

CHURCH IN TECHNICOLOR RELATED RESOURCES

EXPERIMENTS

Candy Chromatography

In this experiment, you will learn what color dyes make up the colors in your candy!

Materials:

- Paper towels
- Scissors
- Pencil
- Large bowl or pot
- Measuring spoon and measuring cup
- Water
- Salt
- Large jar with a narrow opening
- Medicine dropper
- A clean plate
- M&Ms or Skittles, one of each color you want to test.
- Timer
- Red, green, and blue food coloring
- Clothespins
- Drying rack (optional)

Procedure:

- Cut the paper towels into strips about one inch wide. Make each strip at least one inch longer than the height of your jar. Cut three strips for the food coloring samples and an additional strip for each candy color you want to test.
- Label which candy color or food coloring will be spotted on each paper strip. Draw a pencil line about one inch from the bottom end of each paper strip.
- In a bowl, mix together 1/8 teaspoon of salt with 4 cups of water. Pour a small amount of the salt solution into the jar so that the jar is about one inch full.

CHURCH IN TECHNICOLOR RELATED RESOURCES

- Put a single drop of water on the clean plate. Set a candy in the drop of water and leave it there for three minutes.
- Then, flip the candy over so its other side is in the drop of water. Let sit for another three minutes. Then remove it.
- Take one of the paper towel strips and place the pencil line on top of the now-colored drop of water. You can get some extra dye on the line by dabbing the sides of the wet candy with it.
- Repeat these steps with the other candy colors you want to test, using a new strip for each candy.
- Prepare a strip for each food coloring. Put a small drop of food coloring on the plate and lightly dab the line on a new strip. Repeat this so that you have three food coloring strips.
- Put the pigmented end of a strip into the jar you filled with salt water. Put the strip into the jar until the strip just touches the salt water. Drape the top of the strip over the jar's opening and secure it with a clothespin. Make sure that each strip is not touching the jar's sides, but only contacts the jar at the clothespin. Secure as many of the other strips as will fit in the jar, being sure that they do not touch the jar or each other.
- Let the water rise up the strips until it is about an inch or two from the top. Remove the strips. Keep a close eye on the strips and where the water is – if you let the strips run too long, the water can reach the top of the strips and distort your results.
- Let the strips dry. You can set them on a drying rack, or on the clothespins laid flat.
- Look at your strips. How many dye components does each M&M color have? Can you identify which dyes that are in the food coloring are also likely in the M&Ms candies?

CHURCH IN TECHNICOLOR RELATED RESOURCES

Sunset in a Glass

In this experiment, you will learn why the sky appears to be different colors at different times of day!

Materials:

- Long glass or jar (at least 16 oz.)
- Water
- Milk
- Teaspoon
- White light flashlight

Procedure:

- Fill your glass all the way with tap water.
- Shine your flashlight through the glass of water from the side. When you look at the glass from the front, what does the water look like? What color does it have?
- Add about one teaspoon of milk to the water and stir until mixed. How does the water look now?
- Take the flashlight and point it at the solution from the side. Does the solution change color?
- Instead of shining the flashlight through the side of the glass, now place it on top of the glass and shine it through the solution from the top. What changes when you shine the light from the top through the solution?

Taste with your Eyes

In this experiment, you will see if color determines what you taste!

Materials:

- Apple juice
- Red, green, and blue food coloring
- Drinking glasses

CHURCH IN TECHNICOLOR RELATED RESOURCES

Procedure:

- Pour a small amount of apple juice into each of four drinking glasses.
- Put a few drops of red food coloring into one glass, a few drops of blue food coloring into the second glass, and a few drops of green food coloring into the third glass. Mix in the food coloring.
- Leave the fourth glass with no food coloring and fill the fifth glass with water.
- Grab a few volunteers. Ask them to drink some water to cleanse their palates.
- Tell them to sample the colored drink in each glass one at a time, drinking water in between each one.
- Ask your volunteers which drink was their favorite.
- Now ask your volunteers to close their eyes. Hand them the cups one at a time to taste again, in a random order.
- Ask them which one is their favorite.
- Now, reveal your secret! Tell the volunteer that each cup contains apple juice. Ask them to sample each cup one more time, with their eyes open. Did their favorite drink change? What did they think they were tasting?

