



Early Childhood  
Hands-On Science

# Rainy Weather

Integration Cards, or *i*Cards, may be used as enrichment activities by the teacher, teacher's aide or volunteer, in any sequence, to integrate Language & Literacy, Math and Creative Arts into the science content presented in this unit.

## **Language & Literacy**

- L1. Fingerplay
- L2. Sing Along Song
- L3. Picture Walk
- L4. Read Aloud

## **Math**

- M1. Take One Cloud Away
- M2. Who Likes the Rain?
- M3. Measuring Rain
- M4. What Comes Next?

## **Creative Arts**

- C1. Wind and Rain
- C2. Weather Book
- C3. Moving Like Raindrops
- C4. Rainstick

## Fingerplay

### Guidelines

1. Children should be standing, use a large open space for body movements.
2. Introduce the fingerplay words and hand motions one line at a time. Tell the children: **Say it after me.**
3. Use rhythm and hand motions to engage the children.
4. As the children recite the fingerplay chant, ask them to use soft voices, then loud voices.

### ***Pitter, Patter, Pitter, Patter***

Pitter, patter, pitter, patter,

*(Pat your knees with your hands.)*

Hear the raindrops chitter-chatter.

*(Tap fingers on floor.)*

Raindrops water trees and flowers,

*(Wiggle fingers in the air.)*

For so many stormy hours,

When the raindrops go away,

*(Wiggle fingers in the air then hide them behind your back.)*

We'll go outside to splash and play.

*(Jump up and raise your hands over your head.)*



## Sing Along Song

### Guidelines

1. Introduce the song and motions one line at a time. Tell the children: **Sing after me. Do what I do.**
2. When children know the words, sing the song together.

### ***The Clouds in the Sky***

*Sung to the tune of "The Wheels on the Bus"*

The clouds in the sky make rain, rain, rain,  
Rain, rain, rain, rain, rain, rain,  
The clouds in the sky make rain, rain, rain,  
On a rainy day.

*(Raise arms above your head in a circle shape.)*

The rain from the clouds falls down, down, down,  
Down, down, down, down, down, down,  
The rain from the clouds falls down, down, down,  
On a rainy day.

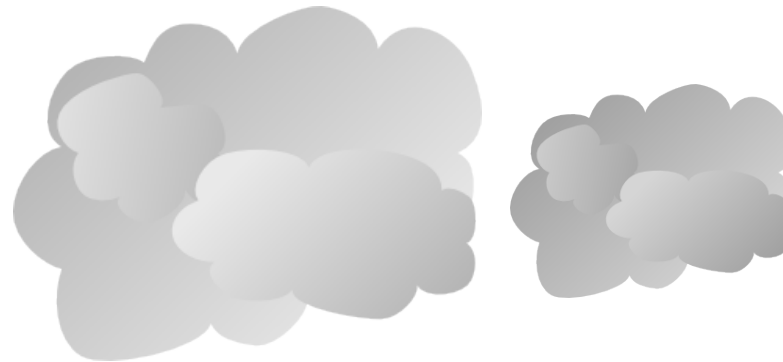
*(Slowly wiggle fingers from above your head down to the floor.)*

The rain makes puddles on the ground, ground, ground,  
On the ground, ground, ground, ground, ground, ground,  
The rain makes puddles on the ground,  
On a rainy day.

*(Wiggle fingers from above your head down to the floor. Then place both hands flat on the floor, tap the floor three times.)*

The children jump in puddles, splash, splash, splash,  
Splash, splash, splash, splash, splash, splash,  
The children jump in puddles, splash, splash, splash,  
On a rainy day.

*(Bring hands with fingers wide open up from the floor in quick motions.)*



**Picture Walk****Guidelines****1. Choose a book.**

Select a book from the *Rainy Weather Picture Walk Books* list. If these books are not available, find another content-related book filled with rich, detailed pictures.

