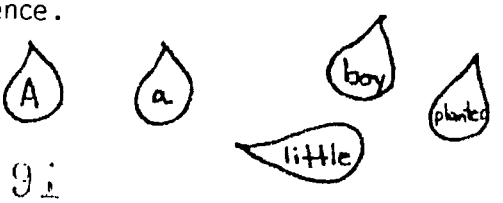
R 16. Teacher writes words on masking tape rows. Student must step on a word then read it. If he reads the word correctly, he goes to the next; if he misses one he stops to wait another turn.

seed	weed	carrot
planted	seed	

R 17. Teacher writes words on drops of water. Teacher then sprinkles them on to the floor. Students take turns picking up drops to read.

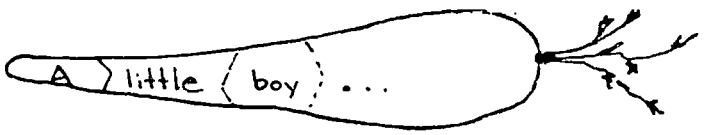


R 18. Repeat the above activity using words from one sentence. Students take turns picking and reading drops. They then work together to form the sentence.



R 19. Teacher writes phrases/sentences on paper carrots. Students pull carrots from a bucket and read.

R 20. Teacher cuts carrots into word cards. Students assemble and read.

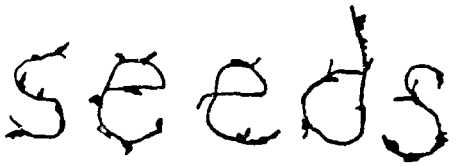


W 21. Teacher prepares a dirt/grit tray. Students write words in the dirt.

W 22. Students use a paint brush and water to write words on the blackboard.

W 23. Students use seeds to write words. This can be done on the table or seeds may be glued on paper for permanent display.

W 24. Students gather weeds and use them to write words.



W 25. Students write their own carrot sentences. (Patterns.) First word might be the seed.

Application

1. Students and teacher brainstorm ideas. These will be used to fill in the blanks in order to create original stories.

A _____ _____ planted a _____ _____. His _____ said, "I'm afraid it won't come up." But he still pulled up the weeds around it every day and sprinkled the ground with water.

2. Student and teacher brainstorm carrot ideas. Create original poem.

Carrots
Orange, green
Long, slender, thin,
Good, sweet, tender, tasty
Carrots

FROM THE SEED IN THE GROUND

As this lesson emphasizes language related to science concepts, you may wish to teach it during your Science period.

English Vocabulary (* actually developed in this lesson)

* seed
* root
* stem
* shoot
* blossom
* ground
* lane
* weeds
* growing

English Sentence Patterns (* actually developed in this lesson)

* There's a _____ growing out from the _____.

English Language Concepts (* actually developed in this lesson)

Special Materials Required (See illustrations 21 and 22)

Flannelboard figures

FROM THE SEED IN THE GROUND

- Connie Kalder

Chorus

If you've got the sun and if you've got the rain
And you plant a little seed in the old back lane
And you wish and you pray and keep the weeds down
Then you might find - oh-o-o - you might find

1. A root growing out from the seed in the ground.

   CHORUS

2. A shoot growing out from the root from the seed in the ground.

   CHORUS

3. A stem growing out from the shoot from the root from the seed in the ground.

   CHORUS

4. A blossom growing out from the stem from the shoot from the root from the seed in the ground.

   CHORUS

5. A seed growing out from the blossom from the stem from the shoot from the root from the seed in the ground.

Concept Development/Language Exposure

1. See CD/LE activities for Level One: Parts of a Plant.

2. a) Place the flannelboard figures on the board one at a time and ask the students to provide the name of each part (review).

   Make a statement about each figure.

   e.g., There's a root growing out from the seed.

   b) Sing the song, placing flannelboard figures on the board in the appropriate places. Students may attempt to sing along after they have heard it a few times. Use gestures where appropriate to help students understand the words: e.g., hands together for praying. Explain or use pictures to give meanings for other words: the old back lane.

Language Practice

L 1. a) Place one of the figures on the board and make a statement about it:

   e.g, "There's a blossom growing out from the root."

   Students indicate whether statement is true or false.

L b) Make a statement:

   "There's a root growing out from the seed."

   Have one student select the appropriate figure and place it on the board.

   OR

   Provide each student with a copy of the figures. Have them hold up the appropriate one for the statement.

L/S 2. Sing the song to the students omitting key words. Students supply the appropriate words. (Provide visual clues.)

   e.g., Teacher: "If you've got the _____ (hold up picture of sun) and if you've got the _____ (hold up picture of rain).

L/S 3. Have the students dress up (as in Parts of a Plant lesson). Sing the song with them as they act out the parts.

S/R 4. Make a Big Book. Have students illustrate. Sing the song referring to print. Do various activities with the book:

   e.g., - have students match flashcards to words in the book.
   - cover up key words in the book. Students read book attempting to fill in these words.

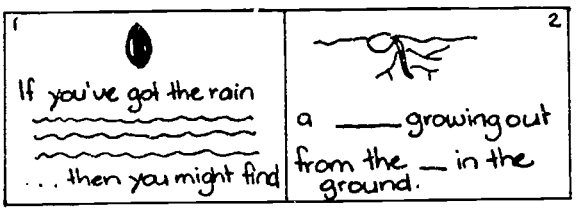
S/R 5. Make up sentence strips and cut them in half:

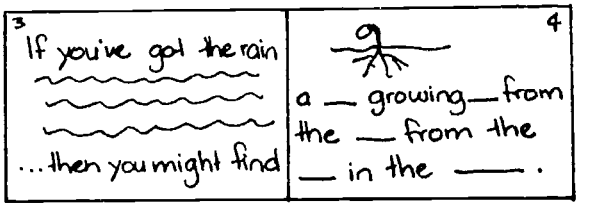
A root growing out	from the seed in the ground.	
A shoot growing out	from the root	from the seed in the ground.
A stem growing out	from the shoot	from the root
from the seed in the ground.		

Have students put the phrases back together and match them to the appropriate pictures.

R/W 6. Use the pictures provided to make individual books for the students. Use a vanishing technique:

e.g.,





etc.

Application

1. Divide the class into six groups. Have each group learn one verse of the poem "The Seed (2)" by Christopher Rowe. (See p. 124.) Have students illustrate their verse. The teacher can read the first and last verses while the students present their verse to each other or another class.

GRADE TWO - CULMINATING ACTIVITIES

1. Start an indoor garden. Plant some seeds in containers such as milk cartons or plastic ice cream tubs. Observe the seeds as they germinate and start to grow. Record changes each day. Discuss and describe.

2. Make a bulletin board about seeds. Have students draw pictures or cut out magazine pictures of seeds and place them on the board.

