

TEMPORARY EXHIBITION

FALL 2010

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CHIHULY

AT CHEEKWOOD

Renowned artist Dale Chihuly is an innovator in the studio glass movement. His sculptures explore color, line, form and the unique relationship between art and nature. During this tour, students will discover Chihuly's glass sculptures as they learn about his life and inspiration, the history of glass, and the science of glassblowing. This tour includes discussion and interaction in both the gardens and galleries.



SUNSET BOAT, 2010, 5 X 21 X 11", CHEEKWOOD BOTANICAL GARDEN & MUSEUM OF ART, NASHVILLE, TENNESSEE.
PHOTO BY PARKS ANDERSON

CHEEKWOOD CELEBRATES 50 YEARS

To celebrate our 50th anniversary, Cheekwood collaborated closely with the Frist Center for Visual Arts and the Nashville Symphony to bring the awe-inspiring art of Dale Chihuly to the Middle Tennessee community. In addition to the *Chihuly at Cheekwood* exhibition, Chihuly's art is on display at the Frist Center for Visual Arts. In May 2010, the Nashville Symphony presented a special performance of *Bluebeard's Castle* by Bartók that incorporated a dramatic installation of Chihuly's work.

During your visit to Cheekwood, students will explore Chihuly's glass sculptures in the gardens and galleries. Thousands of pieces of glass make up this exhibition. Chihuly's team spent several weeks at Cheekwood installing the sculptures that you will see around the grounds. Below are a few *fun facts* about the *Chihuly at Cheekwood* installation.

- It took **5** weeks to clean the glass and pack the trucks for the exhibition.
- The work traveled **2,416** miles on **5** trucks from Chihuly Studio in Seattle, Washington to Nashville.
- Four beams were installed in the attic of the Museum of Art to support the *Chandeliers*. Each of these beams can hold **6,400** pounds.
- *The Sun* is made up of over **1,300** individual glass pieces.

VISIT...CHIHULY AT THE FRIST!

May 9, 2010 – January 2, 2011

Designed specifically for the Frist Center's upper-level galleries, this exhibition includes works from Chihuly's well-known series, including *Macchia*, *Ikebana*, *Persians*, and the stunning *Mille Fiore*. For more information on *Chihuly at the Frist*, please visit www.fristcenter.org or call 615.244.3340.

Are you interested in a full day Chihuly field trip experience? We are happy to accommodate your group in the morning or afternoon, so that you can visit the Frist Center as well. Let us know when scheduling!

CHIHULY AT CHEEKWOOD

During your tour, students will have the opportunity to explore Chihuly at Cheekwood in the gardens and the galleries. Below is a map of where the works will be on view.

CHIHULY AT CHEEKWOOD
May 25 - October 31, 2010

1 VISITOR SERVICES/BOTANIC HALL
Merchile
The name Merchile pronounced much like 'Merch' comes from the Italian word for 'spindle'.

2 ROSSIGNOL ELLIE COLOR GARDEN
Jeffrey Tower and Amber Cartella
Standing over 27 feet tall and weighing over 4,000 pounds, Southern Tower contains more than a 1000 miles of mesh tubing. "The idea of a Tower just came from looking at one of my Chandeliers and imagining what it would look like upside down." - Dale Chihuly

3 ARBO
Green Grass and Opale Beeds
Chihuly's first outdoor, cone-shaped form built for planting forms in natural and unique environments.

4 JAPANESE GARDEN
The Moon, Miljimo Fleets and Silvered Red Bamboo
The Moon was red made following a trip to the island of Miyajima in Kyoto Bay, Japan. Inspired by both the cherry and the traditional Japanese design, they may be the largest free-blown glass leaves in the world.

5 SILVERED RED BAMBOO
To create the long, tubular shape of a fixed, one glassblower in residence in a mechanical kiln blowing through the pipe to encase the form in amber, what another pulls the glass toward the ground. Some Fleets are longer than 10 feet!

6 CORVALLON FAMILY WATER GARDEN
Beet
Chihuly fixed fleets with gems in Malibu, France, during the 1995 Chihuly/Over Voice project. He often found gems in the top, taking a final investment. Local teenagers in what wooden-pedestal gathered them, and it was probably then that he conceived the idea for a new type of installation.

7 WALLIS WALLIS
In 1996, Chihuly made conceptual-sized fleets in his Seattle hobbyist to be used for their adult at the Venetian park. These fleets have no glass for that makes them resemble Eastern Washington's famous 'Walla Walla sweet dream'.

8 MUSEUM OF ART LAWN
The Sun
"If you take a thousand blown pieces of a color, you draw together, and then about light through them, there's a gelling in something on back of it. It's mysterious, defining partly or something out of place - it's something you have seen seen before." - Dale Chihuly

9 MUSEUM OF ART
Chandeliers, Set Weeks and Drawings
Chihuly made his first chandeliers for a solo exhibition at the Seattle Art Museum in 1992 by hanging relatively simple blown components together to produce a multi-part sculpture. The Chandeliers were created especially for Cheekwood.

10 THE GROSSO AND SHELL JOURNALS
Blue Mezline and Yellow Merans
"I love to juxtapose the manmade and the natural in art to make people wonder, is it manmade or did it come from nature? That's a very important part of my work." - Dale Chihuly

11 THE SELECTION POOL
Fleet
Chihuly has read that because of his mother's passion for gardening, he grew up surrounded by flowers, and that some of his early influences may have been the garden. With this Fleet (fleets for flowers), Chihuly allows glass pieces within the selection fleet to create a garden of glass.

12 COURTARD GALLERY
Be sure to see into this gallery and learn more about the glass blowing process while watching this video, Chihuly in the Hotshop.

13 MUSEUM OF ART
Blue Polyzine Crystals
"The crystals are hollow and glass blue in color. As with glass, it is really light that makes the Polyzine crystals come alive." - Dale Chihuly
This piece sits in a light.

14 HERS GARDEN
Royal Purple Silvered Herons, Pink, First and Blue Fleets
Herons are another form that came from Chihuly's experimentation with blowing different designs and using new techniques while working in France. After many days, the form made pieces that looked like heron bodies, which are sailing south toward large meadows and lakes.
This piece sits in a light.

