

NEW

# DIRECTIONS

for success

TOGETHER

## The Kindergarten

### Emergent Mathematics

WORKSHOP GUIDE  
FOR THE VIDEO

3



UQÀM SAV  
Service de l'audiovisuel  
Université du Québec  
à Montréal

Éducation  
Québec



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# Section 1

## PRESCHOOL ACTIVITIES

**“Preschool is a special place, where children continue their development, increasing their learnings, acquiring new learning strategies and forming relationships with other children and adults.”**

To determine whether or not an activity is appropriate for Preschool children, good teachers seek answers to questions such as:

“How do I know this is a good activity?”

“What does a child gain from this activity?”

“Does this activity allow for diverse and differentiated development?”

“Does this activity include students at all levels of development?”

The validity of an activity rests upon the answers to questions such as these.

The Québec Education Program describes six competencies in Preschool Education that provide guidance to Preschool teachers in their choice of appropriate activities. Some activities may be “fun” to do, but if they cannot be linked to the child development described by one or more of these six competencies, then their validity must be questioned.

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Québec, Ministère de l'Éducation.

Québec Education Program : Preschool Education, Elementary Education.

Approved version. Québec : Gouvernement du Québec, 2001

# PRESCHOOL EDUCATION

## Competencies in Preschool Education

### Competency 1

To perform sensorimotor actions effectively in different contexts

#### Key Features of the Competency

- The child broadens his/her repertoire of actions
- The child adjusts his/her actions to the demands of the environment
- The child recognizes ways to ensure his/her well-being

### Competency 2

To affirm his/her personality

#### Key Features of the Competency

- The child increasingly meets his/her physical, cognitive, emotional and social needs
- The child share his/her tastes, interests, feelings and emotions
- The child shows autonomy
- The child develops self-confidence

### Competency 3

To interact harmoniously with others

#### Key Features of the Competency

- The child is interested in others
- The child participates in the group
- The child applies a conflict-resolution process
- The child cooperates with others

### Competency 4

To communicate using the resources of language

#### Key Features of the Competency

- The child shows an interest in communication
- The child understands a message
- The child produces a message

### Competency 5

To construct his/her understanding of the world

#### Key Features of the Competency

- The child shows interest and curiosity concerning the arts, history, geography, mathematics, science and technology
- The child exercises thinking in a variety of contexts
- The child organizes information
- The child describes his/her learning

### Competency 6

To complete an activity or project

#### Key Features of the Competency

- The child becomes involved in a project or activity drawing in his/her resources
- The child shows tenacity in carrying out the project or activity
- The child transmits the results of the project
- The child shows satisfaction with the project or activity

# Section 2



## DESCRIPTION OF THE VIDEO

The video entitled *The Kindergarten: Emergent Mathematics* is produced by the MEQ and features **Preschool** students and teachers in classroom learning situations. In the video, the following math educators also give their views on the process involved in the learning of mathematics by young children:

**Connie Barr**

*Kindergarten teacher, Waterloo Elementary School*

**Christiane Bourdages-Simpson,**

*Kindergarten teacher, Eardley Elementary School*

**Patty May-Richardson,**

*Kindergarten teacher, St. George's Elementary School*

**Michael Cassidy,**

*Mathematics Consultant, Lester B. Pearson School Board*

**Howard Riggs,**

*Faculty of Education, McGill University*

The mathematical activities and teaching styles that are portrayed are intended as a guide to help teachers improve upon their own classroom practices, in relation to the preschool program.

## FORMAT

The video has a duration of 25 1/2 minutes.

After the on-screen introductory remarks, the video consists of 6 segments. Each segment is approximately 4 minutes in length.

The segments are:

1. The Environment
2. Daily Activities
3. Mathematical Ideas
4. Projects & Games
5. Problems & Solutions
6. The Teacher's Role

# Section 3

## HOW TO USE THE VIDEO WITH PRESCHOOL TEACHERS

1. Before viewing the video, form groups of 2 - 4 teachers.  
**To be more effective, where possible, teachers in these small groups should be from different schools.**
2. After viewing each segment, stop the video and have each small group spend about 10 – 15 minutes reflecting upon its contents using the appropriate **Response Sheet** (attached).

The **Response Sheet** provides an opportunity to take note of several interesting activities and to judge the validity of these activities by linking them to one or more of the six competencies in Preschool Education as described in the Québec Education Program.

3. Each **Response Sheet** contains the following sections:
  - 3.1 **Some Ideas I Liked From The Video and Why These Are Valid**
  - 3.2 **Some Activities I Do In My Class and Why These Are Valid**
  - 3.3 **Some Ideas I Liked from Others In My Group and Why These Are Valid**
4. **Personal Action Plan** (5-10 minutes)

Each teacher will look over the notes written on the six individual response sheets and use the **Personal Action Plan** sheet (attached) to record a couple of actions to undertake in the classroom.