3. Hairy Monsters:

   a) Put a small amount of potting soil in the middle of a piece of J-cloth about 15cm square. Sprinkle on some grass seed and cover with more soil.

   b) Draw a monster face on a clean, empty plastic bottle (detergent, vinegar or Javex containers) with felt markers or crayons. Fill the bottle with water.

   c) Twist the corners of the J-cloth tightly together and tie with a garbage bag twist-tie. Lower the loose ends of the J-cloth into the bottle until the ball of soil sits on top of the bottle.

   d) Put the bottle in a window and keep it full of water. Watch the seeds grow and grow until your monster turns into a scary, hairy monster!

Initial Assessment Activities

Grade Three

1. Review Grade One and Two concepts.

2. Conduct a brainstorming session with the whole class to determine what they know about: various types of plants and their habitats; needs of plants; and the ways in which people use plants. Record and categorize responses. (See Grade One - Initial Assessment Activity #3.)

Science/Social Studies

*1. Carry out experiments to determine what things a plant needs to grow.
2. Germinate several varieties of seeds. Which sprouted first? last?
*3. Plant several kinds of seeds. Keep daily journals of their growth. Record waterings, amount of light they get, daily temperature, etc. Measure plants.
4. Go for a walk outside. Look for:
   a) plants that are growing in confined spaces. (e.g., cracks in rocks). Are they smaller than other plants of the same kind that are growing in unconfined spaces?
   b) boards, boxes and other flat objects that have been lying on the ground for some time. Look under them and discuss the condition of the grass or other plants growing there.

Teacher's Notes

These are possible activity ideas for this topic. They can be used in lessons you make up, as enrichment activities, or as learning centre activities. Most can be done in any language. Activities with an * are actually used in the sample lessons which follow. Spaces have been left for you to record your own activity ideas.

ACTIVITY IDEAS

TOPIC D: **HOW PLANTS GROW**

Math

1. Make graphs showing the growth of your plants. Hold a strip of paper at the base of your plant, cut it off at the height of the plant. Label the strip with the date, paste it on paper.

Language Arts

*1. Make "I.V." stories describing experiments to determine the needs of the plants.

Music, Poems, Stories

"From the Seed in the Ground"
"My Garden"
"The Farmer Plows The Ground"
"Make a Garden"
"The Farmer Plants His Seed"
"From Winter to Spring"
"Dig a Little Hole"

The Carrot Seed

Art

Physical Education/Movement

1. Pretend that you are plants. Curl up on the floor, slowly unwind and grow as tall as you can.

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Special Activities

*1. Make project cubes to display information acquired about plants.
2. Turn your classroom into a greenhouse! Grow plants in buckets, hanging pots, on windowsills, etc. Add plant tending to your chore list.
3. Board game.
*4. Try to create various plant environments.

e.g., desert - cactus garden
jungle - terrarium
ocean - aquarium

If you cannot obtain the necessary plants or equipment make dioramas.

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NEEDS OF PLANTS

As this lesson emphasizes language related to science concepts, you may wish to teach it during your Science period.

English Vocabulary (* actually developed in this lesson)

* water
* soil
* light
* warmth
* space
* need/s
* healthy
* unhealthy

sick
wither/s
die/s

English Sentence Patterns (* actually developed in this lesson)

* What does a plant need to grow?
* A plant needs _____ to grow.
* Plants need _____ to grow.

If they don't have _____ the plants _____.
If a plant doesn't have _____ it _____.

English Language Concepts (* actually developed in this lesson)

Special Materials Required (See illustration 24)

Seeds
Soil
Plastic cups, egg cartons

Concept Development/Language Exposure

Divide the class into five groups. Each group will hypothesize/carry out the experiment in one area and report results to the class.

1. Plants need soil to grow.

   Materials: 2 plastic cups, 2 germinated seeds, soil, marbles.

   Method:
   1) Put soil in one cup, marbles in another.
   2) Put a seed in each cup.
   3) Cover the seeds with more soil and more marbles.
   4) Place the cups in a window and water regularly.
   5) Record what happens over the next ten days. (Have students hypothesize about what they think will happen.)

   Expected Results: The seeds should sprout in both containers but those planted in the marbles will not grow for very long.

   (Note: Some plants, such as those in your aquarium, do not require soil to grow. Discuss this later when dealing with the topic of adaptation.)

2. Plants need water to grow.

   Materials: 2 young plants in plastic cups.

   Method:
   1) Water one plant every day for five days. Do not water the other plant at all.
   2) Record what happens.

   Expected Results: The unwatered plant will begin to droop and lose its leaves. The watered plant will appear larger and may have grown new leaves.

3. Plants need light to grow.

   Materials: 2 young plants in plastic cups.

   Method:
   1) Place one plant on a window ledge. Place the other plant in a dark closet or cover with a cardboard box.
   2) Record what happens.

   Expected Results: The plant that did not receive any light will look smaller and paler than the plant that received light.

4. Plants need warmth to grow.

   Materials: 2 seeds planted in plastic cups.

   Method:
   1) Place one cup in a warm, well-lit area. Place the other cup in a cool area (outside the window, in the refrigerator).
   2) Water both seeds regularly for ten days.
   3) Dig out the seeds from both cups.
   4) Record the results.

Expected Results: The seed kept in the warm area should have sprouted and developed roots. The seed kept in the cool area will be less developed, if at all.

5. Plants need space to grow.

Materials: 2 egg cartons filled with soil, seeds (radish seeds sprout quickly).

Method:
1) Plant seeds in both egg cartons. (Plant many seeds in each.)
2) Place the cartons in a warm, well-lit area. Water regularly.
3) Allow the seeds to grow freely until the seedlings are a few inches high.
4) Thin out the seedlings in one carton, leave the other as is.
5) Record what happens in the next few days.

Expected Results: The plants that are not thinned will be smaller and less healthy looking.

* Have students report to the class regularly on the condition of their plants. Model the sentence patterns for them and encourage them to use the vocabulary when you are discussing their experiments.

Language Practice

L 1. Change game: Pairs of students stand back to back with elbows interlocked. When they hear a specified word or statement they must change partners.

e.g., Change when you hear "Plants need water to grow."
"Plants need soil to grow."
"Plants need light to grow."
"Plants need water to grow." (Students change)

L 2. a) Make statements about the needs of plants.

e.g., Plants need water to grow.
Plants need sugar to grow.
etc.

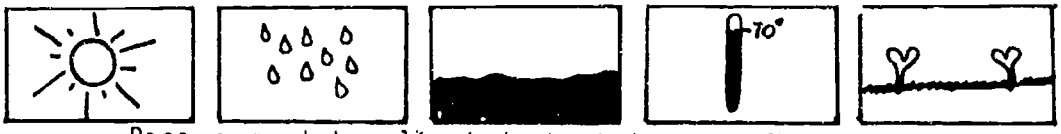
Students crouch on the floor pretending they are plants. If the statement is TRUE they must 'grow;' if the statement is FALSE they must not move.

L/S 2. b) Make three statements:

e.g., Plants need light to grow.
Plants need candy to grow.
Plants need milk to grow.