**2. Get to know the book.**

Read the story to yourself before sharing the book with the children. Notice how the illustrations tell the story.

**3. Enjoy reading time!**

Make sure everyone is comfortable and able to see the book. If needed, establish rules for good behavior.

Taking a picture walk through a book is one of the earliest stages of reading. It enables children to “read” books by looking at the pictures. Ideal Picture Walk books have rich illustrations. When a book has too much text to hold children’s attention, use it to show just the pictures. Wordless books are also a great choice for Picture Walks.

**1. Before conducting the picture walk:**

Let the children know you are going to read this book by looking at the pictures.

- Show the cover of the book.
- Read the title, the author’s name, and the illustrator’s name.
- Ask children to predict what they think the story will be about based on the cover and the title.

**2. While conducting the picture walk:**

- Slowly go through the book, page by page.
- Ask a few questions about each picture. For example:

**What do you see in this picture?**

**Have you ever seen \_\_\_\_\_? Tell me something about it.** (Substitute with a word related to the book; a character, animal or place)

**Where is this part of the story taking place?**

**Where do you think they are going?**

**What do you think will happen next?**

**3. Share the book again and again.**

When children like a book, they want to “read” it over and over.

**4. Leave the book in the science or book area for the children to enjoy.**



# Picture Walk Books

**Lesson 1: Cloud Watchers**

*The Cloud Book* by Tomie de Paola

This informative book about clouds includes simple illustrations and scientific facts. Specific clouds indicate certain types of weather. Children discover that if you know what the clouds look like you can often tell what the weather will be.

**Lesson 2: Let It Rain!**

*Who Likes the Rain?* by Etta Kaner

This book captures all the childhood wonders of a rainy day. Each page has a flap page that opens up to explain a simple scientific concept in plain, easy to understand language. Children learn about the shapes of raindrops, how rain forms in clouds, how puddles are made and even why it sometimes thunders.

**Lesson 3: Is All Rain the Same?**

*Come On Rain* by Karen Hesse

A mother and daughter eagerly anticipate a rainstorm on a hot day. Everyone dances in gratitude for the refreshing wetness the rain brings.

**Lesson 4: When the Rain Falls**

*A Rainy Day* by Robin Nelson

This book uses simple sentences and realistic photographs to capture what happens when it's rainy. The book also includes a simple explanation of the water cycle.

## Read Aloud

### Guidelines

#### 1. Choose a book.

Select a book from the *Rainy Weather Read Aloud Books* list. If these books are not available, find another content-related book.

#### 2. Get to know the book.

- Read the story to yourself before reading the book to your class.
- Plan ways to change your voice to fit the plot and characters.
- Gather props.

#### 3. Enjoy reading time!

Make sure everyone is comfortable and able to see the book. If needed, establish rules for good behavior.

When children are read to, they are likely to grow into good readers. As they listen to stories, children hear rich vocabulary and proper language structure, and learn new information about the world. Being read to increases imagination, creativity, and curiosity. When selecting a book for a Read Aloud, consider the amount of text and the children's attention span.

#### 1. Before reading the story:

- Show the cover of the book.
- Read the title, the author's name, and the illustrator's name.

#### 2. While reading the story the first time:

- Focus on the flow of the story.
- Read with expression, change your voice for different characters.
- Vary the reading speed: fast for exciting parts, slow for scary or quiet parts.

#### 3. After reading the story:

- Ask a few questions about the book. For example:

**Who would you like to be in the story?**

**When did the story get exciting/scary?**

**What would you have done?**

**Why did they do that?**

**Where did the story happen?**

**How would you change the ending?**

- Have the children re-tell the story or act out their favorite part.

#### 4. For additional readings:

- Invite children to ask questions or discuss the story.
- Encourage children to say words they remember from the story as you read them.
- Assist children in recognizing the sounds that make up words.

