

# Explorers Preschool Curriculum

## Let's Explore Colors



Developed by  
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Program Coordinator

Arkansas State University Childhood Services  
JoAnn Nalley, Director





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# Let's Explore Colors

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If Explorers Preschool Curriculum is new to you, or if you would like to review big ideas about this curriculum, see the Using Explorers section at the end of this packet.

An expanded Getting Started guide can also be found under the resources tab at [www.ASUChildhoodServices.org](http://www.ASUChildhoodServices.org)

# Let's Explore: Colors

At first glance, colors might seem like a simple topic. Once children can name basic colors, what more is there to explore? Lots! This investigation empowers children to combine and layer colors in exciting ways as they explore tints, shades, and more.

This topic might be a fit for you if...

- Children seem curious about mixing paint or markers to make new colors.
- Children talk about colors with enthusiasm in play and in conversations.
- You and children's families will welcome messy experimentation with paint, dye, and other colorful materials in the weeks to come.

## Let's Talk About Colors

Model words like these during everyday conversations with children.

blend  
change  
color family  
color wheel  
combine  
dye  
hue  
layer  
neon  
opaque  
palette  
pastel  
shade  
tint  
tone  
translucent  
warm/cool tone

**Color names, including less familiar colors:** teal, indigo, lavender, magenta, and so on.



## Color Collectibles

Collect interesting objects like these to investigate with children. Families can help!

paint palettes and brushes  
sheer fabric in various colors  
prisms and prismatic sun catchers  
overhead projector  
unbreakable mirrors  
colorful mobiles, bead curtains,  
and wind spinners

## Preparing to Explore Colors

1. With your teaching team, think about and discuss the following questions.
  - What experiences have our children had with mixing colors so far? What background knowledge do they most likely have?
  - What resources could be helpful as we explore colors with children? Are there any special places we might go, or special people who might visit, as we investigate?
  - What are some things that children might learn and do as we explore colors? What new words or concepts could they begin to understand?
2. Let families know that the group is interested in mixing and changing colors. What can they tell you about their family's experiences? Think together about ways that families can be involved. For example, a parent who crafts with oil paints might demonstrate their color mixing techniques. Or, a child might have an aunt or uncle who could answer children's questions about working at the paint counter of a hardware store.
3. Gather books and materials to add to learning centers and to use during small group experiences. You'll find suggestions on the pages that follow.





## Teaching and Learning about Colors

Parents and teachers may be concerned about children who don't seem to know their colors. Here are some things to consider.

### **Colors can be complicated.**

Young children are learning to name thousands of different objects in their environment, and color is a visual attribute of those objects. Look around the room where you are right now. How many different kinds of blue can you see? Within each color family, there are many different tones to understand; pale pastel pink and deep fuchsia are both pink, for example. Some children who seem slower to understand colors may be more attuned to subtle undertones. To them, orange-red paint may look very different from red paint with a slightly blue tinge. Be patient; they'll figure it out in time.

### **Some children experience color blindness.**

This means that differences in the structure of the eye result in difficulty distinguishing between certain colors. It's estimated that up to 1 in 12 boys and 1 in 200 girls experience some degree of color blindness. Red-green color blindness is the most common. An optometrist or pediatrician can help determine whether a child has color blindness, but testing usually occurs with elementary-aged children.

### **For all children, learning about colors should be natural and stress-free.**

Names of colors can be picked up in the context of daily play and routines. Talk about colors often in ways that interest children: "You've used lots of paint that is green." Or, "Look at these tiny wildflowers that are purple." Rather than quizzing children, adults can check comprehension in more authentic ways: "Pass me a marker that is yellow, please."

Did those examples sound strange to you? Adults usually use color words prenominal, in front of nouns – green paint, purple flowers, yellow markers. Most children pick up on this pattern by the time they're three years old. If a child in your group struggles with color names, try using color words postnominal - after nouns. "Would you like a cup that is blue or a cup that is red?" This may help children work out the relationship between colors and objects.

Handle mistakes in a gentle way. "Oops – that marker is green. How about this yellow one?" Children should never feel pressured or embarrassed about the learning process.

### **This color topic is about exploring together.**

It focuses first, and most, on ways that we support children as thinkers, collaborators, and communicators while they enjoy experimenting and playing with colors. Learning color names isn't the primary focus, but children will naturally have many opportunities to do that, too!



## Learning Center Extensions – Colors

Here are some examples of materials that can be added to classroom learning centers over time for use during daily free play times.

For more information on incorporating materials into your classroom, see the *Learning Everywhere* section in the Getting Started packet.

### Art Area

- Red, yellow, and blue fingerpaint and/or play dough to mix
- Collections of drawing materials sorted by colors – such as a small bucket with green colored pencils, fine and thick-line markers, highlighters, gel pens, and crayons
- After being introduced to children, materials from the **Color Study** and **Inventing Colors** small group learning experiences may be offered for free choice use.

### Science Area

- Light panel with translucent plastic materials
- Flashlights with red, yellow, and blue cellophane-covered lenses. (Attach with rubber bands)
- Translucent color paddles or panels
- Artist's color wheel
- After being introduced to children, materials from the **Making Rainbows** small group learning experience may be offered for free choice use.
- After being introduced to children, materials from the **Color Drop** or **Color Wheel** experiences may be offered at a stand-alone “experimentation station.”
- Factual books about colors, such as:

*Rainbows*

Martha Elizabeth Hillman Rustad, Capstone Press, 2017

*This is My Eye*

Neela Vaswani, Candlewick, 2018

### Block Building Area

- Blocks with translucent colored panels
- Loose parts grouped by color families – such as spools, game chips, and felted wool balls in warm colors of red, orange, and yellow.

## Learning Center Extensions – Colors

### Dramatic Play Area

- Paint color swatches and empty paint cans with rollers, trays, and brushes
- Play silks in a variety of colors
- Sunglasses with colored lenses
- Books about the colors of foods, such as:

*Every Color Soup*

Jorey Hurley, Simon and Schuster, 2018

*Summer Supper*

Ruben Pfeffer and Mike Austin, Random House, 2018

### Fine Motor/Table Toy Area

- Sets of interlocking building toys in warm or cool colors
- Colorful pattern blocks with mirrors
- Matching or patterning game made from paint color swatches
- Lite-Brite peg toy

### Sand Play Area

- Collection of colorful sequins, loose parts, and/or small objects hidden in sand - with colored bowls for matching and collecting
- Colorful aquarium gravel mixed with sand
- Sifters and scoops
- Tongs and tweezers

### Water Play Area

- Beverage dispenser jugs with colored water
- Foaming hand soap dispensers with tinted water and mild soap
- Liquid watercolors in dropper bottles
- Lots of cups, bowls, and jars for mixing and pouring

## Book Area

Add some of these books and/or your favorite books about colors.

*Beautiful Oops*, Barney Saltzberg, Workman Publishing, 2010

*The Black Book of Colors*, Menena Cottin, Rosana Faria and Elisa Amado, Groundwood Books, 2008

*Blue vs. Yellow*, Tom Sullivan, Balzer + Bray, 2017

*Dog's Colorful Day*, Emma Dodd, Puffin Books, 2003\*

*Festival of Colors*, Surishtha Segal and Vashti Harrison, Beach Lane Books, 2018

*How the Finch Got His Colors*, Annemarie Guertin and Helena Perez Garcia, Familius, 2018\*

*Just Add Glitter*, Angele DiTerlizzi and Samantha Cotterill, Beach Lane Books, 2019\*

*Little Blue and Little Yellow*, Leo Lionni, Dragonfly Books, reprint 2017\*

*Little Green Peas*, Keith Baker, Little Simon, 2019

*Mix It Up*, Herve Tullet, Chronicle Books, 2014\*

*Monsters Love Colors*, Mike Austin, HarperCollins, 2013

*Mouse Paint*, Ellen Stoll Walsh, HMH Books for Young Readers, 1995\*

*The Noisy Paint Box*, Barb Rosenstock and Mary GrandPre, Knopf Books, 2014

*Pete the Cat: I Love My White Shoes*, James Dean and Eric Litwin, HarperCollins, 2010\*

*Red is a Dragon*, Roseanne Thong and Grace Lin, Chronicle Books, 2008

*Sky Color*, Peter H. Reynolds, Candlewick, 2012\*

*These Colors Are Bananas*, Jason Fulford and Tamara Shopsin, Phaidon Press, 2018

*You Are the Light*, Aaron Becker, Chronicle Books, 2019

**\*Recommended read-aloud to share with groups of children.**

### Talking About Books

As you share books with individuals, small groups, or larger groups of children, ask questions like these:

- **Beginning:** The words on the cover tell us the title – (read title.) What do you think that means?
- **Middle:** Why do you think the illustrator chose these colors?
- **End:** Let's think back. What happened first in the story? And then what?