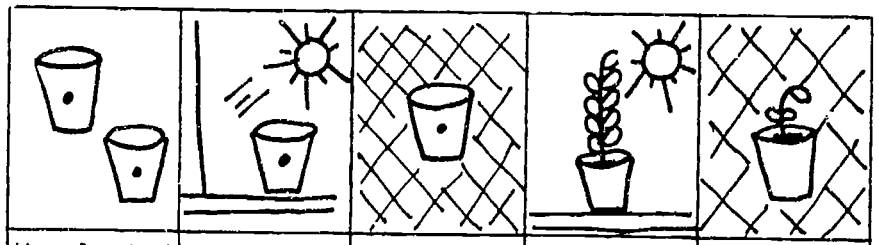
Students must repeat the correct statement.

L/S 3. Place chairs in a circle. Have one less chair than there are students. Prepare sets of 5 cards depicting light, warmth, water, soil, space.



Pass a card to all students but one. That student, "It," stands in the centre of the circle. When the others ask "What do plants need to grow?," s/he makes a statement - "Plants need soil to grow." All students holding the appropriate cards switch places; "It" also tries to get a chair. The student who is left without a chair becomes "It."

R/W 4. Each group makes a T.V. story describing it's experiments and it's conclusions. They may then present these to the rest of the class.



We planted 2 seeds.	We put one in the window.	We put one in the closet.	The one in the window grew tall.	The one in the closet was not healthy.

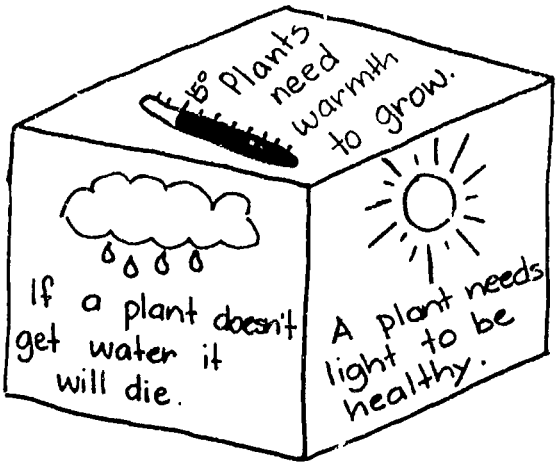
R 5. Make an experience chart with the entire class listing the plants' requirements. Use a frame sentence.

A plant needs _____ to grow.

Chant. Do chart activities.

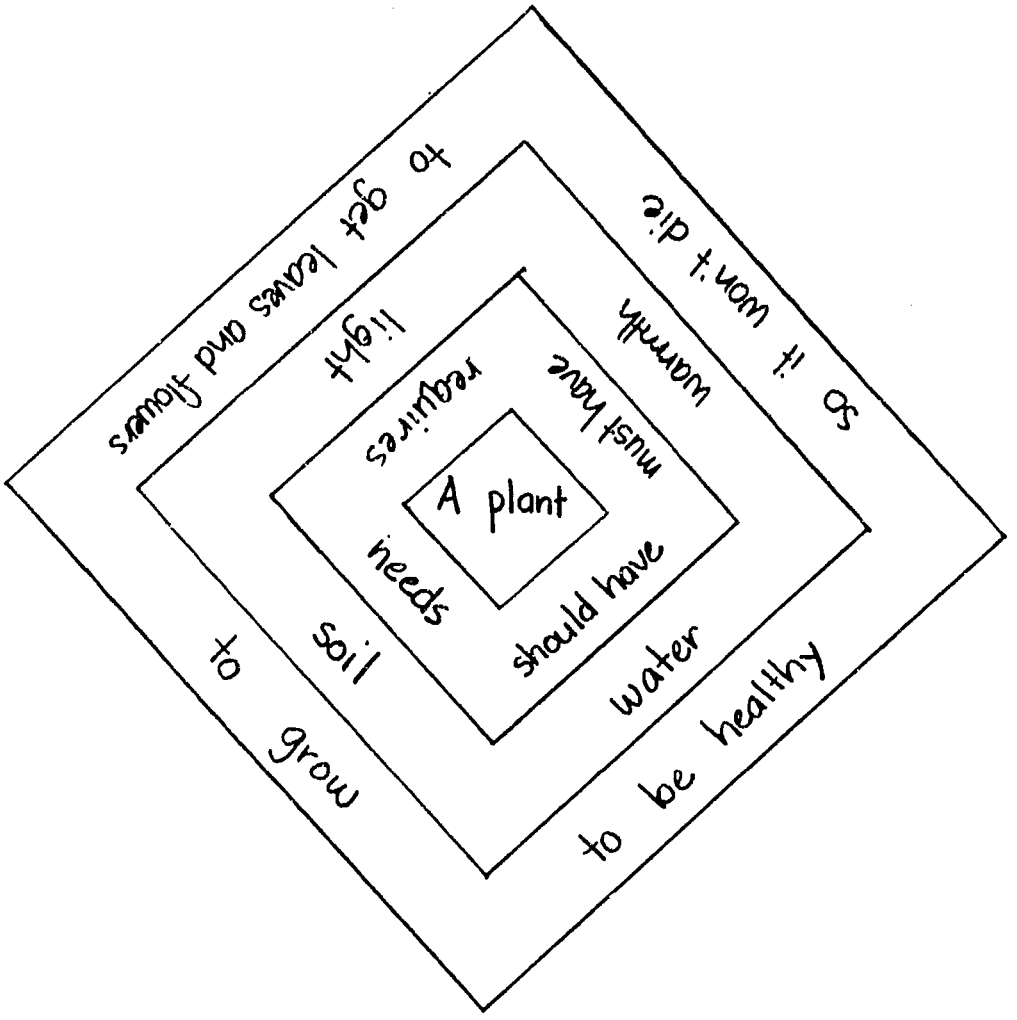
Application

1. Have students make a project cube. (Let each group design one side of the cube.)



2. Expansion exercise: Students must pick one phrase/word from each section of the diagram and put them together to make a true sentence.

e.g., A plant needs water so it won't die.



PLANTS LIVE IN DIFFERENT HABITATS

As this lesson emphasizes language related to science concepts, you may wish to teach it during your Science period.

English Vocabulary (* actually developed in this lesson)

* tundra	* dry	(Many of these words should
* desert	* sunny	already be familiar to students)
* jungle	* dark	
* forest	* a lot of	
* ocean/lake	* some	
* warm	* much	
* cool	* water	
* hot	* sun	
* cold	* warmth	
* wet		

English Sentence Patterns (* actually developed in this lesson)

* A(n) _____ is _____.
* Plants that live in the _____ don't need _____.

English Language Concepts (* actually developed in this lesson)

Special Materials Required

Pictures of different environments
Various types of plants.

Concept Development/Language Exposure

1. Look at pictures of the various environments. Help the students to describe them in terms of the things necessary for plant growth. Summarize the information on a chart. (Use symbols.)