**NOTE: It would be helpful to have one person act as a facilitator to start and stop the video and keep the groups on task during the timeline suggested above.**

# RESPONSE SHEETS



# Response Sheet #1: The Environment

## 1. Some Ideas I Liked From The Video and Why They Are Valid

(List below some ideas or activities seen in the video and show their validity by indicating the competencies they help to develop.)

## 2. Some Activities I Do In My Class and Why They Are Valid

(Think of a related idea or activity you do in your classroom and share this with your group. Show the validity of this activity by indicating the competency it helps to develop.)

## 3. Some Ideas I Liked From Others In My Group and Why They Are Valid

(Write some ideas or activities that were shared by others in your group. Why are these valid activities?)



# Response Sheet #2: Daily Activities

## 1. Some Ideas I Liked From The Video and Why They Are Valid

(List below some ideas or activities seen in the video and show their validity by indicating the competencies they help to develop.)

## 2. Some Activities I Do In My Class and Why They Are Valid

(Think of a related idea or activity you do in your classroom and share this with your group. Show the validity of this activity by indicating the competency it helps to develop.)

## 3. Some Ideas I Liked From Others In My Group and Why They Are Valid

(Write some ideas or activities that were shared by others in your group. Why are these valid activities?)



# Response Sheet #3: Mathematical Ideas

## 1. Some Ideas I Liked From The Video and Why They Are Valid

(List below some ideas or activities seen in the video and show their validity by indicating the competencies they help to develop.)

## 2. Some Activities I Do In My Class and Why They Are Valid

(Think of a related idea or activity you do in your classroom and share this with your group. Show the validity of this activity by indicating the competency it helps to develop.)

## 3. Some Ideas I Liked From Others In My Group and Why They Are Valid

(Write some ideas or activities that were shared by others in your group. Why are these valid activities?)



# Response Sheet #4: Projects & Games

## 1. Some Ideas I Liked From The Video and Why They Are Valid

(List below some ideas or activities seen in the video and show their validity by indicating the competencies they help to develop.)

## 2. Some Activities I Do In My Class and Why They Are Valid

(Think of a related idea or activity you do in your classroom and share this with your group. Show the validity of this activity by indicating the competency it helps to develop.)

## 3. Some Ideas I Liked From Others In My Group and Why They Are Valid

(Write some ideas or activities that were shared by others in your group. Why are these valid activities?)



# Response Sheet #5: Problems & Solutions

## 1. Some Ideas I Liked From The Video and Why They Are Valid

(List below some ideas or activities seen in the video and show their validity by indicating the competencies they help to develop.)

## 2. Some Activities I Do In My Class and Why They Are Valid

(Think of a related idea or activity you do in your classroom and share this with your group. Show the validity of this activity by indicating the competency it helps to develop.)

## 3. Some Ideas I Liked From Others In My Group and Why They Are Valid

(Write some ideas or activities that were shared by others in your group. Why are these valid activities?)



# Response Sheet #6: The Teacher's Role

## 1. Some Ideas I Liked From The Video and Why They Are Valid

(List below some ideas or activities seen in the video and show their validity by indicating the competencies they help to develop.)

## 2. Some Activities I Do In My Class and Why They Are Valid

(Think of a related idea or activity you do in your classroom and share this with your group. Show the validity of this activity by indicating the competency it helps to develop.)

## 3. Some Ideas I Liked From Others In My Group and Why They Are Valid

(Write some ideas or activities that were shared by others in your group. Why are these valid activities?)



# ACTION PLAN

1 From the activities and ideas you have witnessed today, think of one or two that you would LIKE to do and CAN do in your classroom.

2. Then write the ACTION(S) you need to do to make this a reality.

3. Finally, write a DATE by which you will start each action.

(Remember, sometime is no time)

**ACTION(S)**

**DATE(S)**

1.

1.

2.

2.

3.

3.



# Section 4

## HOW TO USE THE VIDEO WITH PARENTS

### 1. Warm-up Activity:

Our perceptions of mathematics

The parents are asked to brainstorm on ways in which they use mathematical concepts.

### 2. Watching the Video:

Observations & feedback

To help parents reflect on what they are viewing, the facilitator/moderator will pause the video for 2 minutes after each segment.

Parents can use the **Parent's Note Sheet** (attached) and jot down anything that captures their interest or that they might have trouble grasping with regard to the role they can play in their children's learning of mathematics.

Afterwards, the facilitator/moderator can explain some aspects of the ways in which parents can support their children in the learning of mathematics.

### Parent's Note Sheet

Watch *The Kindergarten: Emergent Mathematics* video and write some of the words, expressions, comments and activities that capture your attention.



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