#### 5. Leave the book in the science or book area for the children to enjoy.

**Read Aloud Books****Lesson 1: Cloud Watchers**

ECHOS Book: *What Falls from a Cloud?* by Krista Kaiser

After noticing the clouds in the sky, a sudden change in the color of a cloud changes the weather. People rush in the busy street to stay dry and then the rain stops.

**Lesson 2: Let It Rain!**

*Umbrella* by Taro Yashima

A girl named Momo eagerly waits for a rainy day to come so she can use the red boots and umbrella she received on her third birthday. In the rain with her umbrella, she hears the sound of raindrops falling on the pavement and bouncing off of her umbrella.

**Lesson 3: Is All Rain the Same?**

*Listen to the Rain* by Bill Martin, Jr. and John Archambault

Rhyming text and illustrations describe the changing sounds of rain, the “tiptoe pitter-patter,” the “drip-drop tinkle,” the “roaring pouring rain,” and the sudden silence as the rain stops.

**Lesson 4: When the Rain Falls**

*Are You Ready to Play Outside?* by Mo Willems

Piggie is not happy about the sudden rain that spoils her playtime outdoors. Gerald, an elephant, uses one of his ears to provide a temporary shelter from the rain until the sky clears up and it's time to play again.

# Take One Cloud Away

### Materials

#### For each child:

- Sunny Sky page
- Cloud Cards page

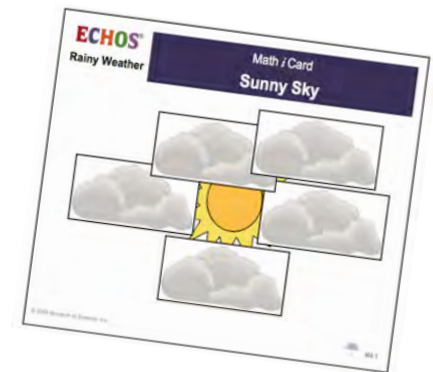
### Preparation

1. Make one copy of the *Cloud Cards* page for each child. Cut out each cloud card so that each child has five clouds. Make one set for the teacher.
2. Make one copy of the *Sunny Sky* page for each child and one for the teacher.

Children count clouds from one to five and practice taking away one cloud at a time.