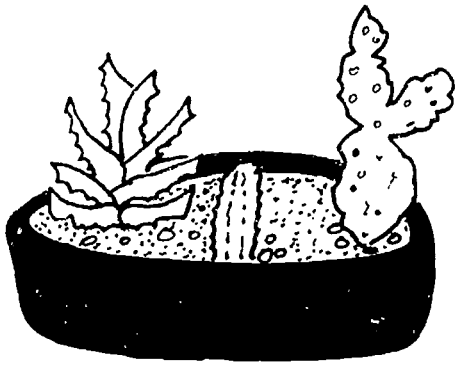
	Temperature	Sunlight	Water
ocean			
forest			
jungle			
desert			

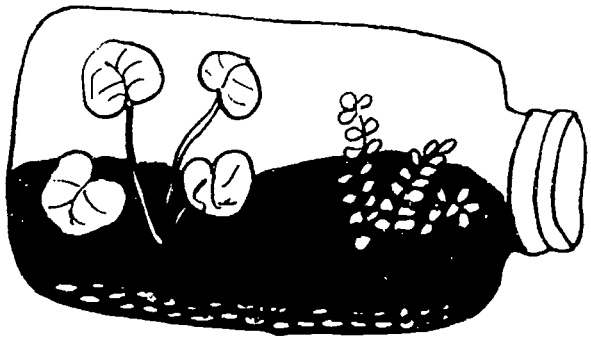
Describe the various environments using the sentence pattern:

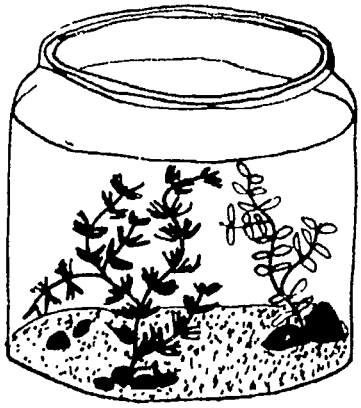
e.g., An ocean is cold.
An ocean is dark.
An ocean is wet.

Explain, using the sentence patterns, that some plants that live in one kind of environment cannot live in any other kind of environment. Show students pictures of these "specialized" plants (cactus, water lily, palm tree, etc.). Place these pictures beside the appropriate categories.

2. If you are able to obtain the plants, have students create miniatures of these environments.

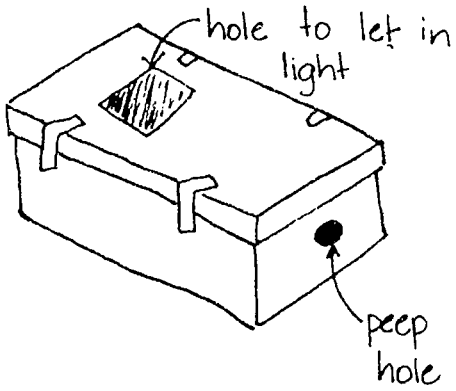


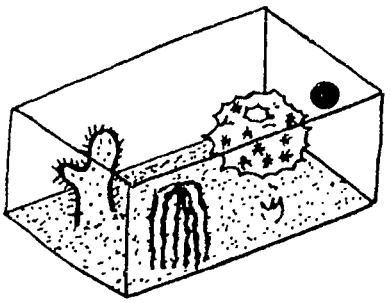




If you cannot acquire the necessary plants, have the students make dioramas. (Use the pictures in Activity #1 as models.)

Cut the plants from paper or mould them from plasticene.





3. Have the students look in magazines for pictures of different kinds of plants and their environments.

4. Have students explore the environment around the community to find out where plants are growing and where they are not growing.

Language Practice

L 1. Make up riddles about the different environments.

e.g., A _____ is hot.
A _____ is dry.
A _____ is sunny.

Students guess which environment you are describing.

L 2. Seat students in a circle. Pass out pictures of the different environments, one to each student. Stand in the centre of the circle and make a statement:

e.g., "Plants that live here don't need much water."

All students holding appropriate pictures (in this case the desert) must change places.

S 3. a) Hold up one of the pictures. Ask students to describe it using the sentence patterns.

b) Ask students to describe the needs of plants that grow in each environment.

R 4. a) Write statements describing the environments on sentence strips. Have students match them to appropriate pictures.

e.g., A desert is hot.

b) Cut the strips in half. Have students match the halves to make true statements.

e.g., Plants that live in the desert | don't need much water.

Application

1. Have students work in groups. Each group may illustrate and describe one environment.

English Vocabulary (* actually developed in this lesson)

* plants	* water
* toward	* growing
* away from	* bending
* light	* leaning

English Sentence Patterns (* actually developed in this lesson)

* What are (the plants/you) doing?
* I am _____ toward/away from the _____.
* They are _____ toward/away from the _____.

English Language Concepts (* actually developed in this lesson)

Special Materials Required

Shoeboxes
Seeds
Soil

Concept Development/Language Exposure

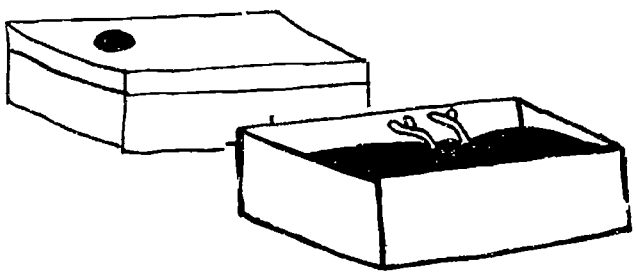
1. Introduce the concepts of "toward" and "away from" using concrete examples:

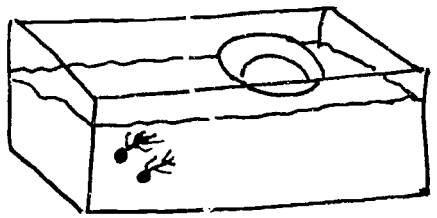
   e.g., "I am walking toward the door."
   "I am walking away from the door." (Perform actions.)
   "I am looking toward the door."
   "I am looking away from the window."

2. Have students conduct the following experiments:

   a) Plant several seedlings in a plastic lined shoebox. Cut a small hole at one end of the lid. After seven days remove the lid to see what has happened to the plants. (They will be bending toward the patch of light at the end of the box.)

   b) Plant seeds at one end of a clear plastic refrigerator container, up against the front so that you will be able to watch the plants grow. Bury a small clay flowerpot at the other end. Put water in the flowerpot and not anywhere else. Place the entire container in a dark place. In a few days, check to see which way the roots are growing. (They will be growing toward the pot of water.)





Before you have determined the results of the experiments, ask students to predict what will happen to the plants.

Language Practice

L 1. Play Simon Says using vocabulary items "toward" and "away from."

   e.g., Simon says, "Go toward the blackboard."
   Simon says, "Hop away from your chair."
   "Walk away from the door."