15 FRIST LEARNING CENTER
Pearles and Blue Beeds
Each form with unique body shape and translucent effects - decorating their surface, the pearles comes together in 100s in a search for new forms.

EXHIBITION MAP

ABOUT CHIHULY

THE YOUNG ARTIST



DALE CHIHULY AT THE UNIVERSITY OF WISCONSIN, MADISON 1966-67

Dale Chihuly was born in Tacoma, Washington on September 20, 1941 to George Chihuly and Viola Magnuson Chihuly. His father was a butcher and union organizer, and his mother was a homemaker and devoted gardener. To this day, Chihuly considers his mother's love of gardening as a great influence on the plant-like sculptures that he has created throughout his life.

In 1959, he graduated from high school and had no interest in continuing his education. However, his mother encouraged him to enroll at The College of Puget Sound (now The University of Puget Sound). Inspired by a paper he wrote on Vincent Van Gogh and a remodeling project at his mother's home, he transferred to the University of Washington to study interior design and architecture.

In 1962, Chihuly left school to travel through Italy, France and the Middle East. The following year he returned to the university and, in a weaving course, began to integrate glass shards into woven tapestries. He graduated from the University of Washington with a B.A. in interior design

and went on to work at an architectural firm in Seattle. On the side, he began working with glass in his basement studio.

Eager to continue his work with glass, he attended graduate school at the University of Wisconsin and studied glassblowing under Harvey Littleton, the founder of the studio glass movement. In 1967, he received his M.S. in sculpture and began a master's program at Rhode Island School of Design (RISD), where he went on to receive an M.F.A. in ceramics. The same year he was awarded the Fulbright Scholarship which allowed him to travel to Murano, Italy, and apprentice in the Venini glass factory. It was there that he witnessed the importance of teamwork on the hotshop floor.

THE MAESTRO

In 1976, Chihuly lost vision in his left eye during a car accident. Because he lost his depth perception, it became dangerous for him to blow glass. He began to depend on his glassblowing team to convey his ideas, and was able to direct them by creating large vivid drawings or paintings of what he wanted his sculpture to look like.

Today, Chihuly is considered a maestro. In Italian this means "teacher" or "master," a person who has an extraordinary skill and leads others. He has worked closely with his team to create his well known series of works, which include *Cylinders*, *Baskets*, *Seaforms*, *Persians*, and *Venetians*. He is also known for his multipart, large-scale sculptures that are exhibited outdoors and in museums and botanical gardens all over the world.



DALE CHIHULY PHOTO BY STEWART CHARLES COHEN

Adapted from Chihuly.com and *Chihuly Across Florida: A Resource Guide for Teachers* created by the Orlando Museum of Art and Chihuly Studio.

MEET THE MAESTRO

PRE-VISIT DISCUSSION QUESTIONS

Before you visit *Chihuly at Cheekwood*, we encourage you to share some of the background information from this Teacher's Guide with your students. Below are a few discussion questions to help prepare them for the visit.

CHIHULY COLLECTS

NORTHWEST COAST BASKET GROUP
PHOTO BY THERESA NOURI RISHEL



Chihuly has collected many different types of objects over the years. Among his collections are trade blankets, Northwest Coast Native American baskets, accordions, carnival masks from Germany and chalkware.

What type of objects do you collect? Why do you collect these items? Do these objects act as inspiration for anything in your life?

IN THE COMMUNITY

Several glassblowing programs have been established because of Chihuly's efforts and connections. In addition to co-founding the Pilchuck Glass School, he also helped to establish the Glass Department at RISD. In 1994, he worked with a friend to start the Hilltop Artists in Residence program in Tacoma, Washington. This program continues to bring glassblowing to at-risk youth in the community.

Why do you think that Chihuly helps to establish these programs both around the country and in his community? In what ways can you help your community?



PILCHUCK GLASS SCHOOL
NEAR STANWOOD, WASHINGTON

FINDING INSPIRATION

At home and abroad, Chihuly has found inspiration in things both large and small. He frequently names his sculptures after words that are used to describe them while the series is being created. The *Baskets* began after he saw Native American baskets at the Washington State History Museum, and wanted to create the form in glass. The *Ikebana* and *Nijimi Floats* were both inspired by trips to Japan. The *Hérons*, which look like tall birds, grew from experimenting with new techniques after creating the elongated *Reeds*.

How has your environment influenced you? How might your life be different if you lived in another state or country?

DALE CHIHULY, GARDEN HERONS (DETAIL), 2004



BEFORE YOUR VISIT

GLASS!

Glass is one of the most versatile materials to have been forged by nature and improved by humans. From everyday objects to fine art, glass has been an important part of our lives for ages.

A BRIEF HISTORY OF GLASS

It is not known exactly how humans discovered glassmaking. Cuneiform tablets containing glassmaking recipes suggest that glass might have been first developed by the people living in Syria, Babylonia (Iraq) and Mesopotamia (Iran) around 3000 BCE. In its earliest form, glass was made from polluted ingredients, which resulted in a green tint. Around 3000 BCE, Phoenician trading vessels carried glass to Egypt where it was largely used as decoration in the form of beads.