Talking together about books is an essential part of every preschool day!

## Conversations about Colors

Use prompts like these as you talk with children throughout the day. For more information on incorporating planned conversations into your daily schedule, see the *Learning Every Day* section in the Getting Started packet.

### Color Conversations

daily - during meals, play times, transitions, or group times

Try asking one or two questions like these when you have opportunities to talk with individuals, small groups, or the larger group of children.

- What are your favorite colors?
- Has that always been your favorite color?
- Your shirt and my shirt are both pink, but how are they different?
- What does this color remind you of?
- If I wanted to change this color, what could I do?
- Is the sky always blue? What other colors can it be?
- Can you tell me how you made that shade of deep, dark red?
- What do you notice? (When a child mixes paint or works at a light table)
- How is drawing with markers different from drawing with chalk?
- How are liquid watercolors like tempera paint? How are they different?

At least once a week, make a chart to write down children's answers to a question. Talk with children one, two, or a few at a time to collect responses. Later, read the written chart back to the group. Post it where it can be viewed by children and families.

What does this color remind you of? 

My tiger cat, Tigger. - Xander  
 My new flip flops. - Eli  
 A pretty sunset. - Bella  
 Pumpkins at Halloween time. - Ben  
 Lily flowers. - Sam  
 Feeling mad. It's my mad color. - Ava C.  
 Chopped up carrots. - Mason  
 I have a Hot Wheels that color. It's almost the fastest one. - Ava W.  
 My daddy makes tikka masala. - Sofia  
 Nemo! - Donovan  
 A monarch butterfly. - Jervae  
 Oranges, but not really because they have more yellow. - Kaylin  
 It's like the sun sometimes - when it is about to be night. - Ajay  
 A duck's beak. - Grace


## Conversations about Colors

### Color Polls

1-3 times per week – at arrival or group time

Choose a question from the list below or think of one of your own. Make a chart with the question and two possible responses, using picture cues when possible. Invite children to write their names or place name cards to answer the question.

- Are you wearing the color blue today?
- Which purple do you like better - Lavender? Or plum? (With color swatches)
- Have you ever seen a rainbow?
- Are you wearing a pattern today?
- Which do you like better - Fingerprint? Or watercolor paint?
- Did you play in our Color Lab yesterday?

Have you ever seen a  ? rainbow	
yes	no

### Sharing Our Experiences So Far

several times a week - during meals or play times

As you talk with individuals and small groups of children, tell about your own positive experience related to colors. You might talk about using food dyes to decorate a cake, or you might wonder aloud about what color to paint your kitchen.

Model attentive listening as children talk about their experiences, too. Help children make connections between shared experiences. (“Imani, have you shown your new sneakers to Mr. Oliver? They’re his favorite shade of bright green! I bet he’s going to want to know where you got them.”)

## Songs, Rhymes, and Games about Colors

These playful songs, rhymes, and games can be incorporated into group times and transition times.

### Colorful Hokey Pokey

Cut ribbons to make streamers of at least five different colors. Invite each child to choose two different colors of streamers – one for each hand.

We put red in, we take red out,  
We put red in, and we shake it all about.  
We do the hokey pokey, and we turn ourselves around,  
That's what it's all about!

Repeat with additional colors. You can also try naming two colors at a time – “We put red and green in...” – as you experiment with complementary and contrasting combinations.

### Take the Floor

Distribute color streamers evenly among children in the group. Make a large circle as you chant:

“1, 2, 3, 4 – Come on, green, take the floor!”  
Children holding green streamers come to the middle to dance while everyone else stomps their feet to create a rhythm.

After a minute or two, call them back:  
“4, 3, 2, 1 – Thank you, green, now you're done!”

Repeat with additional colors.

### Rainbow Colors - to the tune of *Are You Sleeping?*

Look at a photograph or illustration of a rainbow as you sing.

Red and orange, red and orange,  
Yellow, green, yellow, green.  
Blue and indigo, blue and indigo,  
Last comes violet, last comes violet.

*Indigo* may be a new word for children. What does it mean?



## Songs, Rhymes, and Games about Colors

### The Color I See

Use this simple song to call children to line up or for other changes of place or space.

Red, red, is the color I see.  
If you are wearing red, please show it to me.  
Stand up, and turn around,  
Show me your red, and go sit down.

Modify the song for the transition at hand:

Blue, blue, is the color I see.  
If you are wearing blue, please show it to me.  
Jump up, and take a stand,  
Show me your blue, and go wash hands.

### Twinkle Stars

Cut stars from different colors of felt or paper. With younger children, use basic colors like yellow and green. With older, more experienced children, try adding some challenging, new colors like fuchsia and chartreuse!

Twinkle, twinkle (color) star,  
How I wonder where you are?

Children can take turns identifying stars as you sing. Because it involves turn-taking, this game works best with small groups. Alternatively, you can make pairs of stars. Give each child one to hold while you pull matches from a bag.

### I Spy

“I spy with my little eye, something that is... purple!”  
Repeat with other colors.



### Colors Playlist

Colors – The Okee Dokee Band  
I Know the Colors in the Rainbow – Ella Jenkins  
Little Brown Pencil – Caspar Babypants  
Los Colores – 1, 2, 3, Andres  
Somewhere Over The Rainbow – Israel Kamakawiwo'ole

## Small Group Learning Experiences – Colors

Share learning experiences like the ones on the following pages with small groups of children each day. Groups should usually consist of three to seven children, rather than the whole group at once. Small group experiences may take place as children choose to join a teacher during free play time, or there might be a special small group time included in the daily schedule.

Use these questions to guide you as you choose daily learning experiences.

- **What is it about colors that these children seem most interested in?**  
Children in the group might be especially focused on mixing colors carefully to create specific hues, or they might enjoy swirling colors in spontaneous ways. Light, reflection, and transparency may emerge as parallel interests, too. Let your observations and conversations with children be your guide as you choose experiences that invite children to pursue their interests and seek answers to their questions.
- **What are our learning goals for individual children and for the group as a whole?**  
Choose experiences that support specific objectives for learning. Strive to create well-rounded plans that support all domains of development.
- **How can we extend children’s thinking and learning?**  
Choose activities that can be connected to children’s experiences so far. Remember that it is often appropriate to re-run planned experiences. Offering an experience two or more times over a few days or weeks invites children to gain expertise and deepen their understanding.

Pair planned learning experiences with ample opportunities for open-ended, free choice exploration indoors and outdoors.



## Color Drop

Let's use simple tools to explore color mixing.

### Materials

- Containers of water tinted red, yellow, and blue
- Eye droppers or pipettes\* – at least one per child
- White ice cube trays or paint palettes with wells – one per child
- Smocks or large t-shirts to protect children's clothing
- Cloths or sponges for drips and spills
- Dish tub or another large container to serve as a dump bin
- Tablecloth or another protective table cover
- Containers of plain water (optional)

Introduce red, yellow, and blue to children as primary colors. These are colors that can be mixed to make other (secondary) colors.

Today, children can use droppers to mix primary colors in open-ended ways. Depending on how many droppers you have, you may have several droppers for each color of water, or you may give each child a dropper. If each child has one dropper, provide bowls of plain water to rinse droppers between colors.

Begin by exploring how droppers work. Demonstrate the technique of squeezing the dropper, placing the tip in water, and releasing the bulb to fill the dropper with liquid. Squeezing the bulb will release the water. Practice for a minute or two using plain water. Once children have mastered using droppers, turn your attention to mixing colors.

This exploration should be entirely open-ended. Children can mix any combination of colors that they wish in the wells of their tray. Notice how some children use a precise technique to mix colors while others enjoy the process of making a mixed up, muddy mess. There's no wrong way to play!

Share children's enthusiasm as they discover new colors and talk about techniques that they use to mix colors. Look for opportunities to compare quantities: "How is lots of blue with a little yellow different from lots of yellow with a little blue?"

You may want to use your own tray and mix colors alongside children, but remind children that their work can be different than yours. When a child's tray is full, they can carefully empty it into the dump bin and begin again, if desired. (Or, swab it out so that it will be ready for the next person.)

\*A pipette is a laboratory tool used by chemists to transfer liquids. Disposable plastic pipettes are an economical option for preschoolers, too.

## Color Drop (cont.)

### Helpful Hints

Use liquid food coloring or liquid watercolors to tint the water.

Washi tape can be used to color-code droppers if desired.

Avoid the temptation to turn this into a structured activity where children are given instructions on how to mix specific colors. When children are allowed to make choices and direct their own work, they experiment with materials in many different ways. New colors are far more exciting when children discover them on their own!

Later, after numerous opportunities for open-ended investigation, you may wish to introduce children to the **Color Wheel** activity in this packet. It helps children connect color mixing with mathematical concepts.