   Students must only obey the command if you have used the words, "Simon Says."

L/S 2. Give a direction to a student (use vocabulary they know already):

   "Skip toward the bookcase."

As s/he is performing the action, ask her/him:

"What are you doing?"

Student responds using the sentence pattern:

"I am skipping toward the bookcase."

L/S 3. a) Look at the plants in Experiment A. Ask the students to tell you what has happened to the plants. Modify their responses to fit the sentence patterns.

e.g., They are leaning toward the light.
They are growing toward the light.
They are bending toward the light.

L/S b) Substitution drill:

Teacher: What are the plants doing? bending
Students: They are bending toward the light.
Teacher: What are the plants doing? leaning
Students: They are leaning toward the light.

(Repeat these activities with Experiment B.)

S/R 4. Introduce the printed forms of "toward" and "away from."

Make up direction cards:

toward		away from

Each student picks a card, performs an appropriate action and tells what s/he is doing: e.g., "I am walking toward the door."

S/R 5. Have students outline the procedure and results of the experiments. Record their statements on chart paper.

W 6. Have students copy and illustrate the chart story.

Application

1. Have each student decide upon an action they can do around the school which involves movement "toward" or "away from" something. Take photos of each student performing his action. Have students write a sentence or two describing their picture. Make pictures into a book or a wall display.

Science/Social Studies

*1. Make a display of local plant varieties.
2. What kinds of plants grow in the Arctic? Why are there no trees? Are there places where no plants grow at all? Why?
3. Each student may research one "exotic" plant (e.g., cactus) and present the information to the class in the form of a mural/model/project cube/etc.
4. Discuss the ways in which new plants have been grown (e.g., hybrids). Have students imagine new plants that they would like to see. What would they look like? What would they be called?

Teacher's Notes

These are possible activity ideas for this topic. They can be used in lessons you make up, as enrichment activities, or as learning centre activities. Most can be done in any language. Activities with an * are actually used in the sample lessons which follow. Spaces have been left for you to record your own activity ideas.

ACTIVITY IDEAS

TOPIC E: **TYPES OF PLANTS**

Math

1. Have pairs of students survey teachers and other people to find out what kinds of plants they have at home. Graph to find out which types of house plants are most common.

Language Arts

*1. Make a plant book with pictures and descriptions of local/non-local plants.

Music, Poems, Stories

Art

1. Collect a variety of plants to dry/press. Use them to decorate note paper, bookmarks, etc.
2. Draw small pictures of plants. Cut them out and use for a mobile.
3. Make leaf and bark rubbings.

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Physical Education/Movement

Special Activities
(Where Appropriate)

PLANT CARDS

Collect the leaves of as many different trees, plants, or bushes as you can. Carefully trace the outline of each leaf on cardboard. Cut along the lines to make a card silhouette of each leaf. You may wish to draw in the veins and colour the leaf on one side. On the back side print the names of the plants.

To Play:

1. Deal the cards, leaf side up. Take turns identifying the leaves, one leaf to a round. If a person cannot identify a leaf, he must pass. If s/he can identify the leaf, s/he puts it in her/his "stack." When a player cannot identify a leaf in her/his hand and must pass, on the next turn s/he may identify and claim a leaf in another person's hand. The player with the most leaves at the end of the game wins.
2. Deal the cards behind the back of each person. Each player must try to identify the leaves by touch-feeling the shape of each leaf.

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English Vocabulary (* actually developed in this lesson)

* names of local plants
* berries
* trees
* flowers

etc.

English Sentence Patterns (* actually developed in this lesson)

In (community) there are (name of plant).
There are (plant) in (community).
* Do _____ grow in _____? Yes, they do. No, they don't.
* _____ grow in _____.
_____ don't grow in _____.

English Language Concepts (* actually developed in this lesson)

Special Materials Required

Specimens of local plants
Pictures of local plants
Pictures of plants that don't grow locally

Concept Development/Language Exposure

1. Go for a nature walk around the community. Collect specimens of many different kinds of plants (collect seeds, branches, leaves, flowers, etc.).Identify as many of these as possible. You may wish to have a local person accompany you to provide local names. Make a display in the classroom.

2. Introduce names of plants using either real plants or pictures. Use sentence patterns. Include some plants that do not grow in your community (e.g., palm trees, cacti, etc.). Ask the C.A. questions about the plants:

   e.g., Teacher: Do bananas grow in Wrigley? (Hold up picture.)
   C.A.: No, bananas do not grow in Wrigley.

3. Place plants in a "magic hat." As you pull out the plants, say their names. Encourage the students to talk about the different plants - where they have seen them growing, ones they like, etc.

Language Practice

L 1. Tape plants to tongue depressors. Give one to each student. When you say the plant's name, the student holding it stands the plant in a modelling clay base. Display the mounted plants on a table. (They may be labelled later as a reading or writing activity.)

L 2. True/False Game: Hold up a picture and make a statement about it. If the statement is TRUE, students hop forward.

e.g., "Coconuts grow in Wrigley."

In this case students remain still. Teacher provides correct statement.

"No, coconuts don't grow in Wrigley."

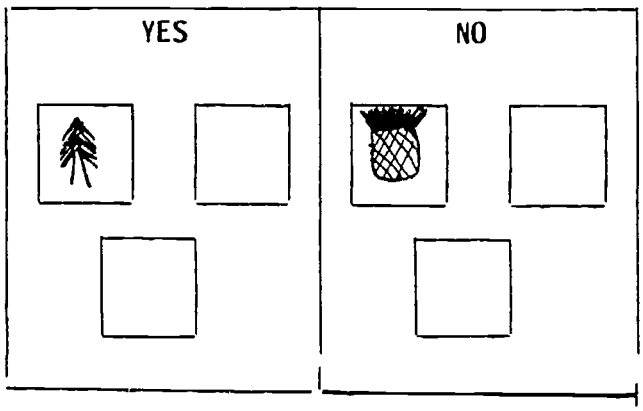
S 3. Seat students in a circle. Pass a plant around the circle. Each students whispers the name to the next. To make it more fun, play a game like "Hot Potato" where students pass the plant as quickly as they can while the music plays. When the music stops, the student holding the plant repeats its name.

L/S 4. a) Categorize the items in a pocket chart.

Do they grow in Wrigley?

Chant with students:

- Spruce trees grow in Wrigley.
- Raspberries grow wild in Wrigley.
- Cacti don't grow in Wrigley.
- Pineapples don't grow in Wrigley.



b) Make a card game with two types of cards:

pictures  

words yes no

Students pick one picture card and one word card to make a sentence.

 "Spruce trees don't grow in Wrigley."

No

The other students decide if it is a true statement. If so, they repeat it. If not, they correct it.

S/R 5. Introduce print on the pocket chart:

 grow in Wrigley. Have students place pictures on the appropriate side and make a sentence. (e.g., Birch trees grow in Wrigley.