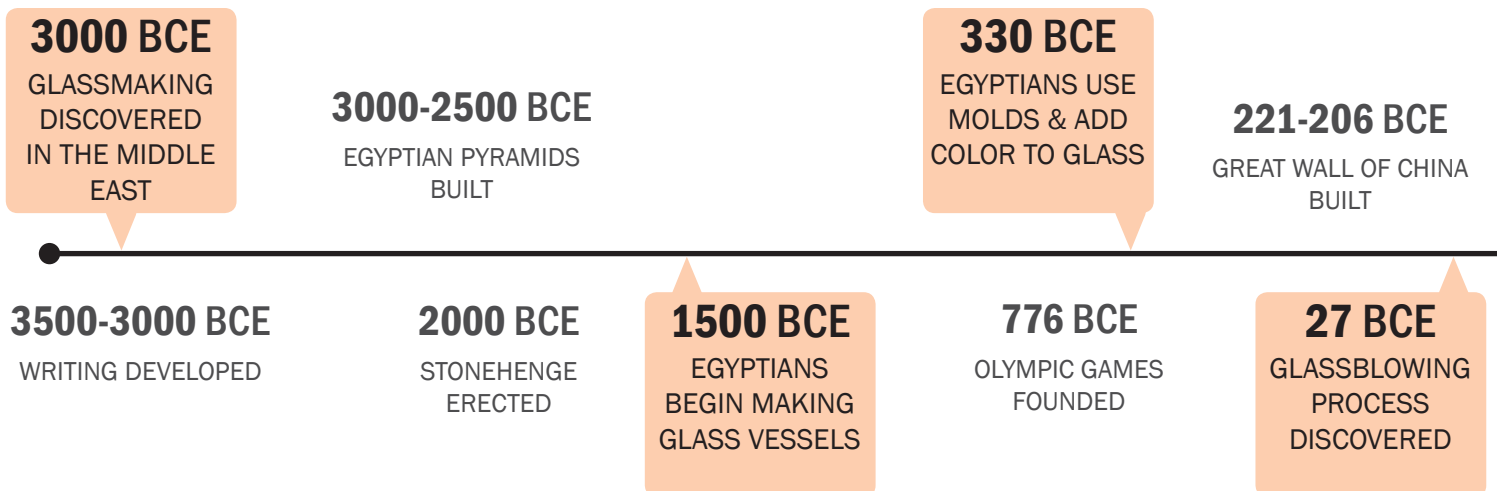
By 1500 BCE, the Egyptians were making glass containers for their makeup and ointment. They did this by winding glass threads around a clay or sandbag core. Once the glass had cooled, they chipped away the clay core. It is also believed that the Egyptians discovered how to add color to glass. By 330 BCE, glassmakers were using molds to form glass objects. They combined glass rods of different colors and cut them into cross sections which created colorful patterns.

Around 27 BCE glassmakers first discovered glassblowing in Syria. They found that by placing a clump of molten glass onto a hollow metal tube they could then blow air into it and create a bubble that could be shaped. The Romans began blowing glass and experimenting with the shape and size of the vessels that they were creating.

By the first century CE, the Romans contributed greatly to the spread of glassmaking methods through Europe and the Mediterranean. Glass objects started to appear throughout Italy, France, Germany and Switzerland.

In the Middle Ages, Venice became the glassmaking capital of the world. The introduction of magnifying lenses and reading glasses occurred through their effort to create colorless glass. In 1291, the Venice glassmaking industry was moved to the island of Murano. The industry was so vital to the economy of Venice that their craftsmen were forced to stay on the island and guard their secret techniques.

The popularity and uses for glass have grown over the years. It was not until the early 1960s that glass production began to be viewed as a fine art.



THE AMERICAN STUDIO GLASS MOVEMENT

Prior to the 1960s, the majority of glass production was done in large factories that could accommodate the equipment required to create the high temperature needed to melt glass. The Studio Glass movement began in the 1960s when Harvey Littleton, a ceramics professor at the University of Wisconsin, and Dominick Labino, a glass research scientist at the Johns Manville Fiber Glass Corporation in Ohio, hosted a workshop at the Toledo Museum of Art. While working together, they were able to create a batch that would melt at a lower temperature in a smaller furnace. This allowed glass to be made in smaller studios, rather than large factories. After the success of their workshops, Littleton went on to start the first university glassblowing program in the United States at the University of Wisconsin-Madison.

What do GLASS and CHOCOLATE CHIP COOKIES have in common?

Both require a recipe! Glass is made from formers, fluxes and stabilizers. The most common former is silicon dioxide. Fluxes are added to lower the temperature and to make the glass gooey and easier to work with. Soda ash is a common flux. Stabilizers keep the completed glass from dissolving or breaking.

A great way to introduce glassmaking to young students is to compare the ingredients in glass to those in a chocolate chip cookie recipe. Each ingredient is important (although, some are more important than others)!

Soda-lime Glass Recipe

72.0% Silica sand SiO_2 <----->
 14.9% Soda Na_2O <----->
 7.9% Lime CaO <----->
 1.8% Alumina Al_2O_3 <----->
 1.0% Lithium Li_2O <----->
 1.0% Zinc Oxide ZnO <----->
 0.5% Barium BaO <----->
 0.4% Potassia K_2O <----->
 0.2% Antimony Sb_2O_3 <----->

Chocolate Chip Cookie Recipe

2 cups flour
 3/4 cup white sugar
 3/4 cup brown sugar
 2 eggs
 2 sticks of butter
 1/2 teaspoon salt
 3/4 teaspoon baking soda
 2 teaspoon vanilla extract
 1 bag of chocolate chips

1-100 CE

ROMANS
SPREAD
GLASSMAKING
TECHNOLOGY

1492 CE

COLUMBUS DISCOVERS
NEW WORLD

1609 CE

GLASSBLOWING
FACTORY
ESTABLISHED IN
USA

1776 CE

DECLARATION OF
INDEPENDENCE
DRAFTED

1962 CE

LITTLETON'S
DISCOVERY LEADS
TO STUDIO GLASS
MOVEMENT

500 CE

BOW AND ARROW USED
IN THE GREAT PLAINS

1291 CE

VENICE GLASS
INDUSTRY
MOVES TO
MURANO

1773 CE

BOSTON TEA PARTY

1800s CE

INDUSTRIAL
REVOLUTION:
GLASS MASS
PRODUCED

Adapted from museumofglass.com and Franklin Park Conservatory's Teacher Resource Packet for Chihuly at the Conservatory.

GLASSBLOWING PROCESS

1



2



3



4



5



6



7



PHOTOS COURTESY OF CHIHULY STUDIO

While glassblowing was invented by the Romans, the Venetians developed it to a true art form during the Middle Ages. Chihuly's approach to glass is essentially an extension of Venetian methods, both in the way the piece is formed and in the organization of the glassblowing team. Despite the variety of his glass forms, they are all created through the same general method.

STEP 1:

The process begins by mixing sand, sodium carbonate, and lime in a melting pot. This mixture, or **batch**, is heated to over 2,000 degrees. Glassblowers dip the **blowpipe**, a hollow metal rod, into the tank to create a **gather** of molten glass.

STEP 2:

The **gaffer**, or lead glassblower, then sits down at a bench, rolling the blowpipe up and down the rails of the bench to shape the glass. Fruitwood tools called **blocks** and wet newspapers are used to cup the gather into a smooth rounded form.