### Including Every Explorer

Placing cotton balls in each well of an ice cube tray can make it easier for children to see colors and makes trays easier to manage without spills.

If your group includes a child with limited use of hands, try using a turkey baster to mix colors in the wells of a muffin tin. The baster's bulb is easier to squeeze and is large enough to use together if a child needs extra assistance.

### More to Do (optional)

- Drip colors onto paper towels or coffee filters. Notice how the colors blend and spread on the absorbent material.
- Drip colors onto wax paper. How is this non-absorbent material different? Try lifting the edges of the wax paper to make the drops of color run.
- Drip red, yellow, and blue-tinted vinegar onto a tray of baking soda for a colorful, fizzy surprise!

This experience offers special opportunities to build and strengthen:

**Cognitive Development – CD 1.1, CD 2.1, CD 3.1**

**Physical Development and Health – PH 2.1, PH 2.2**

**Language Development – LD 1.1, LD 2.1, LD 3.1**

**Science and Technology – ST 1.1, ST 3.1, ST 3.2**

## Colorful Cube Painting

Let's discover what happens as colorful ice cubes drip and melt. You'll want to prepare for this experience at least one day in advance.

### Materials

- |   |  |
|---|--|
| <input type="checkbox"/> Ice cube trays                                     | <input type="checkbox"/> Empty bowl  |
| <input type="checkbox"/> Liquid watercolors or liquid food coloring         | <input type="checkbox"/> Smocks or large t-shirts to protect children's clothing |
| <input type="checkbox"/> Towels for drips and spills                        |  |
| <input type="checkbox"/> White paper on trays or large sheet of white paper |  |

Fill ice cube trays with water and tint each well with a few drops of food coloring or about a teaspoon of liquid watercolor paint. Tint some cubes red, some yellow, and some blue. Stir with a craft stick or spoon handle and freeze overnight.

Experiment alongside children as you remove the cubes from the trays. As you use your hands to move the cubes around on paper, engage in some of the following conversations:

- Describing the sensory experience of handling wet, cold, slippery ice cubes.
- Investigating different ways to move the cubes – with your fingertip, with your palm, or your knuckles. What happens if you pick a cube up and drop it? Can you move the ice without touching it?
- Talking about the relationship between ice and water while observing how ice cubes melt. Does the heat from our hands melt ice more quickly?
- Noticing how colors swirl and blend. Have any new colors formed? Where did they come from?
- Trying out uncommon words like *droplet*, *soak*, and *splatter*.
- Thinking about what you could do differently if you wanted darker/brighter colors.

Talk with children when they seem interested in talking with you. There will also be times when children prefer to work intently without talking. It's important not to disrupt or distract children from these moments of focused concentration.

When children feel satisfied with their investigation, place the cubes in a bowl and set paper(s) aside to dry.

## Colorful Cube Painting (cont.)

### Helpful Hints

If your ice cube trays might get jostled while they're in the freezer, cover them with aluminum foil to prevent messy spills.

Remember to only use a few drops of food coloring in each cube. If too much dye is used, it will stain children's hands.

### Including Every Explorer

Some children with sensory sensitivities may not want to handle the ice cubes. You can make "handles" by covering the ice cube trays with aluminum foil and inserting a craft stick into each well. Or, try moving the cubes around with tongs or slotted spoons.

If you use paint instead of food dye, be sure that it is non-toxic. Some children may try to lick their fingers or taste the ice cubes.

### More to Do (optional)

- Create a display that pairs painted paper(s) with photos of children at work.
- Try tinting ice cubes with tempera paint or creamy fingerpaint. How are they different?
- Take tinted ice cubes outdoors to use on a sidewalk on a hot day. You might even try freezing ice in large bowls and cups for outdoor play.
- For a different sensory experience, try mixing sand into your colorful cubes before freezing.
- Make popsicles together using fruit juice in commercial popsicle molds or in small drink cups with craft stick handles.

This experience offers special opportunities to build and strengthen:

**Cognitive Development – CD 1.1, CD 2.3**

**Language Development – LD 1.1, LD 2.1, LD 3.1**

**Science and Technology – ST 1.1, ST 3.1, ST 3.2**

## Color Spritz

Let's mix color on a larger scale in this outdoor activity.

### Materials

- |  |  |
|--|--|
| <input type="checkbox"/> Spray bottles with water tinted red, yellow, and blue | <input type="checkbox"/> Smocks or large t-shirts to protect children's clothing |
| <input type="checkbox"/> White/light flat bed sheet                            | <input type="checkbox"/> Clamps or clips if needed                               |
| <input type="checkbox"/> Wipes or towels for messy hands                       |  |

Drape the sheet over an outdoor fence. Clip or clamp as needed.

Invite children to spray the sheet. This should be an open-ended investigation. As children play, interact in some of the following ways:

- Adjusting the spray bottle nozzles to make mist or a stream of water
- Experimenting with spraying close to the sheet and from farther away
- Looking closely at how colors overlap and blend
- Noticing how water is absorbed and spreads, and how fabric becomes so saturated that water drips and runs
- Collaborating with a partner: "Let's both spray the same spot at the same time!"
- Stretching high and bending low to spray different parts of the sheet

Talk with children when they seem interested in talking with you. There will also be times when children prefer to work intently without talking. It's important not to disrupt or distract children from these moments of focused concentration.

There may be opportunities for social support as children ask for turns with spray bottles and navigate the shared space. Some children may need help understanding that it is OK for the colors to overlap.

When children are satisfied with their investigation, leave the sheet to dry in the sun. You can wash and dry it for the next group, if desired, or simply layer more colors on top.

### Helpful Hints

Remember to use only a small amount of food coloring to tint water; if too much dye is used, it might stain children's hands.

## Color Spritz (cont.)

Liquid watercolor paint or thinned tempera paint can be used instead of colored water if desired. If you choose to use bright, concentrated paint, consider having children remove their shoes to avoid staining them. This could work well on a water play (sprinkler) day when children will already be barefoot or in shoes that can rinse off.

### Including Every Explorer

Spray bottles provide good exercise for the muscles of the hand. For very young preschoolers and children with limited use of hands, look for smaller spray bottles with triggers that are easy to squeeze. Offering a variety of spray bottles invites children to notice differences in weight and resistance.

### More to Do (optional)

- Try the activity again using analogous colors. How about warm red, orange, and yellow? Or pink, purple, and blue? Blue, green, and yellow? You may be amazed at how many different combinations can be created with colors that neighbor one another on the color wheel.
- Children may find that the splashes of color remind them of fireworks. You can invite children to add sparkly glitter glue to the dried sheet before hanging it as a decoration in your room or hallway.
- Or, ask a family volunteer to transform the sheet into a tablecloth for your dramatic play area. Interested children can help measure the table to figure out how large the tablecloth needs to be. (Add 12-18 inches to each side so that it can drape.)

It would be especially exciting for a volunteer to bring a sewing machine to make the tablecloth while children watch. If there is extra fabric left over, what would children like to do with it?

- Offer spray bottles of plain water as a tool for investigation during outdoor play on warm days. Children will notice how the water dries in the sun.

This experience offers special opportunities to build and strengthen:

**Social and Emotional Development – SE 1.2, SE 2.1, SE 2.2 SE 3.2**

**Cognitive Development – CD 1.1, CD 1.2, CD 2.1, CD 3.1**

**Physical Development and Health – PH 2.1, PH 2.2**

**Science and Technology – ST 1.1, ST 1.2**



## Making Rainbows

Let's explore the relationship between color and light.

### Materials

- Compact discs (CDs) – at least one per pair of children in the small group
- Flashlights – at least one per pair of children
- White and black paper
- Crayons or oil pastels (optional)

Talk with children about what they know about rainbows. Have they ever seen a rainbow? Where do rainbows come from?

Rainbows can occur in nature when sunlight shines on falling raindrops. When white light shines through the water, you see the colors of the spectrum. Today, you'll try separating the light of a flashlight beam to make a small rainbow.

Dim the lights if you can do so without disrupting children's work in other areas of the room. Invite children to work with a partner to explore different ways to shine a beam of light onto a CD. Children will try many different techniques. Eventually, they'll discover how to shine the light on the shiny, silver side of the CD to create a rainbow. Encourage children to notice one another's work and talk about what they've figured out so far.

Continue to experiment by tipping the CD and moving the light. Partners should take turns controlling the light and CD. Can you make a rainbow on a sheet of paper? Does it look the same on white and black paper? Or different? What happens if you place your hand on the paper? Can you feel a rainbow on your skin? Why or why not?

If desired, children can use crayons or oil pastels to trace over the lines of the rainbow on the white paper. Alternatively, invite children to make drawings about what they would like to remember about their rainbow-making experience. Is there anything that children would like to write, or have you write, on their drawings?