S/R 6. a) Make sentences using pictures and sentence strips. Each student may make a sentence and read it. Other students decide if the sentence is true.

 grow in Wrigley.

b) Arrange the sentences:

 grow in Wrigley.

Chant

 grow in Wrigley.

 grow in Wrigley.

 grow in Wrigley.

But,  don't grow in Wrigley.

You may wish to introduce the plant names in print as well.

* You should do other sight word activities with them - e.g., matching word cards to pictures (concentration game).

e.g.,

grow in Wrigley.

Spruce trees

R/W 7. Provide students with stencils that can be stapled together to make books. Students draw an appropriate picture on each page. They may also fill in the blank with the plant name. (Be sure that models are provided.)

_____ grow in Wrigley.

Application

1. Talk with students about things that people grow in gardens. Have each student draw a picture of one thing that grows in a garden. Divide the class into pairs. Each student must find out what grows in his/her partner's garden by asking questions.

Science/Social Studies

*1. Invite an elder to the classroom to talk about the ways in which local plants were/are used (e.g., birchbark baskets, medicine, sprucebark canoes, etc.). Try to locate some of the items (or photographs) to use in a display.
*2. Discuss the ways in which we use plants today. Examine items in the classroom; determine which are made from plant material. Find out about cotton, rubber, paper making, etc. Classify plants according to the ways in which we use them.
3. Discuss the ways in which animals use plants. This may lead to a simple description of a food chain.
4. Collect many different kinds of wood. Look for unusual and beautiful things made from wood.

Teacher's Notes

These are possible activity ideas for this topic. They can be used in lessons you make up, as enrichment activities, or as learning centre activities. Most can be done in any language. Activities with an * are actually used in the sample lessons which follow. Spaces have been left for you to record your own activity ideas.

ACTIVITY IDEAS

TOPIC F: **WE USE PLANTS**

Math

Language Arts

*1. Experience charts/Big Books/individual and class books.
2. How would your life be different if there weren't any plants? Brainstorm ideas with students. Have them write/dictate a story and illustrate.

Music, Poems, Stories

Art

1. Make models or replicas of traditional items that were made from plants (miniature spruce bark canoes, birchbark baskets, etc.)
2. Make paper - use it for stationery, art, etc.
3. Make dyes from a variety of plants (berries, onion skins, moss/lichens, etc.). Tie-dye T-shirts.
*4. Make murals/collages depicting the ways in which plants are/were used.
5. Weave grasses to make place mats/wall hangings,etc.

Physical Education/Movement

Special Activities

*1. Prepare some traditional foods that were made from plants. Make a recipe book describing uses of food/medicinal plants.
2. Design posters that illustrate one of several ways in which people use plants. Have a poster contest!
3. Make homemade paper.
4. Spin some arctic cotton into thread.
*5. Make a plant cube about your favourite plant.
*6. Make project cubes to display information learned about plants.
*7. Grow a herb garden. Use the herbs in cooking activities.

English Vocabulary (* actually developed in this lesson)

spruce/birch bark	berries	diapers
sap	arctic cotton	wicks
moss	seaweed	seal oil lamps
logs	medicine	
driftwood		
roots		

(Teachers will have to do some research to find out about traditional uses of plants in their area.)

English Sentence Patterns (* actually developed in this lesson)

* What did people/the Dene/the Inuit use for/to _____.
* They used _____ for/to _____.
* How did people/the Dene/the Inuit use _____?
* _____ was/were used for/to_____.

English Language Concepts (* actually developed in this lesson)

Special Materials Required

Pictures of traditional items made from plants

Concept Development/Language Exposure

1. Invite an elder into the classroom to talk about traditional uses of local plants. Ask questions and paraphrase information using the sentence patterns.

2. Look at pictures of traditional items made from plants.

   (Athapaskans: Strangers of the North)
   (Dene/Inuit Traditional Life - Posters)

3. a) Invite an elder from the community to go for a walk to collect plants people used traditionally. Bring these back to make a display in the classroom.

   b) Take pictures of traditional items that are still made or used (bark containers, seal oil lamps, moss chinking, etc.). Add these to your display.

Language Practice

L 1. Lay plant "items"(birchbark, berries, moss, etc.) out on the floor. Make a statement using the pattern: "People used this for _____." Students point to the correct item. Repeat the statement using the vocabulary item.

L/S 2. a) Pick up one of the items and ask a question about it: "How did the Dene/Inuit use _____?" Students may respond as a group first, then individually.

   b) Ask questions such as: "What did the Dene use to make canoes?"
   "What did the Inuit use to make lamp wicks?"

   Students must indicate the correct item and use the term in a sentence:

   "The Dene used sprucebark to make canoes."
   "The Inuit used arctic cotton to make lamp wicks."

   * After some practice, have students select an item and ask questions of each other.

R/W 3. Have students dictate an experience story. They may then draw pictures and write sentences to make a book.

R 4. Write statements on sentence strips and cut in half. Students match these to remake sentences.

e.g., | The Dene used birchbark. | | to make baskets. |

W 5. Give each student (or group of students) one of the plant items traditionally used by the Dene/Inuit. Have them mount it on a large sheet of bristol board. They may then draw

pictures of all the things that people made from this item, and label the pictures using appropriate sentence patterns.

Application

1. Have students (in groups) interview community elders to elicit more information about the traditional use of plants. They may then prepare a report ("T.V." story, captioned pictures, tape recording, etc.) to present to the class.

2. Make a "recipe" book describing traditional uses of food or medicinal plants.

English Vocabulary (* actually developed in this lesson)

* food
* clothing
* building materials
* furniture
* beauty
* health
* pleasure
* paper
  etc.
* trees
* vegetables
* fruits
* plants
* cotton
* rubber

English Sentence Patterns (* actually developed in this lesson)

How is/are _____ used? _____ is/are used for/to _____.

_____ is/are made from _____.

* We use _____ to/for _____.

English Language Concepts (* actually developed in this lesson)

Special Materials Required

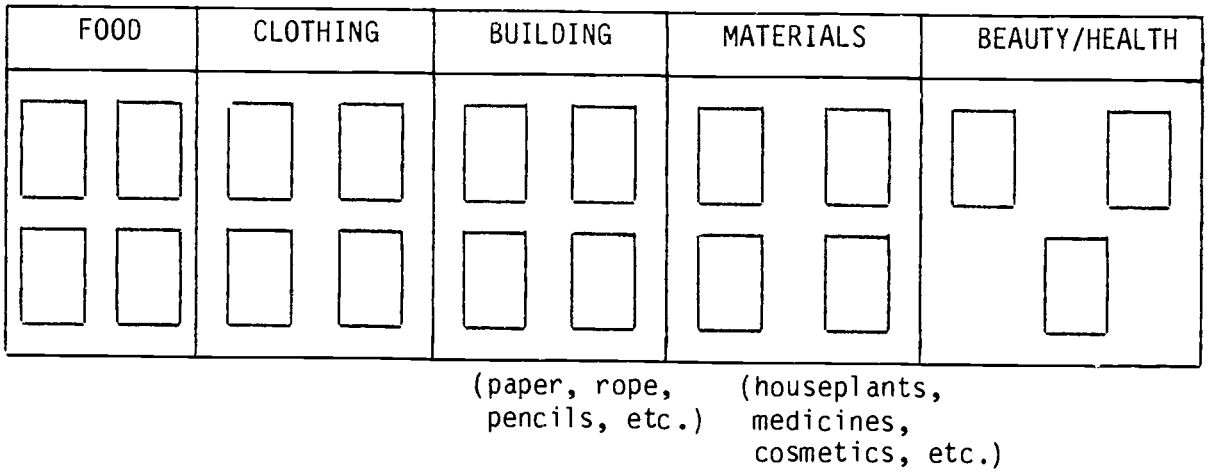
Pictures of plant "products"