STEP 3:

If color is used, it is added at an early stage. **Color rods** are heated to over 980 degrees and softened in the reheating furnace before being dropped over the gather of clear glass. Then, successive layers of clear glass are gathered up over the color.

STEP 4:

At this stage, the glassblower enlarges the piece into a bubble by blowing through the tube, controlling the form through a constant process of spinning, shaping, and reheating in a furnace called the **glory hole**.

STEP 5:

During the shaping process, additional color can be added. The gather can be rolled in foil, or in little pieces of glass, known as **jimmies**, on the marvering table. Additionally, a thread of glass can be spiraled along the gather to form a **body wrap** or applied to the rim to create a **lip wrap**.

STEP 6:

After the piece is blown to the desired size, the shaping process moves to the upper end of the form. The glassblower generally uses large metal tongs called **jacks** to shape the neck and tweezers for pulling out shapes.

STEP 7:

When the piece is finished, it is broken off the blowpipe into the arms of a waiting assistant wearing a heat protective suit. It is then placed in an **annealing oven**, which allows it to cool slowly overnight or over the course of several days, depending on the size of the piece.

AMARYLLIS RED PERSIAN WINDOW, 2010.
CHEEKWOOD BOTANICAL GARDEN & MUSEUM OF ART,
NASHVILLE, TENNESSEE.



PERSIAN WINDOWS

FRIST LEARNING CENTER

Chihuly made his first *Persians* in 1986. Their fluted edges are the result of using a ribbed mold during the glass blowing process, followed by intensely spinning the glass in the last heat of the forming process. Commenting on the origin of the name, Chihuly says, “I didn’t do any research on the arts of ancient Persia. But the forms make me think of mystical, enchanted gardens and minarets. It conjured up Near-Eastern, Byzantine, Far East, Venice, all the trades, smells, senses. It was an exotic name to me, so I just called them Persians.” The *Persians* were the first of Chihuly’s series to evolve into room-size site-specific installations.



DALE CHIHULY, BLUE POLYVITRO CRYSTALS, (DETAIL),
2005, UNION BAY, SEATTLE, PHOTO BY TERRY
RISHEL

POLYVITRO CRYSTALS

HOWE WILDFLOWER GARDEN

The term Polyvitro was coined by Chihuly as a name for the material used for his projects made of plastic. His first solidly cast plastic crystals were taken from molds of cullet. Cullet is the term for broken chunks of scrap glass. Chihuly used the cullet to create enlarged molds for the *Polyvitro Crystals*.

Polyvitro Crystals were used on the *Crystal Mountain* in the exhibition *Chihuly in the Light of Jerusalem* (1999). The molds were enlarged in 2002 as hollow forms for the *Crystal Towers* on the Chihuly Bridge of Glass in Tacoma, Washington. By 2005 the same large blue crystals were floating in lakes and ponds as part of Chihuly’s garden exhibitions.

ASK YOUR STUDENTS

When looking at the Persians, what shapes do you see? Geometric or organic?

What colors do you see? Warm or cool colors?

If the sun is shining through the window, how does that change the feel of the sculpture?

If you were to touch a Polyvitro Crystal, what would it feel like? Rough, smooth?

How are the Polyvitro Crystals in the pond the same? How are they different?

Do you think they would look different if placed on land, instead of in the water?

“I’m obsessed with color—never saw one I didn’t like.”

A CLOSER LOOK

ASK YOUR STUDENTS

The *Saffron Tower* is very tall! How does the size and balance of this piece affect how you view it?

This piece is illuminated at night. How do you think the colors and shapes will change?

What complimentary colors do you see amongst the bamboo and Bamboo Reeds?

This is the first time that Chihuly's *Bamboo Reeds* have been installed next to living bamboo. What contrast do you see? (Hint: Think about color, texture and emphasis)

“The idea of a Tower just came from looking at one of my *Chandeliers* and imagining what it would look like upside down.”



SAFFRON TOWER, 2010, CHEEKWOOD BOTANICAL GARDEN & MUSEUM OF ART, NASHVILLE, TENNESSEE. PHOTO BY BOB SCHATZ

SAFFRON TOWER ROBERTSON ELLIS COLOR GARDEN

Standing over 27 feet tall, the *Saffron Tower* is made up of 440 neon tubes and weighs approximately 4,612 pounds! The tower is lit from within, making it an impressive gathering of color that shines both day and night. Chihuly's *Towers* evolved from his *Chandeliers*. In 1992 he massed blown glass forms from a steel armature to create his first large suspended sculpture. This first phase of extensive experimentation with the *Chandeliers* culminated in the *Chihuly Over Venice* project (1995-96), during which he varied both the shapes of the glass parts and the armatures themselves. Subsequent projects continued to challenge Chihuly to create large sculptures for spaces where the ceilings could not bear the weight of *Chandeliers*, or spaces without ceilings, giving life to the development of this important series.

SILVERED RED BAMBOO JAPANESE GARDEN

Chihuly made the first *Reeds* in 1995 at the Hackman factory in Nuutajärvi, a small glassblowing town in Finland. Unlike other factories, the Hackman facility has very high ceilings, which inspired Chihuly to make these elongated forms. Every year, Chihuly's team travels to Finland to blow glass. They are able to create bigger and longer pieces at this factory due to the large size of their annealing ovens.

To create the long, tubular shape of a *Reed*, one glassblower must be elevated in a mechanical lift while blowing through the pipe to encourage the form to stretch, while another pulls the glass toward the ground. Some are longer than 10 feet! The *Silvered Red Bamboo* at Cheekwood were placed in a mold to create texture.



SILVERED RED BAMBOO (DETAIL), 2010, CHEEKWOOD BOTANICAL GARDEN & MUSEUM OF ART, NASHVILLE, TENNESSEE. PHOTO BY PARKS ANDERSON



LEFT: DALE CHIHULY PAINTING ON THE BOATHOUSE DECK, 1992, SEATTLE WASHINGTON. PHOTO BY RUSSELL JOHNSON.
RIGHT: NAVAJO BLANKET CYLINDER DRAWING, 1995, 42 X 30"

DRAWINGS

MUSEUM OF ART

Drawing is an essential artistic outlet for Dale Chihuly. It is also one of the ways that he communicates his ideas to his team. He has used markers, chalk and fistfuls of pencils to create large vibrant drawings of his next creation or series. Today, he most often uses acrylic paints in squeezable bottles. To make his *Drawings*, Chihuly often has the paper laid on the floor, and then works standing over it. He lays the background colors with a mop or broom, and draws with large gestures using squeeze bottle paint.