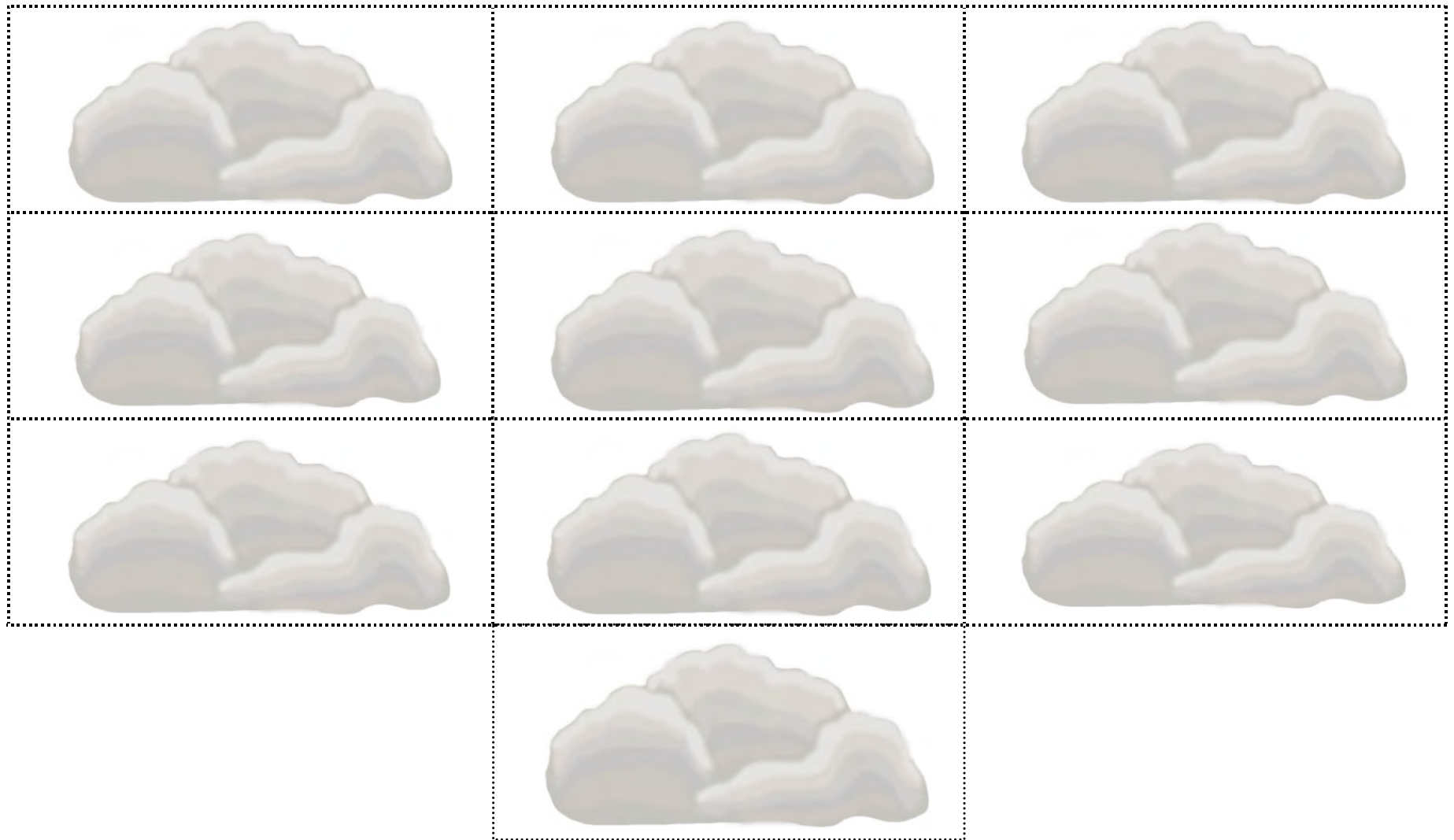
### Procedure

1. Say: **Today we are going to practice counting from one to five and taking away one cloud at a time.**
2. Give each child a copy of the *Sunny Sky* Page and five cloud cards. Ask the children to place all the clouds on the page. Model with your own copy as necessary throughout the lesson.
  - **Let's count the clouds together.** Encourage children to point to each cloud as they count.  
**1, 2, 3, 4, 5. We have 5!**
  - **It's a very cloudy day. Let's take one cloud away.**  
**How many clouds do you see in the sky?**  
**1, 2, 3, 4. We have 4!**
  - **It's *still* a cloudy day. Let's take one *more* cloud away.**  
**Now how many clouds do you see in the sky?**  
**1, 2, 3. We have 3!**
  - **It's *still* a cloudy day. Let's take one *more* cloud away.**  
**Now how many clouds do you see in the sky?**  
**1, 2. We have 2!**
  - **It's *still* a cloudy day. Let's take one *more* cloud away.**  
**Now how many clouds do you see in the sky?**  
**1. We have 1!**
  - **We've taken all the clouds away. There are zero clouds in the sky today! Now it is a sunny day!**





# Cloud Cards



# Who Likes the Rain?

### Materials

- Weather Picture Cards page
- sheet of poster board
- scissors
- masking tape (optional)
- permanent marker