Concept Development/Language Exposure

1. Have students look around the classroom to locate as many things as they can that are "plant products." (Direct their attention to things they may not identify - blocks, pencils, etc.) Go for a walk around the community and visit someone's home; repeat the activity. Take polaroid photos of the objects as students identify them.

2. Students are probably not aware that some fabrics and specialized materials (e.g., cotton, rubber, sisal, paper, etc.) are also made from plants. You may want to provide a brief description of the processes used in transforming the plants into these materials. (Look in encyclopedias for information and pictures.) Have students look for examples of these materials in use (e.g., tires, ropes, books, clothing).

3. Make a large wall chart showing the various ways in which we use plants. Have students cut pictures out of magazines and place them in the proper column. Discuss the pictures using sentence patterns.



Language Practice

L 1. Hop the line: Make a masking tape line on the floor. Have students stand on one side with their toes on the line. When they hear a specified word/statement they must hop over the line.

e.g., Hop the line when you hear "We use trees to make paper."

Play a variation of this activity by having students hop forward if a statement is true and backward if it is false.

L 2. Flashlight drill: Make a statement: e.g., "We use rubber to make tires." Have one student shine a flashlight on the appropriate picture on the wall.

L/S 3. Have students stand in a circle holding hands. One student stands outside the circle. Place pictures in the centre of the circle. Teacher makes a statement: e.g., "We use plants for food." The student must try to enter the circle to find an appropriate picture, while the other students try

their arms. When the students does find an appropriate picture s/he should repeat the statement.

S 4. Hopscotch: Use masking tape to make a hopscotch outline on the floor. Place a picture of a plant or plant product in each square. Student tosses a beanbag onto a square and hops to that square. S/he then makes a statement about the picture.

S/R 5. a) Place pictures of plant products upside down in a pile. Have each student pick a picture from the pile and dictate a sentence using the sentence patterns. Record the sentences on an experience chart or on sentence strips in a pocket chart. Divide students into groups. Have each group read the sentences for one category of product, e.g., food or clothing or furniture as you review them all. Chant sentences.

b) Have students pick a sentence from the chart and try to find the picture it matches. Student shows the group the sentence and the picture. The other students indicate whether the two match. Leave the sentences up where students can continue matching pictures to them as a paired or individual activity during free time.

S/W 6. Have each student divide a sheet of paper into five sections by folding and labelling the sections as you did the chart in CD/LE #3. S/he should then draw an appropriate picture in each section and dictate or write a statement about that picture. Students should be able to refer to charts from CD/LE #3 or LP #5.

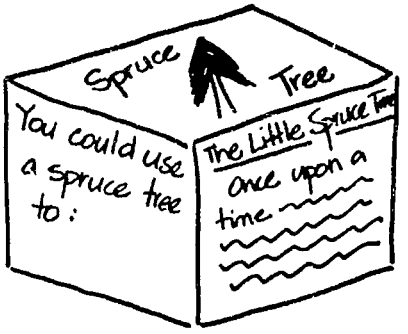
Application

1. Have students draw/paint a large mural showing the many ways in which people in the community use plants.

GRADE THREE - CULMINATING ACTIVITIES

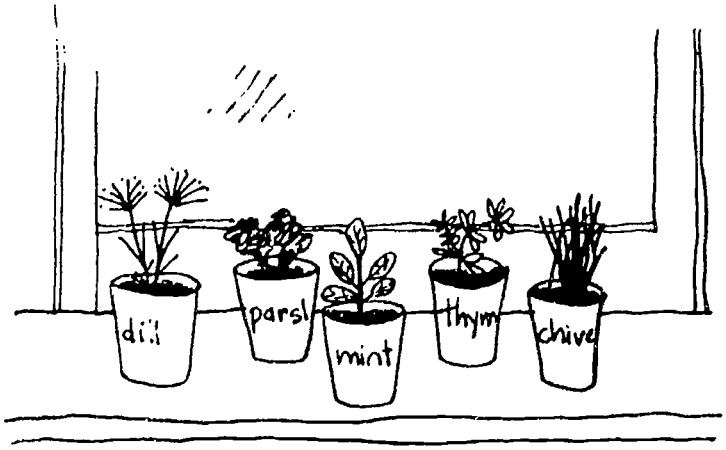
1. Make a plant cube:

   Use a small box.
   Paste a drawing of a plant on top.
   Paste a drawing of a place where the plant likes to grow on one side.
   On another side, paste a picture showing how people use/d the plant.
   On a third side, write a story about the plant.
   On the last side, show something that could be made from this plant. (Use your imagination - how about using a cactus as a back scratcher!)



2. Make project cubes to share and categorize information.

3. Grow a herb garden on your window ledge. Let students taste the various herbs grown. Use them in cooking activities.



EVALUATION ACTIVITIES

It is important to assess what your students have learned during this unit. The following activities evaluate language and concepts.

You can do them orally (in small groups or with individuals) to test listening and speaking or on paper to test reading and writing. These are only suggestions; you can substitute different content or vocabulary items to make them more appropriate for your students. You probably will want to include many other activities as well.

Grade One

1. Tell or give the students four or five words or phrases. Have them indicate which do not belong.

   plant: tree moose moss rose
   plant: roots stem flowers wings leaves

2. Tell or give the students sentence beginnings to match to sentence endings.

A plant	to grow new plants.
A plant has seeds	is a root.
A carrot	can make its own food.

3. Tell or give the students the beginning of a sentence and a number of possible sentence endings. They indicate which sentence endings are appropriate for the sentence beginning.

A plant	has roots.
	can move about.
	can make its own food.
Plants have	leaves.
	fur.
	flowers.
	roots.
	feet.
	stems.

4. Tell or give the students a description of several plants that we eat. They have to guess what the plants are.

It's yellow.	It's green.
It's long.	It's round.
It's a fruit.	It's a seed.
(banana)	(pea)

5. Give students a picture of a plant (or an actual plant specimen). They identify/label the parts.

Grade Two

1. Tell or give the students sentence beginnings to match to sentence endings.

Apple seeds are	yellow.
Corn seeds are	round.
Pea seeds are	flat.