### Safety Note

Stay near to provide supervision during this experience. Children should not reflect light into their own eyes or aim the reflection near the eyes of others.

## **Making Rainbows (cont.)**

### **Helpful Hints**

This experience works just fine with old CDs that no longer play well. Don't use your favorite CDs; they could get scratched as children experiment with them.

It may be hard to see rainbows if the light is bright. If you can't dim the lights in your room, tape white paper to the back of a cardboard box.

### **Including Every Explorer**

To simplify this experience, offer a basket of CDs on the floor by a sunny window. Or, string CDs on yarn and hang them from the ceiling. Dim the lights and shine flashlights to make the CDs sparkle and shimmer.

Older children may be interested in doing more research about how rainbows form. Look for factual books or websites to help answer their questions.

### **More to Do (optional)**

- Take CDs outside to experiment on a sunny day. (Highly recommended)
- Try shining your flashlights through clear jars of water.
- Introduce a prism to children and experiment with how it works.
- Hang a faceted glass crystal or prismatic suncatcher in a window.
- Look for rainbows in a sprinkler or try making one with a hose.
- Encourage families to be on the lookout for natural rainbows. You can usually see a rainbow when the sun is shining while it is raining where you are or nearby. Turn your back to the sun as you search for rainbows.

This experience offers special opportunities to build and strengthen:

**Social and Emotional Development – SE 1.1, SE 1.2**

**Cognitive Development – CD 1.1, CD 1.2, CD 2.1, CD 3.1**

**Mathematical Thinking – MT 3.1, MT 4.1**

**Science and Technology – ST 1.1, ST 1.2, ST 3.1, ST 3.2**

## Mosaic Suncatchers

Let's create translucent designs with colorful cellophane shapes. What will happen when we hang them in a sunny window?

### Materials

- Clear contact paper
- Red, yellow, and blue colored cellophane
- Hole punch
- Yarn or string

To prepare for this activity, cut colored cellophane into geometric shapes – circles, squares, rectangles, and triangles – of various sizes.

Cut contact paper into large circles or squares. One way to measure a circle is to place a bowl upside down on the paper. Trace around the edge with a pencil or permanent marker and then cut out.

As children join you, spread the shapes out on the table. Notice that there are three attributes to consider: size, shape, and color. Children may enjoy playing a brief game of I Spy: “I spy a small, blue triangle.” Or, they may be interested in placing two shapes side by side to figure out how they are the same and how they are different.

Try holding one of the shapes up to your eye. Close your other eye and look around the room. What do you notice? Give children a few minutes to investigate the shapes in their own way.

Help children peel the backing off of pieces of contact paper. Place the contact paper shapes sticky-side-up on the table. Children can press cellophane shapes onto the sticky. They may wish to make a pattern or design, and they might want to overlap pieces to make new colors.

When they feel satisfied with their work, peel the backing from a second, matching contact paper shape. Press it down to seal the design. Use a hole punch to make a hole for hanging and thread yarn or string through to make a loop. Hang the suncatchers in a window. What happens when sunlight shines through the window?

## Mosaic Suncatchers (cont.)

### Helpful Hints

Colored cellophane can be found near gift wrap at party and hobby stores. If you can't find cellophane, you can use colored tissue paper instead.

### Including Every Explorer

For younger children, you may wish to use masking tape to attach a large piece of contact paper to the table. Children can contribute to a collaborative design that can be cut into individual suncatchers if desired.

Older children may be interested in tracing and cutting contact paper, punching holes, and threading strings for hanging. You can also offer pieces of cellophane to cut. This experience provides many challenging opportunities to utilize fine motor strength, control, and coordination.

### More to Do (optional)

- Add a set of relational attribute blocks to your fine motor/table toy area. Invite children to continue their "I Spy" game with color, size, shape, and thickness.
- If your program takes field trips, visit a building in your community where children can see real stained-glass windows. Is there someone there who can answer children's questions?
- Try painting on the outside of windows with a mixture of two parts washable tempera paint or liquid watercolor paint and one part dish soap. Notice how daylight looks as it streams through the painted window. Use a hose to clean the windows when you feel finished with this experience.
- Look together at paintings by Dutch painter Piet Mondrian. How are these like children's work with the cellophane shapes? How are they different? Children may be inspired to make Mondrian-inspired artwork. They can use black electrical or masking tape to make horizontal and vertical lines before adding color with markers or paint.

This experience offers special opportunities to build and strengthen:

**Physical Health and Development – PH 2.1, PH 2.2**

**Mathematical Thinking – MT 1.1, MT 1.2, MT 2.1, MT 4.1**

**Creativity and Aesthetics – CA 2.1**

## Splitting Black

Let's deepen our understanding of combined colors by separating one. Could other colors be hiding in black dye? Each child in the small group can manage their own set of materials for this experience.

### Materials

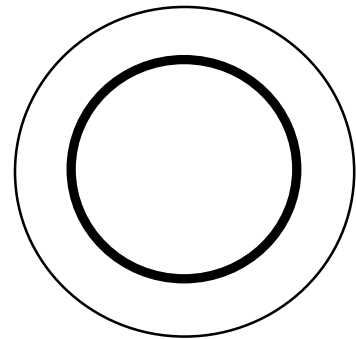
- |  |   |
|--|---|
| <input type="checkbox"/> Black washable markers, such as Mr. Sketch and/or Crayola brand | <input type="checkbox"/> Pitcher of water                                   |
| <input type="checkbox"/> Round, white coffee filters                                     | <input type="checkbox"/> Towels for drips and spills                        |
| <input type="checkbox"/> Paper plates or protective table covering                       | <input type="checkbox"/> Camera (optional)                                  |
| <input type="checkbox"/> Cups or shallow bowls   | <input type="checkbox"/> Black permanent marker, such as Sharpie (optional) |

Talk with children about what they have learned about color mixing so far. They have discovered that colors can be combined to make other colors. Green paint, for example, can be made by mixing blue and yellow paint. What do children think about the color black?

Children may theorize that black contains “all the colors,” or they may speculate that it is a combination of particular colors, such as purple and green. Some children may wonder if black “just is” – like a primary color. Can children think of any ways to find out?

Explain that, today, you'll try chromatography. In Greek, *chroma* means color, and *graph* means writing. Thus, chromatography means color writing. It's a way of separating a mixture.

Place coffee filters on a paper plates or a protective table covering. Press them out flat. Show children how to use a black marker to make a circular line all the way around their coffee filter. The line should be an inch or two from the edge. Children may want to move their markers around several times to make a thick line. What do children predict will happen if the marker line gets wet? Have they had any experiences with water dripping or spilling on their marker drawings before?



Invite children to pour a little water into each cup. You want just enough water to cover the bottom of the cup. Gather or fold a coffee filter so that the middle fits down in the cup, touching the water. The marker line will be above the water. Watch closely to see what happens as the water is absorbed and spreads through the coffee filter. Do children see any new colors emerging?

## Splitting Black (cont.)

Once most of the water has been absorbed, carefully remove the coffee filter and spread it out on a paper plate once more. Notice how the colors on the filter continue to change. If desired, take photos at the beginning, middle, and end of the process. These can be used for sequencing later.

If children are interested, you can repeat the experiment using a permanent marker. How is it different? What insight does this give about the meaning of the word “permanent”?

### Helpful Hints

Some brands of marker work better for chromatography than others. You may wish to experiment before sharing this experience with children. Children may enjoy testing several brands of markers, too.

A paper plate is used to prevent ink from bleeding through onto the table. Alternatively, a protective table covering can be used.

Drawing on crumply coffee filters can be tricky. Don't worry – lines don't have to be perfect!

### Including Every Explorer

This experiment requires a couple of minutes of watching and waiting. Many children will find this intriguing, but some may be restless. You can simplify the activity by making a large dark spot of marker ink in the very center of a coffee filter. Skip the cups and use eyedroppers or pipettes to drip a few drops of water directly onto the marker spot. Colors will spread almost instantly!

### More to Do (optional)

- Experiment with other colors. What happens when you split purple, green, or brown?
- Draw freely on coffee filters with a variety of markers. Use a spray bottle or eye droppers to add water. Children will be eager to repeat this process many times during free-choice play.

This experience offers special opportunities to build and strengthen:

**Cognitive Development – CD 2.1, CD 2.3, CD 3.1**

**Physical Health and Development – PH 2.1, PH 2.2**

**Language Development – LD 1.1, LD 2.1, LD 3.1**

**Science and Technology – ST 1.1, ST 2.1, ST 3.1**

## Color Study

Let's find out how one hue can change as we add black or white.