"I think the drawings play a very central role in my creativity. If I didn't draw, I don't think the work would've progressed at the rate or in the directions it has gone. The drawings are a really major part of my work. I do at least a couple of thousand drawings a year."

- Dale Chihuly



DALE CHIHULY, BLACK LIME SOFT CYLINDER WITH CHROME YELLOW LIP WRAP, 2008, 22 X 16 X 21"

CYLINDERS

MUSEUM OF ART

In autumn 1974, Chihuly worked with a group of artist friends to develop a "drawing pick-up technique," that led to the creation of his *Navajo Blanket Cylinders*, and later to variations on the cylindrical form. For these pieces, a complex drawing made of glass threads was laid out, then the "gather" of hot glass was rolled over the glass threads and they became fused to the surface. The drawings themselves are inspired by designs from Native American blankets.

ASK YOUR STUDENTS

Describe the lines and rhythm you see in the Drawings?

Chihuly often uses a variety of mediums to create his *Drawings*. Why do you think he does this?

Describe the lines and pattern you see in the Cylinders?

Are the Cylinders symmetrical or asymmetrical?

"In 1974 we came up with a way to pull colored glass rods into long, thin threads. This allowed us to make drawings out of glass that we could then pick up onto the outside of a gather of glass. We knew right away that drawing on glass was a breakthrough idea..."

VOCABULARY

ANNEALING

An insulated box, similar to an electric kiln, designed to cool glass slowly at a specified rate. If hot glass is cooled too quickly, the stress on the glass will cause it to be unstable and through time cause it to break.

BATCH

The raw materials of silica, lime or other appropriate chemicals that are melted to make glass.

BLOCK

A wooden tool that is kept wet and used to shape glass.

BLOWING

The process of creating objects from hot glass; The hot glass is gathered on a blowpipe. As the object is formed the blower and/or assistants blow through the pipe creating a bubble that can take many shapes.

BLOWPIPE

A long, hollow, metal tubular instrument used to gather molten glass on the end; after gathering glass, the glassmaker blows through the tube to make a glass bubble.

BODY WRAP

A colored thread of glass spiraled around the body of the gather.

GAFFER

The head of the glassblowing team; finisher of work; most skilled member of the team.

GATHER

A mass of molten glass that is scooped up on the end of a blowpipe.

HOTSHOP

The name for the space where glass is blown.

INSTALLATION

An artwork whose size and shape is defined by the gallery or other space in which it is seen.

JIMMIES

Small bits of colored glass that the bubble of clear glass is rolled over and which then melts into the surface of the form. The term is derived from the candy sprinkles that go on ice cream.

LIP WRAP

The defining line of color that is applied to the edge of some of Chihuly's series of artworks, such as his *Baskets*, *Persians* and *Macchia*.

MARVER

A large, flat surface on which hot glass is rolled when it is attached to a blowpipe or punty.

OPTIC MOLD

Ribbed metal mold that creates ribs in the sidewalls of glass blown forms.

PADDLE

A wooden board with a handle that can be used to shield the gaffer from excessive heat or to smooth or flatten hot glass.

SHEARS

A cutting tool.

YOKE

A metal stand on which blowers rest their pipes or punties while reheating glass in the glory hole allowing for easy rotation.

VOCABULARY

GLASS AROUND THE WORLD

Supplies:

Photo copies of world maps
Pencils

Paper

Access to the school library or internet

Chihuly has traveled around the world to study and observe glassmaking. Have students work in small groups to find the places on a world map where he has traveled. Once the students are done marking a map, then have each student research the glass movement that has taken place in that country.

Extra credit: Have students research what other countries have glassmaking traditions?

Sites for students to research:

- Venice, Italy
- Nuutajärvi, Finland
- Novy Bor, Czech Republic
- Monterrey, Mexico
- Waterford, Ireland
- Niijima, Japan

GO OUTSIDE!

Supplies:

Paper
Pencils

Go Outside! worksheet

Chihuly is inspired by the environment! Whether it is a trip to a far off place, or spending time in his own backyard, he is an artist that often finds ideas in unusual (or very common!) places. Ask students to spend time outside (either in the schoolyard or outside their own home) and observe and study their environment. Use the worksheet (on page 15) to guide their experience. Once the worksheets are complete, have students report back to the class about their findings.

MELTING POINT

Supplies:

Paper
Pencils
Colored pencils

Ask students to research the melting point of a variety of substances: ice, gold, steel, plastic and glass. Before researching, ask students to predict what will have the lowest and the highest melting point. After their research is complete, have students create a colorful chart that documents their findings. Were their predictions correct? What made them think that one substance would melt quicker than another?

PAPER MACHE NIJIMA FLOATS

Supplies:

Photo of Chihuly's *Nijima Floats* (pg. 18)

Paper mache mix (flour and water)

Spray lacquer

Variety of paint brushes and toothbrushes to splatter paint

Round shaped balloons

Tempera paint

String (*optional*)

Bricks (*optional*)

Blow up balloons to a variety of sizes. Have students cover the balloons with 1-2 inch paper mache strips. Make sure the tied end of the balloon is exposed while applying the paper mache strips. Let dry. Instruct the students to paint the surface of the floats with a variety of paint colors, creating splattered patterns in the style of Chihuly. Apply lacquer. Let dry.

Create your installation!

Encourage students to work together to create a group installation. Chihuly likes to place his *Floats* in large open areas, like the gravel lake bed in Cheekwood's Japanese Garden. However, he has also been known to install his sculptures in water. If placing in water, use string to attach the tied end of the balloons to bricks. Install the floats in water (a baby pool will work, if no natural water is available) with the bricks acting as anchors. The paper mache will hold for several hours, but not indefinitely. Photograph the installation before it is compromised by water damage.