2. Tell or give the students the beginning of a sentence and a number of possible sentence endings. They indicate which sentence endings are appropriate for sentence beginnings.

A seed has	a root. a flower. a seed coat. seed food. leaves.
Seeds travel by	floating. sticking to things. airplane. water. car.

3. Give students a picture of a seed. Have them identify/label the various parts.

4. Tell or give the students four or five words or phrases. Have them indicate which do not belong.

seeds we eat: corn orange pea bean apple

Grade Three

1. Tell or give the students four or five words or phrases. Have them indicate which do not belong.

Plants need: water light sugar warmth soil
Local plants: berries moss willows palmtrees

2. Tell or give the students sentence beginnings to match to sentence endings.

Plants that live in the desert	don't grow in the N.W.T.
Plants that live in the ocean	don't need much light.
Palm trees	don't need much water.

3. Tell or give the students the beginning of a sentence and a number of possible sentence endings. They indicate which sentence endings are appropriate for sentence beginnings.

We use plants for	food. medicine. trucks. clothing.

TREES IN THE WOODS (Source Unknown)

I'm a tree in the woods
I sway in the wind
My hands are the leaves
They fall from the tree
How softly they float
From the top of the tree to the bottom

BABY SEEDS (1) (Source Unknown)

In a milkweed cradle, snug and warm,
(Close fingers into fist)
Baby seeds are hiding safe from harm,
Open wide the cradle, hold it high,
(Open hand and hold it up in the air)
Come along wind, help them fly.
(Wiggle fingers)

MY GARDEN (Source Unknown)

This is my garden;
(Extend one hand forward, palm up)
I'll rake it with care,
(Make raking motion on palm with three fingers of the other hand)
And then some flower seeds
(Make "planting" motion with thumb and index finger on the same hand)
I'll plant in there.
The sun will shine.
(Make circle over head with hands)
And the rain will fall.
(Let fingers flutter down to lap)
And my garden will blossom
(Cup hands together; extend upward slowly)
And grow straight and tall.

TULIPS (Source Unknown)

Five little tulips bright and gay,
(Holding hands with fingers up)
Let us water them every day.
(Sprinkle with other hand)
Watch them open in the bright sunlight,
(Cup hands then close)
Watch them close when it is night.
(Close hands again)

LITTLE SEED (Source Unknown)

Little seed in my hand, I want a tree to grow.
Then plant me in the ground and wait;
It's very, very slow.
Little seed in my hand, how long will it take?
It's going to take a long, long time,
For trees are hard to make.

THE FARMER PLOWS THE GROUND (Source Unknown)
(Tune: Here We Go Round the Mulberry Bush)

First the farmer plows the ground
Plows the ground, plows the ground
First the farmer plows the ground
Then he plants the seeds.

This is the way he plants his seeds...
So that they will grow.

The rain and the sun will help them grow...
Right up through the ground.

Now the farmer picks the beans...
And we have food to eat.

MAKE A GARDEN (Source Unknown)

Dig! Dig! Dig! Rake just so
Plant the seeds, watch them grow.

Chop! Chop! Chop! Pull out weeds
Warm rain and sun, my garden needs.

Up! Up! Up! Green stems climb
Open wide, it's blossom time.

THE FARMER PLANTS HIS SEED (Source Unknown)
(Tune: Farmer in the Dell)

Verse 1: The farmer plants his seed, the farmer plants his seed,
Hi-ho, the dairy-o, the farmer plants his seed.

Verse 2: The rain begins to fall...

Verse 3: The sun begins to shine...

Verse 4: The wind begins to blow...

Verse 5: The food beings to grow...

FROM WINTER... TO SPRING (Source Unknown)

(Do appropriate movements)

In winter flowers curl and wither and dry,
Bowing their heads
They fade and die.
Deep in the earth they sleep
It's winter.

In spring
Rain falls, sun warms
Deep in dark earth
Tiny seeds waken.

Slowly they grow
Slowly
Slowly come to birth
Out of the earth they stretch

Reaching for the sky
Smile to the sun.
Flowers are happy
Spring has come.

THE ROSE (Source Unknown)

I like to pretend that I am a rose
That grows and grows and grows and grows.
My hands are a rosebud closed up tight,
With not a tiny speck of light.
Then slowly the petals open for me,
And here is a full-blown rose, you see!

THE FLOWER (Source Unknown)

Here's a green leaf
And here's a green leaf,
That, you see, makes two.
Here is a bud
That makes a flower,
Watch it bloom for you!

DIG A LITTLE HOLE (Source Unknown)

Dig a little hole
Plant a little seed
Pour a little water
Pull a little weed

Chase a little bug -
Heigh-ho there he goes!
Give a little sunshine
Grow a little rose.

BABY SEEDS (2) (Source Unknown)

In their little cradles, packed in tight,
(Cup hands for a cradle)
Baby seeds are sleeping out of sight.
(Making rocking motions with hands)
The baby seeds are scattered left and right.
(Wave hands to the left and then to the right)

THE SEED (1)(Source Unknown)

How does it know,
this little seed,
if it is to grow
to be a flower or weed,
if it is to be
a vine or shoot,
or grow into a tree
with a long deep root?
A seed is so small
Where do you suppose
it stores up all
of the things it knows?

MARY, MARY (Source Unknown)

Mary, Mary quite contrary
How does your garden grow?
With silver bells and cockle shells
And pretty maids all in a row.

THE SEED (2) (Source Unknown)
by Christopher Rowe

This is a story about a seed,
Lying in the ground;
Which slept right through the wintertime,
Till springtime came around.
When all at once the sunshine came,
And drops of gentle rain,
The ground became much warmer,
And the seed woke up again.

Then from the seed there grew a root
Which wriggled in the ground;
Root from the seed,
That wonderful seed,
Way down in the ground.

Then from the root there came a shoot,
Which came up for some air;
Shoot from the root,
Root from the seed,
That wonderful seed,
Way down in the ground.

Then from the shoot there came a leaf,
When the sun began to shine;
Leaf from the shoot,
Shoot from the root...

Then from the leaf there came a plant,
Watered by the roots;
Plant from the leaf,
Leaf from the shoot...

Then from the plant there came a bud,
As summer came around;
Bud from the plant,
Plant from the leaf...

Then from the bud there grew a flower,
To greet the summer sun;
Flower from the bud,
Bud from the leaf...

But when at last the autumn came,
And leaves fell all around;
A new seed ripened in the flowers,
And then dropped to the ground.
The seed slipped back into the earth,
Washed by the gentle rain;
And slept right through the wintertime,
Till spring came round again.

SEEDS (Source Unknown)

Some seeds go pop down to the ground
Others like feathers float around.
Some seeds have wings like airplanes
They twirl about in roads and lanes.
Some seeds have hooks that hold on tight
They clutch and cling with all their might.
Some seeds that fall are very small
And no one knows they're there at all.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