### Materials

- Tempera paint in a color of children's choice
- Black or white tempera paint
- Bowls for paint
- Spoons for paint
- Paint palettes with wells or white ice cube trays
- Craft sticks for stirring
- Smocks or large t-shirts to protect children's clothing
- Paintbrushes
- Large sheets of white paper to paint on

Decide on a color that the group would like to work with. Pour a bowl full of that color of paint. Introduce the word *hue*: a color without shade or tint. Children will naturally wonder what shade and tint mean.

*Shade* is a color mixed with black.

*Tint* is a color mixed with white.

Would children like to shade or tint their paint today? Pour a bowl of black or white paint, depending on their choice.

Invite children to freely spoon paint into the wells of their palettes or trays. Craft sticks can be used for mixing. How many different shades or tints can they create? Explore alongside children, using self-talk to describe your choices. "I'm going to try to create a super pale, pastel pink. I think I'll need lots of white paint." Encourage children to talk about their work, too.

This is a natural opportunity for comparing quantities. Which shade has the highest concentration of black paint? Which one has only a tiny bit of black paint? How can you tell?

Once children have mixed many different shades or tints, create paintings on large sheets of paper. Make the bowl of paint in the original hue accessible to children alongside the new shades or tints that they have mixed. Some children may wish to paint something representational, but many children will enjoy swirling and spreading the paint in abstract, process-oriented ways.

When children feel satisfied with their work, set the finished paintings in a safe place to dry.

## Color Study (cont.)

### Helpful Hints

Don't worry about washing brushes as you go unless children suggest it. It's OK for the colors to mix!

Children can decide together which color they want to work with on this day. Alternatively, children can sign up in advance for the color of their choice: "Would you like to be in the red group, the orange group, the blue group, or the purple group?"

This is an experience that can be repeated numerous times. If you made shades today, try tints tomorrow, or later in the week.

### Including Every Explorer

Blue masking tape can be used to tape the paper to the table. This helps keep it from sliding around as children work. Try wrapping paintbrush handles with foam or using adaptive paintbrushes for children with limited use of hands.

Some children naturally stand up when they work at the table. This makes it easier to reach and gives more freedom to use the whole arm. Unused chairs can be tucked out of the way when children prefer to stand.

### More to Do (optional)

- Offer tints or shades of color at the easel.
- Try mixing black and white together to create tones of gray.
- Offer collage materials in various tints and shades of a particular color. For example, you might create a basket of yellow sequins, pompoms, tissue paper squares, bits of ribbon, and pieces of cellophane. Repeat several times, offering a different color each time. Older children may enjoy helping prepare the basket by sorting through materials to pick out the designated color.

This experience offers special opportunities to build and strengthen:

**Cognitive Development – CD 1.1, CD 2.1, CD 2.4, CD 3.1**

**Physical Health and Development – PH 2.1, PH 2.2**

**Language Development – LD 1.1, LD 2.1, LD 3.1**

**Mathematical Thinking – MT 1.1, MT 1.2, MT 3.1**



## Color Wheels

Let's use a pattern to create a color wheel. This activity should only be offered after children have had many open-ended opportunities to mix colors in their own way.

### Materials

- Containers of red, yellow, and blue tinted water
- Eye droppers or pipettes
- Toothpicks – three per child
- White paper towels
- Copies of the **color wheel** pattern from this curriculum, laminated or in vinyl sheet protectors – 1 per child
- Sponges or towels for tidying up
- Writing tools and paper (optional)

Invite children to talk about what they discovered about mixing colors. If you combine the same colors, will you always get the same results? As children have worked with primary colors – red, yellow, and blue – have they figured out the formulas for other colors? (For example, red and yellow combine to make orange.)

Introduce the color wheel pattern to children. A color wheel is a tool that shows the relationships between colors. It's kind of like a map that helps us think about colors and color combinations.

Show children how to carefully apply one drop of colored water to each of the colored dots on their pattern. Notice how the drops stay beaded – and don't soak in - on the laminated surface. **Use toothpicks to swirl the four droplets in each section.**

Once all of the dots are covered, and colors are swirled, prepare to place a paper towel flat on the page. What do children predict will happen? Go ahead and try. As the dye soaks into the towel, a color wheel will appear! Talk together about why and how this happened.

Write names or initials on color wheel towels and set aside to dry. Each child can use a sponge or cloth to wipe their color wheel pattern, making it ready for the next person.

Is there anything that children would like to draw or write to remember this experience?

## Color Wheels (cont.)

### Helpful Hints

Full-color copies of the color wheel pattern can be printed from this curriculum's website. If you do not have a color printer, look at the pattern online as you use red, yellow, and blue markers to trace around each dot before laminating.

Use food coloring to tint the water. Liquid watercolor paint can also be used for this experience.

### Including Every Explorer

This complex activity requires concentration and persistence. It may not be a fit for all preschool groups. With younger or less experienced groups, consider re-running the open-ended **Color Drop** activity instead.

### More to Do (optional)

- Older, more experienced children may want to try to create a color wheel that includes tertiary colors. (Three drops of red with one drop of blue, and so on.)
- Make a color wheel collage. Invite families to bring in small, colorful items – such as milk caps, buttons, and bits of paper. Sort these, and classroom collage materials, by color. Work together to glue the pieces to the sections of a poster board color wheel.
- Who could visit the group to talk about mixing colors? Possibilities include an artist, hardware store employee, cake decorator, or auto paint specialist. What can they show or tell children about the role that color mixing plays in their work? What questions do children have?

### Did You Know?

Not every experience that uses paint is an artistic experience. In this case, paint or dyed water is used to promote logical reasoning and mathematical thinking. Go ahead and display the color wheels, but call them science or math work – not art!

This experience offers special opportunities to build and strengthen:

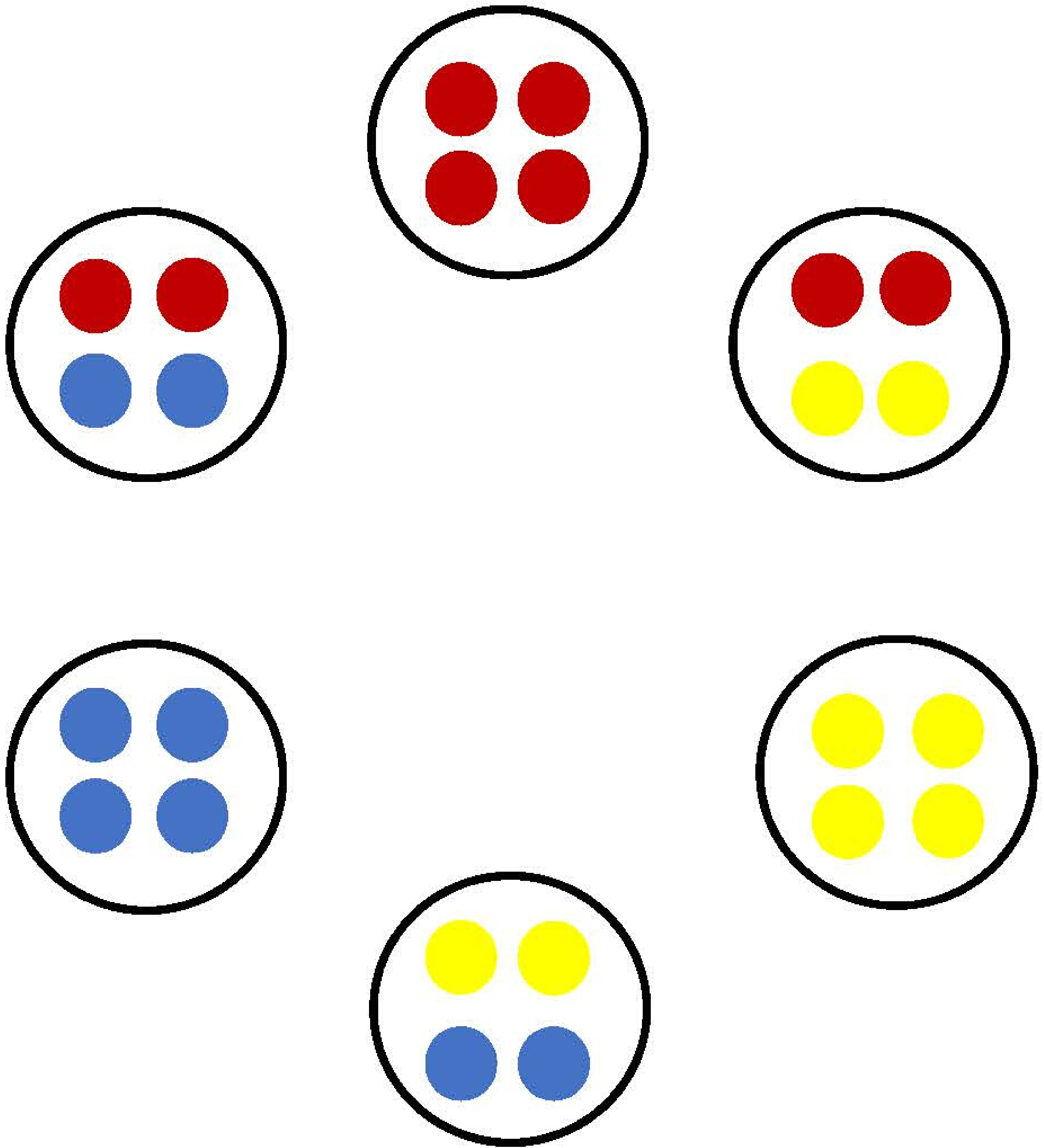
**Cognitive Development – CD 1.2, CD 2.1, CD 2.3, CD 3.1**

**Physical Health and Development – PH 2.1, PH 2.2**

**Mathematical Thinking – MT 1.1, MT 1.2, MT 2.1, MT 3.1**

**Science and Technology – ST 1.1, ST 2.1, ST 3.1**

# Color Wheel



Put a drop on each dot.