COFFEE FILTER MACCHIA

Supplies:

Photo of Chihuly's *Macchia* (pg. 19)

Water-based markers

Spray starch

Large, white, basket-style coffee filters

Newspaper

16 ounce cups, or similar size container

Cover the work area with newspaper. Using the markers, have students decorate the coffee filters in the style of Chihuly's *Macchia*. Once the filters are decorated, lay them over the cup or container so that the edges hang down and scallop. Spray the filters lightly with starch. Allow to dry before touching.



SCULPT IT!

Supplies:

Planning Your Team Sculpture worksheet

Pencils

Rulers

Materials to build the team sculptures (recycled materials, paint, glue, scissors, etc.)

Give students the opportunity to reflect on the process that Chihuly and his team work through as they are planning to create a new series of work or installation. As a class, have students share what they remember learning during their trip to *Chihuly at Cheekwood*. What pieces were their favorite, and why? What shapes do they remember seeing?

Explain to your class that it is now their turn to develop a plan for, and create a sculpture. Divide your class into small groups of 3-5 students. Give each student the **Planning Your Team Sculpture** workshop, and let the work begin!

After the groups have completed the workshop and made a plan for their sculpture, have each group present their ideas to the class. Encourage their classmates to share additional ideas that may help in the success of their sculpture.

Evaluation/Reflection

Once the sculptures are complete, ask each student to answer the following questions about their process and final sculpture:

1. Did your team follow the plan and work together?
What were some of the advantages of working in a team?
Did you have any problems?
2. Does your sculpture look the way you wanted it to?
If not, why?
3. How will other viewers react when they see it?
4. Was your group influenced by Dale Chihuly's work as you planned for and created your sculpture?
5. What did you name your sculpture in the beginning?
Would you give it a different name now?
Why or why not?

Classroom activities are adapted from: *Chihuly Across Florida: A Resource Guide for Teachers*, Franklin Park Conservatory's Teacher Resource Packet for Chihuly at the Conservatory, and *Fireworks of Glass Study Unit* from The Children's Museum of Indianapolis.

GO OUTSIDE! WORKSHEET

Go outside, observe your environment and document what you see! Dale Chihuly's work is influenced by his environment and places that he visits. As you answer the questions below and examine your surroundings, think about ways in which you are influenced by your environment. Be sure to look up, down and all around!

- 1. Where are you?**
- 2. Why did you choose this place for the activity?**
- 3. What was the first thing you saw when you prepared to begin the activity?**
- 4. Why do you think you noticed this object first?**
- 5. What else do you see?**
- 6. What colors and shapes do you see?**
- 7. Are there objects, plants or animals that you see that are important in your life? Why are they important?**
- 8. Do you see any people? Who are they?**
- 9. If you were going to create a sculpture inspired by this scene, what would it look like?**
- 10. If you could travel anywhere in the world to get inspiration for a piece of artwork, where would you go? Why?**

PLANNING YOUR TEAM SCULPTURE WORKSHEET

Using this worksheet, write down the answers to the questions below. This will help you develop a plan for your sculpture. Work together with your team members to make decisions about each question.

1. **What will your sculpture be about?**
(This is an important question that will influence your other answers.)
2. **What type of reaction do you hope others will have when viewing your sculpture?**
3. **Where do you want your sculpture to be located?**
4. **What kind of sculpture do you want to create?**
(For example: Do you want it to hang from the ceiling, lie on the floor or attach to a wall?)
5. **Will your sculpture fit in the space that you hope to display it in?**
(Hint: Use rulers to measure the space, and think about exactly how big your piece will be.)
6. **What colors do you want to use? How will you put that color on the sculpture?**
7. **What shapes will be seen in your sculpture? Will they be repeated?**
8. **What will you use to support the sculpture? Will you need an armature?**
9. **What will be the name of your sculpture?**

List the steps that you will take to construct the sculpture:

STEPS	TEAM MEMBER RESPONSIBLE
1	
2	
3	
4	
5	

COLORFUL PATTERNS WORKSHEET

Chihuly's *Soft Cylinders* are inspired by his love for Native American design. Look at the photographs of the *Cylinders* and trade blankets. Compare and contrast the colors, lines, shapes and pattern. Then, create your own pattern inspired by Chihuly's sculpture, the blankets or something in your own life.



CHIHULY'S SOFT CYLINDERS

LEFT: DALE CHIHULY; BLACK LIME SOFT CYLINDER WITH CHROME YELLOW LIP WRAP, 2008, 22 X 16 X 21"; RIGHT: BLACK SAFFRON YELLOW SOFT CYLINDER WITH PALE GREEN LIP WRAP, 2008, 21 X 20 X 20"