### For each child:

- 3" x 5" piece of paper, index card, or sticky note for a name tag

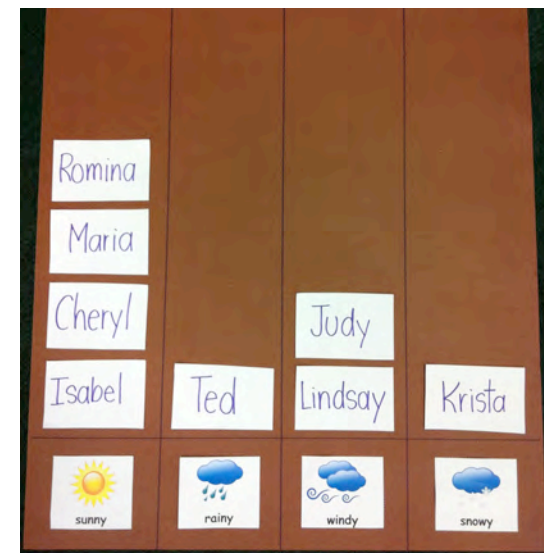
### Preparation

1. Make one copy of the Weather Picture Cards. Cut out each card.
2. Create graph chart by drawing three vertical lines and one horizontal line on the bottom of poster board.
3. Place one weather picture card in each section at the bottom of the chart.
4. Post the chart in the area where the activity will take place.
5. Use paper or sticky notes to write each child's name.

Children create a chart of the weather conditions they like.

### Procedure

1. Say: **Today we are going to make a chart about the types of weather we like.**
2. Give each child in the group their name tag.
3. When it is each child's turn:
  - Ask: **What type of weather do you like? Choose a picture on the chart that shows the type you like. Then, place your name tag on top of the picture.**
  - Use masking tape loops, if needed, to secure the nametags.
  - Provide assistance as needed.
4. When each child has had a turn, count the number of children who like rainy weather and the number of children who like each of the other types of weather.
5. Ask children to look at the chart.
  - Ask: **Which weather card was chosen the most?**
  - **Which weather card was chosen the least?**
  - Count the number of name tags on each column with the children if needed.





# Weather Picture Cards



**sunny**



**snowy**



**rainy**



**windy**

# Measuring Rain

### Materials

- water

### For each child:

- three 5-oz. empty cups
- cup of water
- dropper

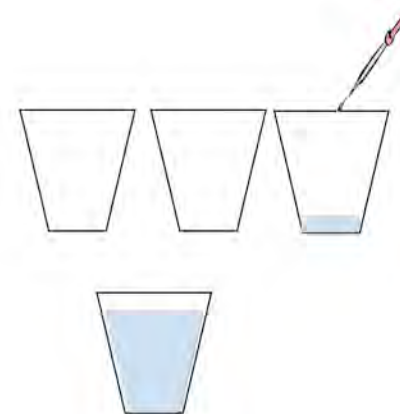
### Preparation

1. Fill the cups with water, one for each child.
2. Place the droppers, three empty cups and cup of water in front of each child's seat at the table.

Children create and compare cups of a little rain, a little more rain, and a lot of rain.

### Procedure

1. Say: **Today we are going to collect different amounts of rain.**
2. **Sometimes it rains a little, sometimes it rains a little more, and sometimes it rains a lot. What do you call it when it rains a lot? Yes, it's pouring rain.**
3. Give each child a dropper, three empty cups and one cup of water.
4. **First, let's make a little rain.** Guide the children to use their dropper to add just a little water into one of the empty cups (about three full droppers).
5. **Now, let's make a little more rain.** Guide the children to use their dropper to add a little more water into one of the other empty cups (about six full droppers).
6. **Lastly, let's make a lot of rain.** Guide the children to use their dropper to add a lot of water into the last empty cup (about ten full droppers, or they can pour what's left of their cup of water into the last empty cup).
7. **Oh my! It's been pouring rain. We collected a lot of rain.**