## Inventing Colors

Let's apply what we have learned so far to create unique colors. This is a multi-step experience that will be carried out differently from most small group learning experiences.

### Materials

- Tempera paint in various colors
- Black and white tempera paint
- Bowls for mixing
- Baby food jars with lids, or other small, lidded containers
- Spoons for mixing
- Markers or pencils
- Masking tape or adhesive address labels
- Paint sample swatches
- Smocks or large t-shirts to protect children's clothing
- Paintbrushes
- Large sheets of paper for painting

Begin by meeting with children in a small or large group. Talk together about what they have learned about mixing colors so far. This could be a good time to create a chart together by writing down – and reading back – what children have to say.

Look together at sample swatches from the paint department of a building supply store. Colors have basic names – like green and orange – but artists and decorators use names for specific shades and tints of color, too. Read some of the names on the paint swatches. These made-up names are used so that painters can go back and get the same color of paint again.

If you go to the paint store and ask for a bucket of “warm sunshine” yellow paint of a particular brand, it will always be the color on the swatch. Other yellows might have names like daffodil, glitzy gold, island sun, and lovely lemon. What do children notice about the color names? They are often – but not always - inspired by nature. They sometimes have describing words (adjectives) like pretty, fresh, sweet, or cheerful.

If children were going to invent a paint color, what would it be? Let them know that they'll each get a turn to create their own paint color today.

Create a mixing station with containers of basic colors of paint, along with black and white. Invite children to come to the paint-mixing station one or two at a time. Before you begin mixing, ask each child to set a goal. What kind of color would they like to mix as their own unique blend? Are they planning deep, dark blue? Or light, bright green? Or something else? Encourage them to talk about and plan which colors they could combine to meet their goal.

## **Inventing Colors (cont.)**

Once a child has a plan, invite them to mix the colors they want in a bowl. When they are happy with their results, they can transfer the paint to a baby food jar or another lidded container. Together, admire the color that they have made. What would they like to name it? Help children write their color name on a label and add it to their jar.

Find a special place in your room to display the labeled jars of paint. Later, paints can be used for painting at a small group time or at an easel. Encourage children to look at, and talk about, all of the different paints the group has created. Try sorting the jars, noticing the many variations. Can children recall the colors that they mixed to create their unique blends?

### **Helpful Hints**

It can be easy to get carried away while mixing and add ALL the colors together! You may want to offer paints in lidded containers, such as small food storage canisters. This can help children be intentional when selecting the colors they want to use for mixing. Only open the containers that the child plans to use for the mixing experiment.

### **Including Every Explorer**

Things don't always turn out as planned. Reassure children that it is OK to end up with a different color than you thought you would. Some children who find this frustrating may benefit from individualized support.

For a child with limited communication skills, try offering several choices for color names as part of a playful exchange. Look for nods or other cues when they hear one they like! Picture cards are another way to engage not-yet-verbal children in naming colors.

### **More to Do (optional)**

- Use your paints for something special. You might paint picture frames to hold children's portraits or paint wooden blocks to add to the block building area.
- Create index card swatches with each child's paint company (their name) and their color name. Make a book of swatches for the art area or display the cards where children can explain them to their families.

This experience offers special opportunities to build and strengthen:

**Cognitive Development – CD 1.1, CD 1.2, CD 2.1, CD 2.3, CD 3.1**

**Language Development – LD 1.1, LD 1.2, LD 1.3**

**Emergent Literacy – EL 1.1, EL 2.1, EL 3.1, EL 3.3**

**Science and Technology – ST 1.1, ST 2.1, ST 3.1**

## Colors in Nature

Let's investigate the colors in our outdoor world.

### Materials

- Paint sample swatches
- Camera (optional)
- Investigator's Kit - backpack with a tape measure, ruler, flashlights, magnifying glasses, small notepad and pencil

To prepare for this activity, collect paint swatches in shades of green, yellow, and brown. You may also want to add swatches in other colors, such as pink, purple, cream, and gray.

With a small group of children, take swatches outdoors. You might go to a garden area, a wooded nature area, or any other interesting space. Can children find leaves, twigs, and other natural items that match the colors on the swatches? This should be a relaxed, open-ended investigation in a space where children can move around at their own pace.

Talk together about tones and shades.

- "This leaf is a little bit darker than my swatch."
- "We're finding a wide range of brown colors, but not many grays."
- "This purple flower is a perfect match!"

Take photos, if desired, to document your discoveries.

### Helpful Hints

Paint swatches are available for free wherever interior house paint is sold.

Children may want to use tools from their Investigator's Kit to examine objects that they find.

Remember that it is always acceptable to follow children's interests. Paint swatches may be set aside if you find an unexpected earthworm or fascinating puddle, or if the trash truck happens to pass by. Spontaneous, in-the-moment investigations are often most valuable of all!

## Colors in Nature (cont.)

### Including Every Explorer

Think of ways to provide extra supervision for children with more impulsive behavior. This could be a good opportunity for family volunteers. The activity can take place in a fenced outdoor area if needed, to protect children's safety.

Older, more experienced children may have a particular interest in the written words on the color swatches. Do they agree that a seeded dandelion could be called "silver drop," or would they describe it differently?

### More to Do (optional)

- Create a matching game with paint swatches and close-up nature photographs. This can be placed in your science or table toy area.
- Laminate a set of paint swatches that children can take to the outdoor play area when desired. These can be organized on a book ring or keychain if desired.
- If your group takes field trips, consider a trip to a builder's supply store. Children can see the racks of paint swatches, look at tools for painting, and talk with an employee about how paint is mixed.

This experience offers special opportunities to build and strengthen:

**Cognitive Development – CD 2.1, CD 2.2, CD 3.1**

**Language Development – LD 1.1, LD 1.2, LD 1.3**

**Science and Technology – ST 1.1, ST 3.1, ST 3.3**

**Social Studies – SS 2.2**



## Color Lab

Let's mix, squish, smudge, and blend colors in big, messy, open-ended ways! This experience can take place outdoors.

### Materials

- Smocks or large t-shirts to protect children's clothing
- Or, swimsuits and a hose
- A combination of some of the following, in red, yellow, and blue:
  - Homemade or commercial fun foam
  - Powdered chalk
  - Colored water in beverage dispenser jugs
  - Water and paint in squeeze bottles
  - Tinted ice cubes
  - Tinted cornstarch "Oobleck"
- Camera (optional)

This is a child-directed experience. Create an invitation to explore and then let children investigate and play in their own way. Talk with children when they seem interested in talking with you. Conversations might include:

- Looking at how colors blend and swirl. Have any new colors formed? Where did they come from?
- Describing the sensory experience of the different materials: slimy, foamy, cold, dusty, and so on.
- Noticing how materials change when they are combined.
- Enjoying silly moments of spreading materials on hands and bodies.

Take photos, if desired, to document children's investigative play.

When children feel satisfied, use a hose or wet towels to clean up.

## Color Lab (cont.)

### Helpful Hints

This play experience may not appeal to every educator, but if you're brave enough to give it a try, children will be delighted to have the freedom to explore this way! This could be a special event near the end of your color investigation. There are many opportunities for learning as children help prepare materials for the event, too:

#### **Fun foam**

Combine baby shampoo with a small amount of water. Blend with an electric mixer until fluffy. Tint with food dye or liquid watercolor. Offer fun foam in dish tubs or other big bins.

#### **Powdered chalk**

Double bag colored sidewalk chalk in plastic zip-top bags. Cover with a towel. Pound with a hammer with close adult supervision. Offer powdered chalk in spice shaker jars.

#### **Oobleck**

Combine two parts cornstarch and one part water. Add a little more water if needed to get a runny consistency. Tint with food coloring or liquid watercolor. Offer Oobleck in dish tubs or other big bins. Do not pour Oobleck down drains.