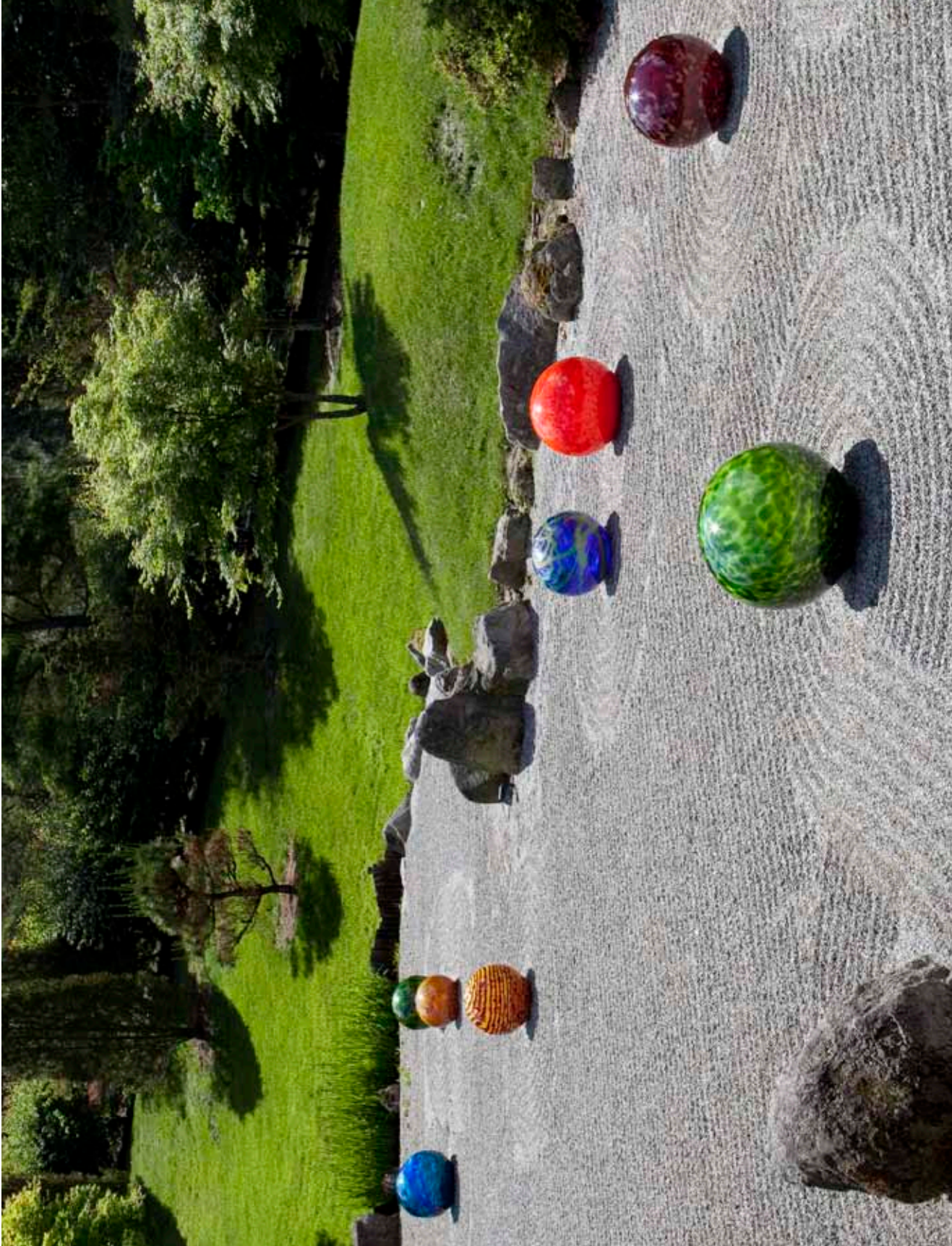
CHIHULY'S TRADE BLANKET COLLECTION

CHIHULY COLLECTION OF TRADE BLANKETS
PHOTO BY TERRY RISHEL

HOW ARE THEY ALIKE?

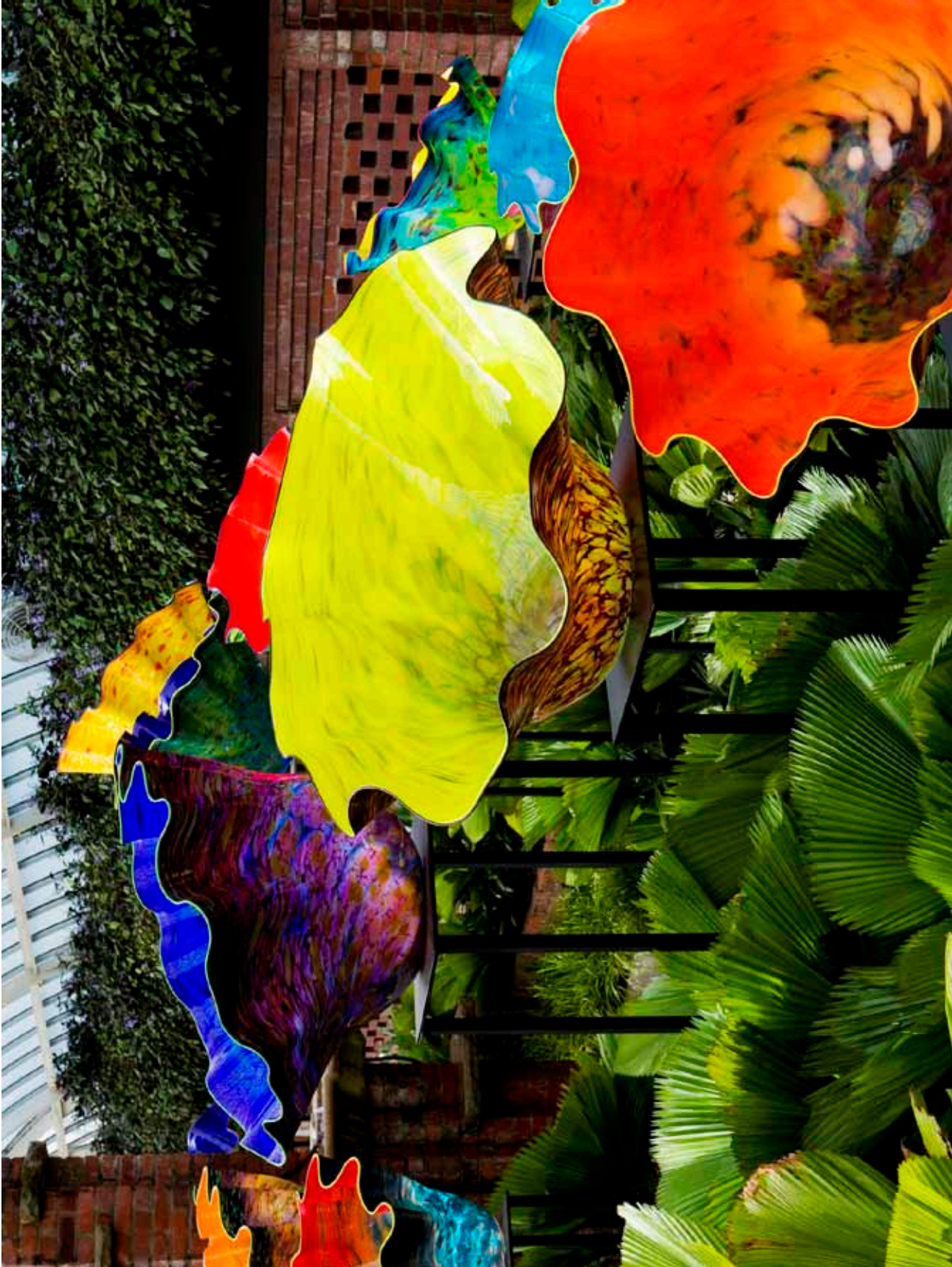
HOW ARE THEY DIFFERENT?