# What Comes Next?

### Materials

- *Umbrella Cards* page
- white cardstock
- scissors

### For each child:

- one striped umbrella card and one polka dot umbrella card

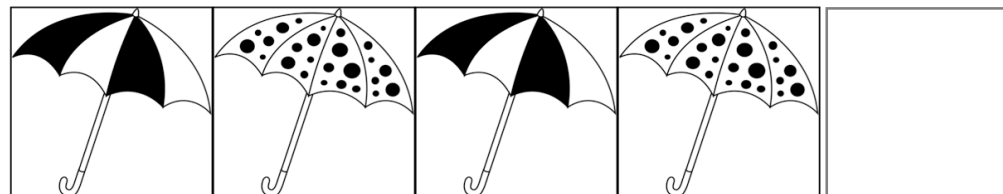
### Preparation

1. Make enough copies of the *Umbrella Cards* to provide two cards per child (one striped umbrella and one polka dot umbrella). Cut out each card.
2. Make a set of *Umbrella Cards* for the teacher that includes two striped umbrellas and two polka dot umbrellas.

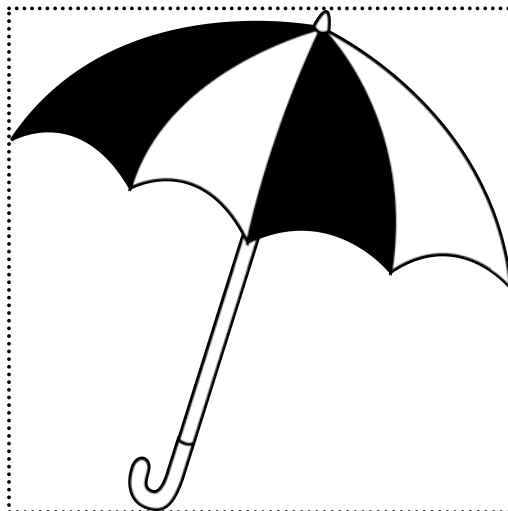
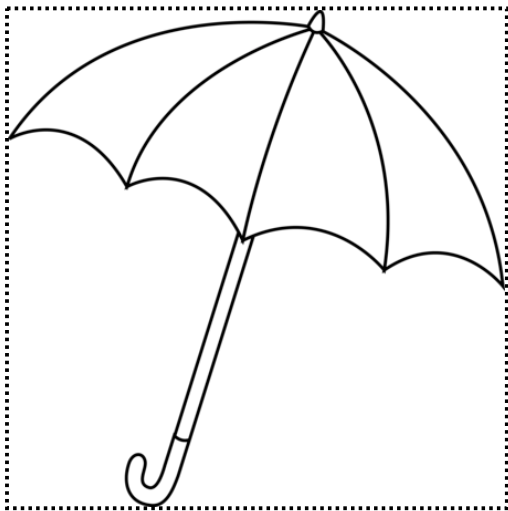
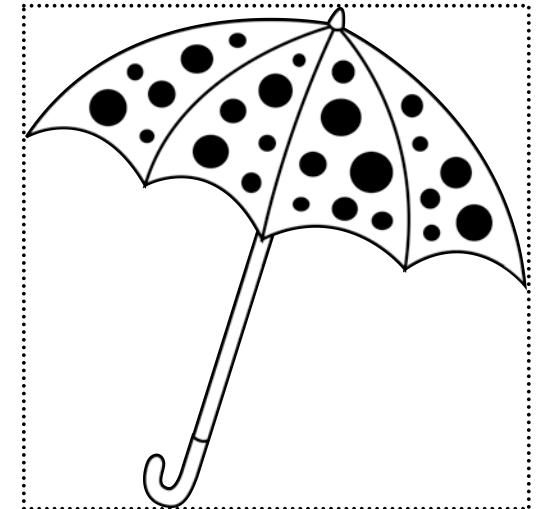
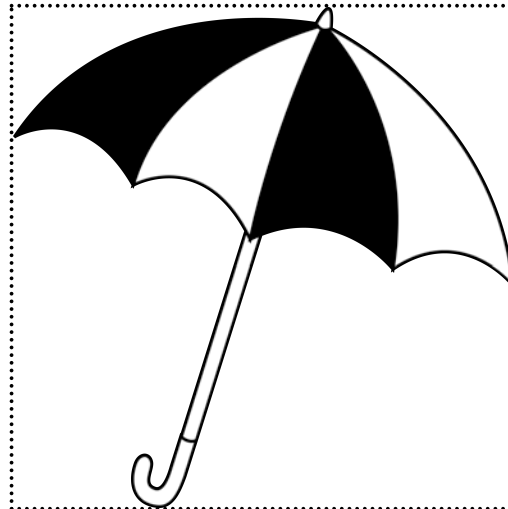
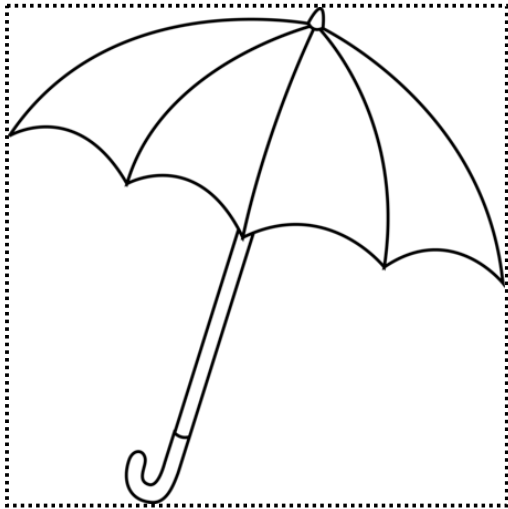
Children recognize simple patterns.