CRAFTS

Coffee Filter Flowers

In this craft, you can use color chromatography to create beautiful flowers!

Materials:

- White coffee filters
- Water based markers
- Scissors
- Clear tape

CHURCH IN TECHNICOLOR RELATED RESOURCES

Procedure:

- Choose a marker to test.
- Take a coffee filter and place it on a sheet of paper so the marker doesn't go through the filter. Draw a thick circle around the center of the coffee filter.
- Fold the coffee filter in half and then in half again, forming a cone shape.
- Get a short glass or cup and fill it with a little water. Open up the top of the cone shaped coffee filter so it balances right on the glass with the tip of the cone just touching the water. (Do NOT let the marker circle go in the water, just the uncolored tip. You'll know if the marker got into the water because the water will change color.)
- Let it sit and watch what happens as the water begins to flow up the paper. It takes about 20-30 minutes for the water and marker to completely filter to the edge of each cone.
- Repeat the same process with different colored markers and watch what happens.
- Place them on a newspaper or dish towel to dry.
- Trim off any white edges. Fold in half four times, then cut the long edge so it's rounded.
- Open the coffee filter and bunch it up, press the center together to form a mini stem. Wrap it with clear tape.
- Optional: tape your flowers to sticks or twigs, and make a bouquet!

CHURCH IN TECHNICOLOR RELATED RESOURCES

SNACKS

Rainbow Mix

Eat the rainbow by the handful!

Ingredients:

- Colorful cereal of your choice
- Rainbow colored goldfish crackers
- Dried berry/raisin mix
- Mini marshmallows
- Colorful candy (optional)

Procedure:

- Combine all ingredients and mix thoroughly. Enjoy your colorful snack!

Rainbow Toast

A colorful breakfast, featuring your favorite fruits

Ingredients:

- Bread
- Cream cheese spread
- Red berries of your choice
- Orange/mandarin slices
- Banana slices
- Kiwi slices
- Blueberries
- Purple grapes

Procedure:

- Toast bread and spread with cream cheese.
- Layer on fruit slices in rainbow order. Then enjoy!

CHURCH IN TECHNICOLOR RELATED RESOURCES

BOOKS

Orthodox

Title: Today My Priest Wears White

Author: Laura Pavlik

Summary: Board book highlighting church colors and their meaning.

Grade Level: Pre-K - K

Scientific

Title: Crayola Science of Color

Author: Mari Schuh

Summary: A look at the science of color through crayons.

Grade Level: Pre-K - 3

Title: FUNdamental Experiments: Color

Author: Ellen Lawrence

Summary: Basic experiments regarding color, how we see them, and how they change.

Grade Level: 1 - 2

Title: Light and Color

Author: Malcom Dixon and Karen Smith

Summary: Discusses the scientific reasons behind why we perceive light and color in certain ways.

Grade Level: K - 4

CHURCH IN TECHNICOLOR RELATED RESOURCES

SONGS

Title: ELECTROMAGNETIC SPECTRUM SONG

YouTube Channel/Artist: Jam Campus

Link: <https://www.youtube.com/watch?v=jPpBrBd4s58&list=LL&index=4>

Title: Electromagnetic Spectrum Song performed by the GAMP Concert Choir

YouTube Channel/Artist: RuddickScience

Link: <https://www.youtube.com/watch?v=0iRWz4NJUzA>

Title: Colors

YouTube Channel/Artist: Gigi Baba Shadid

Link: https://www.youtube.com/watch?v=oZAEPilirWQ&list=RDoZAEPilirWQ&start_radio=1