Placing a sprinkler nearby is one way to allow children to rinse off when ready.

### Including Every Explorer

Consider children's abilities and needs as you plan and arrange materials. Place materials on rubber tiles or another non-slip surface if your group includes children with limited mobility.

Use a sensory table or picnic table to create an elevated play space if any child is unable to play at ground level.

Powdered chalk and other dusty materials should be avoided with children with asthma or other respiratory concerns; colored craft sand can be substituted.

Children with sensory sensitivities may not want to engage in experiences like this one, and that's OK. Offer alternative activities, such as simple water play or beach balls, nearby. Invite, but do not force, participation in messy play.

This experience offers special opportunities to build and strengthen:

**Social and Emotional Development – SE 1.1, SE 1.2, SE 2.1, SE 3.1, SE 3.2**

**Cognitive Development –CD 1.1, CD 2.3, CD 3.1, CD 3.2**

**Physical Development and Health – PH 1.1, PH 1.3, PH 2.1, PH 3.2, PH 3.4**

**Creativity and Aesthetics – CA 2.1**

## Active, Physical Play – Colors

Invite children to join in activities such as these during outdoor playtimes. Some children will want to come and play, while others will prefer to continue with their own free choice activities. Some activities found in this section may also be appropriate for indoor gross motor play or active group gatherings.

### Catch a Color

Call out a color. Every child who is playing runs around the play area to touch something of that color. Each player must find their own object, but players are welcome to call out ideas and encouragement to players who are still searching.

Add complexity by calling out a color and another attribute. Can you find something that is hard and yellow? How about something round and blue? Encourage children to notice that there can be more than one “right” match.

### Gumball Machine (parachute game)

Use a parachute to bounce colorful ball pit balls. Shake the parachute until all of the balls have bounced off. Lay the parachute down on the ground. Run to collect the balls and place them on the matching color panels of the chute. Does the parachute remind you of a giant color wheel? Once all of the balls are gathered and placed, you’re ready to play again!

### Color Swap (parachute game)

After children have had a chance to shake the parachute, raise the chute high overhead. Call out a color – “Green, swap!” Any child holding that color can run under the parachute to trade places with others. This game is best suited for older preschoolers.

### Color Sequence

This game is best suited for small groups of players. Use commercial vinyl spot markers – available from early childhood suppliers – or make marks on the ground with chalk. Call out a series of colors: “Orange, yellow, green, and back to me!” Can children remember the sequence as they run to step on each color in order?

## Colored Eggs

This traditional playground game is nonsensical, but it has been enjoyed by many generations of children over the years.

Create a playing space with a fence or wall on one side. Put cones or other markers at the other end of the space. In this game, one child will be the wolf, an adult will be the hen/rooster, and the remaining children will be eggs. The wolf moves to the middle of the play space. The children each think about what color egg they would like to be (green, yellow, pink, etc.) and quietly tell the hen/rooster.

The game begins with a chant:

Wolf: Knock, knock!

Everyone else: Who's there?

Wolf: Big, bad wolf!

Everyone else: What do you want?

Wolf: Colored eggs!

Everyone else: What color?

The wolf calls out a color. Any child who has decided to be that color egg must run across the playing field, around a cone or other marker, and back to the nest (fence or wall) without being tagged.

A child who is tagged joins the wolf in tagging, and the last child tagged becomes the wolf for the next round.

## More Colorful, Active Fun for Outdoors

- Sidewalk chalk
- Chalk paint
- Painting with water
- Ribbon streamer wands or bracelets
- Pinwheels
- Bubbles

## Growing Every Day: Supporting Social and Emotional Development

Carol Evans, A-State Conscious Discipline Coach

*“Oh, no!” Ms. Shaw exclaims as the open gallon of green paint topples from the table and pours onto the floor just beyond her reach. Bennie looks sheepishly up at her, his big eyes questioning: what she will do next? Almost everyone in the pre-k class runs to see what happened. Ms. Shaw scrambles to stop the mess from getting bigger. Thinking to herself, ‘Everything had been going so well, we were looking forward to this activity, now it is ruined!’*

Ms. Shaw becomes aware that each child’s face has turned to her. The children are learning from her in this moment. She remembers to breathe, just breathe. “I need to breathe,” she says aloud. “I feel frustrated with this mess!” She asks the children to help her by taking three slow, deep breaths with her. “Thank you, that really helped,” she says in a more familiar, relaxed tone.

Ms. Shaw scans the room, checking to make sure that everyone is safe – physically and emotionally – in this moment. Dax dabbles playfully in the paint with his foot, but Bennie watches Ms. Shaw cautiously. She sees uncertainty in his eyes. “We can handle spilled green paint,” she assures him. “Bennie, would you like to be a helper?” Bennie begins to smile. He loves to help! Ms. Shaw nods to her teaching partner. “Mr. Brady, while we start on the paint, would you please help Dax clean up his shoes?”

Some children go back to their play, while others choose to stay and help Ms. Shaw and Bennie. Before long, the little clean-up team is laughing and retelling the story of the giant paint puddle. They began talking about other messy experiences and their feelings.

When the mess has been managed, Ms. Shaw expresses how grateful she is for her helpful class. She visits with each child and specifically shares what they did and how it helped make today a great day at school. The morning’s project may not have gone as planned, but it turned out that the mess was full of unexpected learning opportunities!

Ms. Shaw supported social and emotional learning when she:

- Shared her own big feelings;
- Modeled how breathing helped her handle frustration;
- Tuned in to how different children responded to the unexpected mess; and
- Shared each child’s contribution to saving their day.



## Even More Color Experiences

- Involve children in expanding the art area in your room. What resources or furnishings would enhance their work and play?
- Give children an active role in caring for the art area in their room. They can help fill paint cups, clean paintbrushes, sweep up scraps, and sort work from the drying area. These are important responsibilities.
- Partner with older art students to create a collaborative project. Be sure to choose something that is process-oriented, with many decisions for children to make.
- Invite a family or colleague to talk with children about the colorful traditions surrounding Holi, a Hindu festival that takes place in the spring.
- Explore the colors of fruits, vegetables, and flowers. Plant a rainbow container garden, taste test vegetables from the farmer's market, or make colorful fruit salad together.
- If your class takes field trips, plan a visit to an art studio or elementary school art room.

## Notes:

## Concluding Your Color Exploration

1. With your teaching team, think about, and discuss:
  - What new experiences have our children had during this exploration? What new knowledge and skills have developed?
  - Do the children seem ready to conclude this exploration? Have their questions been answered? Is their interest in mixing colors waning? If children still seem excited, think about ways to continue and extend the exploration.
  - How can we document children's learning and help children share what they have learned with others?

Your color exploration might end with one of these activities.

- Creating a book of photos of activities and/or children's drawings. The book can be added to the classroom library and/or copies can be made for each family.
- Hosting a family engagement event. For example, your color exploration might conclude with an exhibit of children's colorful work or a fun fair where children can share favorite open-ended art experiences with siblings and parents.
- Connecting with children in other groups. Children might prepare collage trays for other preschool classrooms or visit a toddler playground a few at a time to share sidewalk chalk with the younger children.

2. Encourage children to share their favorite memories about investigating colors. Model gratitude by creating thank you cards or letters to the families, school members, and community members who supported your exploration.
3. Where will you go next? Use your observations and conversations with children to help you plan your next exploration!

# Using Explorers Preschool Curriculum

*Explorers Preschool Curriculum (EPC)* is designed for early childhood educators and preschool-aged children. It can be used in any setting, including private preschool programs, public school programs, and family child care homes.

## EPC Guiding Principles

**1. Children are naturally curious and eager to understand their world.**

The *Explorers* curriculum promotes authentic, enjoyable, first-hand experiences in a vibrant and encouraging environment.

**2. Domains of child development are interrelated and are all important.**

Physical, cognitive, communicative, social, and emotional development are all vital for success in school and life. *Explorers* supports the *Arkansas Child Development and Early Learning Standards (CDELS)* with engaging experiences that promote learning across all domains.

**3. Children are trustworthy partners in learning.**

*Explorers* is inquiry-driven, guided by children's interests, questions, and ideas. Children take on meaningful decision-making roles and responsibilities as a part of each investigation. The child's right to play is protected and supported as fundamental component of every day.

**4. Each child, and each group of children, are unique.**

*Explorers* offers choices and flexibility for children and adults. Individualization to include children with developmental differences and special needs is integral to the curriculum.

**5. Learning happens best within the context of family, community, and the natural world.**

*Explorers* strives to promote positive connection between preschool-aged children and their school, community, and environment. Diverse and meaningful opportunities for family engagement are given special importance.

For professional development support with Explorers Preschool Curriculum, please contact Marcy White, [MWhite@AState.edu](mailto:MWhite@AState.edu)



## Big Ideas from EPC

*Explorers* may be different from other curricula you've used in several ways. Understanding these differences will help you use the curriculum successfully.