### Procedure

1. Say: **Today we are going to play a game called *What Comes Next?***
2. Place a striped umbrella card on the table, followed by a polka dot umbrella card. Continue to place all four umbrella cards in a striped, polka dot, striped, polka dot pattern. Ask the children to observe the row of cards. Prompt the children to notice that the umbrella cards are arranged in a pattern. Review the pattern with the children. **Striped, polka dot, striped, polka dot.**
3. **Now it's your turn. You are going to predict which umbrella comes next.** Give each child one striped umbrella card and one polka dot umbrella card. **What comes next? Hold up the card.**
4. **Let's test your predictions. Let's say the pattern again. Striped, polka dot, striped, polka dot, STRIPED! If you are holding up a striped umbrella, your prediction was correct.** Review the pattern with the children if needed.
5. Repeat the game using other pattern combinations, such as striped, striped, polka dot.
6. As an extension to this activity, make additional copies of the umbrella cards or color the blank cards using different colors or patterns to provide variety.
7. Leave the cards in the Science Area for children to practice patterns on their own.



**Umbrella Cards**



# Creative Arts iCard

## Wind and Rain

### Materials

- two different colors of paint
- two small plastic cups
- plastic spoon

### For each child:

- straw
- sheet of 9" x 12" construction paper

### Preparation

1. Fill each of the two cups with paint, one color in each cup.
2. Place the paper and paint cups on the table.

Children learn about different types of wind in a rainstorm.

### Procedure

1. Say: **Today we are going to pretend to be wind in a rainstorm.**
2. **Sometimes when it rains there is just a little wind. Sometimes there is a lot of wind. Have you ever been outside during a rainstorm and felt the wind?** Talk about wind in a rainstorm and how it moves things.
3. **We will use a straw as a tool to make wind. Watch me as I make a little wind.** Hold the straw to your mouth and blow air into the straw. **Watch me as I make a lot of wind.** Demonstrate again using more air to make a lot of wind.
4. **Now it's your turn to make a little wind and a lot of wind.** Give each child one straw and one piece of paper. Using a spoon, drop several very small drops of paint onto each child's paper. Children will use their straws to blow air across their paper using a little wind and then a lot of wind to move the paint around.
5. After the children's work has dried ask them to give their work a weather name, such as, "rainy day" or "stormy night," etc.