CREATE YOUR OWN PATTERN!



NIJIMA FLOATS, 2010, CHEEKWOOD BOTANICAL GARDEN & MUSEUM OF ART, NASHVILLE, TENNESSEE.
PHOTO BY PARKS ANDERSON.

PAPER MACHE NIJIMA FLOATS



DALE CHIHULY, MACCHIA FOREST, 2007, PHIPPS CONSERVATORY AND BOTANICAL GARDENS, PITTSBURGH, PENNSYLVANIA.
PHOTO BY: TERRY RISHEL

COFFEE FILTER MACCHIA

CURRICULUM CONNECTIONS

VISUAL ART

2.0 Structures and Functions

- Demonstrate an understanding that anyone can express ideas and feelings in original works of art.
- Recognize and identify the elements and principles of art.
- Discuss the functions of art in different environments.

3.0 Evaluation

- Explore and understand content in works of art by others.
- Discuss subject matter, symbols, and ideas in works of art by others.

4.0 Historical and Cultural Relationships

- Recognize how artists are influenced by cultures, history and movements in art.
- Recognize the role of artists in our community and society.

5.0 Reflection and Assessment

- Recognize that artists create work for different purposes.
- Interpret different responses to art works.

SCIENCE

Standard 9 – Matter

- Distinguish between the properties of solids and liquids.
- Predict the changes that may occur when different materials are mixed.
- Determine whether a material is transparent, translucent, or opaque.

LANGUAGE ARTS

Standard 1 – Language

- Demonstrate knowledge of strategies and resources to determine the definition, pronunciation, and usage of words and phrases.

Standard 2 – Communication

- Demonstrate critical listening skills essential for comprehension, evaluation, problem solving, and task completion.
- Continue to develop strategies for expressing thoughts and ideas clearly and effectively.

Standard 5 – Logic

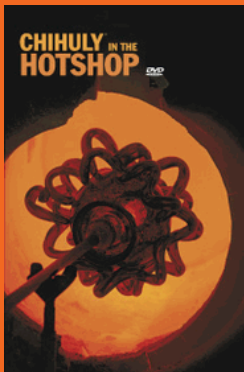
- Develop logic skills to enhance thoughtful reasoning and to facilitate learning.



LEFT TO RIGHT: AMBER CATTAILS, 2010, CHEEKWOOD BOTANICAL GARDEN & MUSEUM OF ART, NASHVILLE, TENNESSEE; BLUE REEDS, 2010, CHEEKWOOD BOTANICAL GARDEN & MUSEUM OF ART, NASHVILLE, TENNESSEE; NIJIMA FLOATS, 2010, CHEEKWOOD BOTANICAL GARDEN & MUSEUM OF ART, NASHVILLE, TENNESSEE. ALL PHOTOS BY PARKS ANDERSON.

REFERENCES & RESOURCES

DVDs



Chihuly in the Hot Shop

Dir. Peter West. Prod. Mark McDonnell. Portland Press, 2007. DVD.*



Chihuly Short Cuts

Dir. Peter West, Michael Barnard and Ken Samuelsen. Portland Press, 2004. DVD.*



Chihuly Gardens & Glass

Dir. Peter West. Portland Press, 2004. DVD.*

For additional information on Dale Chihuly and glassblowing, check out the following resources:

ONLINE

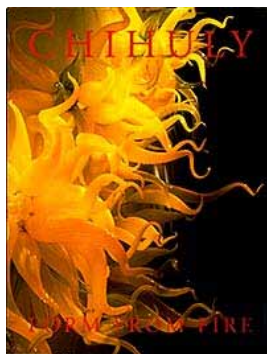
Chihuly • www.chihuly.com

Museum of Glass • www.museumofglass.org

Corning Museum of Glass • www.cmog.org

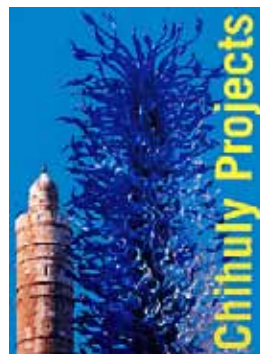
The Children's Museum of Indianapolis • www.childrensmuseum.org

BOOKS



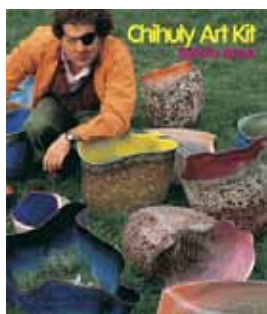
Chihuly: Form from Fire

W.D. Bannard, H. Geldzahler, D. Beach: Museum of Arts & Sciences and University of Washington Press, 1993.*



Chihuly Projects

D. Chihuly, B. Rose, and D.M. Lanzone, Portland Press, 2000.*



Chihuly Art Kit Activity Book

Kristen Buzzelli, Jamie Holland, Erica Jacobs, Julianna Ross, Joanna Sikes; Portland Press, 2006.*



The Art of Dale Chihuly

Timothy Anglin Burgard, Chronicle Books and the Fine Arts Museums of San Francisco, 2008.*

MAGAZINES

Chihuly! Fields of Glass by: Katie Sulkowski | Nashville Arts, April 2010.

Dale Chihuly by: Ben Bamsey | Artworks Magazine, Fall 2008.

The Nature of Glass by: David Zax | Smithsonian Magazine, April 2007.

*Available at the **Nashville Public Library** and for purchase at **Cheekwood's Gift Shop**.*

POST-VISIT ACTIVITY

POSTCARDS TO CHIHULY

Let Chihuly know what you think about his sculpture! Cheekwood will be collecting postcards and sending them to him throughout the exhibition. Share your favorite pieces, ask questions or maybe even suggest an idea for a new sculpture!



Dear Mr. Chihuly,

From: _____

School: _____

Class postcards should be sent in an envelope to:

CHEEKWOOD
Attn: Karen Kwarciak
1200 Forrest Park Drive
Nashville, TN 37205



ATTN: DALE CHIHULY
1200 FORREST PARK DRIVE
NASHVILLE, TN 37205