*Explorers* includes a collection of topics for investigation. These topics include, but are not limited to:

- Bubbles
- Day and Night
- Farmers' Market
- Insects
- Making Music
- Ramps and Tunnels
- Songbirds and Squirrels
- Trees

Each topic supports children's real-life, firsthand experiences.

**Topics of learning – known as investigations – do not have to occur in a predetermined order.** Instead, educators are urged to observe, talk with, and think about children in their group. Which of the topics would be most interesting and engaging to this group of children? Decisions may also be guided by the resources that are accessible to the program. Programs may choose to participate in any of the investigations, in any order.

**Within broad topics, individual groups are urged to “zoom in” and focus most intently on areas of special interest.** For example, one group taking part in a *day and night* investigation might be most interested in city lights that shine though the dark. A second group might be more interested in nighttime creatures like crickets and moths. Although both groups have the same, broad focus, conversations and planned activities in the two rooms may differ greatly. Some activities in the topic packet may be skipped, and different high-value activities may be offered to support children's interests.

**Educators are expected to “re-run” books and activities that especially interest children.** That means that the same activity will be shared again over the course of several days or weeks. Through repeated opportunities to explore, children gain expertise, test new ideas, and work in increasingly complex ways. Repetition helps children build confidence and construct knowledge.

**Investigations are not limited to one week.** In fact, groups may focus on the same topic for two, three, or four weeks – or more! It is believed that deep, comprehensive investigation of any interesting topic is more beneficial to young thinkers and learners than a “sprinkling” of many different topics. Thus, children and adults are invited to continue their investigation as long as it sustains children's interest. An investigation concludes when educators observe that children's questions have been answered. Children seem satisfied and ready to move on to other topics of interest.

## EPC Daily Practices

A resource packet is available to support each investigation topic. These packets support learning throughout the day in these eight ways:

### 1. Learning Center Extensions

Free play is a crucial part of every day! Learning Center Extensions are play objects and other materials that support the topic. These can be added to the indoor play areas that children use every day. The items in this section are examples. Educators may implement their own ideas, as well.

### 2. Books for Sharing with Groups

Suggestions for books are listed in each packet. It is not expected that programs will purchase the entire book list. Rather, the list may provide guidance and inspiration as educators select books from their storage area and/or their local children's library.

These may be added to classroom book areas and can be shared informally with one or a few children at a time during play times. Some of the books on the list are also designated as **\* recommended read-alouds** for sharing with larger groups of children.

### 3. Topical Conversations

Conversations can occur within the context of play or daily routines. Especially with older preschoolers, some conversations may also occur during whole group meeting times. In addition to informal conversations throughout the day, *Explorers* encourages educators to routinely use two additional strategies each week:

#### Response Charts

The educator talks individually with each child and writes down exactly what they say. This interview process takes place during play time or other informal times. Once all of the children have had a chance to respond, the chart is posted where everyone can easily see it. The educator reads all of the responses aloud during a group meeting. Written response charts are recommended at least once a week.

#### Polls

Children and adults respond to a question by writing their name under one of two choices on a chart. Younger or less experienced groups may opt to place name cards on the chart instead. The polling process takes place with one, or a few, children at a time – perhaps as part of the morning arrival routine or as children finish breakfast.

During a group meeting, children and adults look together at the chart. It is recommended that children are invited to complete polls 1-3 times per week.

## **4. Playful Songs, Rhymes, and Games**

These simple activities may be incorporated into group gathering times or used as transition activities. Many are “piggyback songs” – meaning that they offer new words to tunes that children may already know.

## **5. Active, Physical Play**

Most of these activities are intended for the outdoor play area. Some are also suited for indoor gross motor spaces – such as gyms – or active group gatherings.

Educators are encouraged to invite children to join in activities such as these daily. Many children will want to participate, while others would rather continue with their own, free choice gross motor play. When two or more adults are present, one can lead the activity while others supervise children elsewhere in the play area.

## **6. Growing Every Day**

These vignettes highlight strong, positive guidance practices. Educators are reminded that the most valuable learning occurs when adults model, coach, guide, and encourage children in the context of everyday interactions.

## **7. Small Group Learning Experiences**

Ideas for small group learning experiences make up the bulk of each resource packet. These learning experiences are intended to be carried out with groups of 3 – 5 children at a time.

This means that educators will complete each activity with several small groups. For some activities, some children may participate in the morning and some may participate in the afternoon. A few activities may even take place over the course of several days. Using lists or sign-up sheets can reassure children that everyone will have a turn.

**You'll find a key to small group learning experiences on the following page.**

## **8. Concluding Your Exploration**

This final section of each resource packet invites educators to reflect about whether children are ready to wrap up and move on to another topic of investigation. It includes ideas for culminating events and documentation.

# Key to Small Group Learning Experiences

Each double-sided small group learning experiences idea sheet has specific components to assist you with planning and facilitation:

<p><b>Exploring with Flashlights</b> Let's investigate flashlights and go on a low light adventure!</p> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>□ Basket of assorted flashlights (at least one or two more flashlights than children in the small group)</li> </ul> <p>Talk with children about what they know about flashlights. Flashlights are lights that we can carry in our hand. They are usually powered by batteries, and they are tools that let us see in dark places. What experiences have children had with flashlights? They might talk about using flashlights when camping or when the lights go out during a thunderstorm.</p> <p>Invite children to investigate the flashlights in the basket. Notice together.</p> <ul style="list-style-type: none"> <li>• How flashlights switch on and off.</li> <li>• Which ones are brightest, and which are dim.</li> <li>• Which ones have a narrow beam, and which ones have a wide beam.</li> <li>• Other differences and similarities related to size, shape, color, and function.</li> </ul> <p>This may be a good time to support children as they learn to ask for turns and trade materials – "May I use the tiny flashlight next?", and, "I'll trade you the blue flashlight for the green one."</p> <p>After a period of open-ended exploration, invite each child to choose a flashlight to take on a walk. You'll go together to another area where the lights are dim, but not totally dark. This could be another room, a hallway, a gymnasium, or any other child-safe space where you can turn out the lights. Invite children to investigate by walking around and shining their lights on things that interest them.</p> <p>When you return to the classroom, talk with children about what they noticed while exploring with flashlights.</p> <p><b>Helpful Hints</b> Ask colleagues for help building a collection of flashlights. Families may be happy to help, too.</p>	<p><b>Title</b></p> <p><b>Materials: Things to gather and prepare</b></p> <p><b>Procedure: How to facilitate the activity with children</b></p> <p><b>Helpful Hints: Tips for a smooth, successful experience.</b></p>
<p><b>front of page</b></p> <p><b>Including Every Explorer: Ways to individualize and adapt for children with special needs.</b></p> <p><b>More to Do: Suggestions for extending learning, creating displays, and engaging families.</b></p> <p><b>Did You Know?: Fun facts and/or background information for teachers.</b></p> <p><b>Build and Strengthen: Connection to AR Early Learning Standards (CDELS)</b></p>	<p><b>back of page</b></p> <p><b>Exploring with Flashlights, cont.</b></p> <p><b>Including Every Explorer</b> Some children are frightened by dark places. If a child seems worried, invite them to hold your hand or walk next to you.</p> <p>Some children may require one-on-one support to have a safe, satisfying experience outside their familiar classroom. If this is not possible, find a way to explore inside the classroom.</p> <p><b>More to Do (optional)</b></p> <ul style="list-style-type: none"> <li>• Hang pictures of nighttime (nocturnal) creatures in the place where children will explore. Have fun spotting owls, bats, opossums, and more!</li> <li>• Create a flashlight exploration space in your classroom with the basket of flashlights and a large, open appliance box that children can crawl inside.</li> <li>• To challenge older or more experienced preschoolers, place one flashlight without batteries in the basket with the working flashlights. When children discover the non-working light, encourage them to investigate. Offer two different sizes of batteries when they realize that batteries are needed. They'll figure out which size is correct and install them in the flashlight. "I fixed it!"</li> </ul> <p><b>Did You Know?</b> This exploration may seem simple to adults, but we have far more experience with flashlights and dim places than children do! Children may investigate many different things, such as:</p> <ul style="list-style-type: none"> <li>• How a flashlight beam moves when they move their arm.</li> <li>• What happens when light shines on a window or mirror.</li> <li>• How a beam of light changes as it moves closer to a surface that it is shining on.</li> </ul> <p>This experience offers special opportunities to build and strengthen:</p> <ul style="list-style-type: none"> <li>Social and Emotional Development – SE 1.2, SE 2.1, SE 2.2</li> <li>Cognitive Development – CD 1.1, CD 2.1</li> <li>Science and Technology – ST 1.1, ST 3.2</li> </ul>