# Weather Book

### Materials

- stapler
- assortment of pictures of weather from magazines, the internet or the weather section of a newspaper

### For each child:

- three different pictures of weather
- glue stick
- two sheets of 9" x 12" construction paper

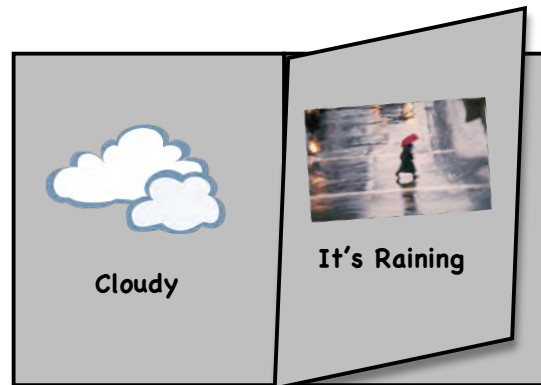
### Preparation

1. Prepare one paper book per child. Layer two pieces of paper and fold them in half to create a paper book.
2. Staple the pages of the books together along the folded edge.
3. Place all materials on the table.

Children make a weather book using pictures of different types of weather.

### Procedure

1. Say: **Today we will make weather books.**
2. **What are some different types of weather?** Listen to children's responses.
3. Give each child a set of weather pictures. Guide the children to use a glue stick to attach pictures of weather onto each page of their book.  
  
**Note:** *The front page can be a title page with a picture, too.*
4. As the children work to put their book together, ask them to describe the pictures they are adding to their book. **Look closely at your weather pictures. I'll come around and ask you what kind of weather you see in the pictures.** Write each child's response on each page of their book; if some children can write letters assist them in spelling a word or two, such as *sunny, rainy, cloudy*, etc.
5. When the weather books are dry, the children can take them home to talk about weather with their family.



# Moving Like Raindrops

#### **Materials**

- ECHOS CD, Track #5
- CD Player

#### **For each child:**

scarf or a long piece of soft fabric

#### **Preparation**

Test the ECHOS CD before beginning the activity.

Children move their bodies to the sound of rain.

#### **Procedure**

1. Say: **Today we are going to pretend to be raindrops.**
2. Give each child one scarf or a long piece of soft fabric to hold in one of their hands.
3. **When you hear loud rain, wave the scarf over your head using fast movements like this.** Demonstrate. **When you hear quiet rain wave the scarf over your head slowly like this.** Demonstrate.
4. Begin the ECHOS CD, Track #5. **Listen carefully.** Guide the children to wave their scarf to the sounds of the CD. Fast for loud rain, and slow for quiet rain.
5. **When the music ends, stand up on your tiptoes and drop the scarf so that it will float like a raindrop falling to the ground.**





# Creative Arts iCard

## Rainstick

### Materials

- sand
- stapler
- masking tape
- assortment of paints
- small paintbrushes
- rainstick from *Lesson #3: Is All Rain the Same?*

### For each child:

- sheet of 6" x 6" paper
- plastic spoon
- small bowl
- paper towel tube

### Preparation

1. Fill small bowls with sand, one per child. Place a spoon in each bowl.
2. Fold and staple one end of each paper towel tube. Cover the staples with masking tape.
3. Roll the 6" x 6" pieces of paper into funnel shapes. Secure them with tape.
4. Place all materials on the table.

Children create a rainstick that makes the sound of rain.

### Procedure

1. Say: **Today we will make rainsticks. A rainstick is a musical instrument that makes the sound of rain.** Hold up the rainstick from *Lesson #3: Is All Rain the Same?* to show the children.
2. Give each child a paper towel tube and a bowl of sand with a plastic spoon in it. Place a paper funnel in the open end of each child's tube.
3. Guide the children to slowly scoop one spoonful of sand at a time into the paper funnel to fill the tube about half way full.
4. After the children add the sand to their tubes:
  - Close the open end of the tube by folding the edge over.
  - Staple the end to seal the tube.
  - Place tape over the staples.
5. Give the children paint and small paintbrushes to decorate their rainsticks.
6. When the rainsticks dry, the children can try them out and take them home.

