

Concrete: Design and Fabrication

Concrete: It Does Not Have To Be Gray

Subject Area: Vocational Skills/Science

Grade Level: Special Day Class/Special Education 7th/8th grade
Stonegate K-8

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Length of Lesson: 10 days

Lesson Overview:

Concrete is very precise talent. There are many variations to concrete and each variation requires many of the same routine functions, however there are specifics as well depending upon the customers desired outcome. Not only does it involve the chemistry of mixing the cement to obtain the proper consistency to pour. It also is a definite science to mix the colors correctly to obtain the final results and expectations of the customer. Many degrees of excellence are required to finish the end result. Decorative concrete has become a very popular choice with both individuals as well as businesses. Color can be mixed into the concrete or added to the top of the concrete before sealing.

Students will learn to follow the directions correctly and in sequence to add color to concrete by using the knowledge they learned in preparing a color wheel.

Connecting this project to the curriculum of vocational skills.

There are many essential aspects of social skills that are necessary to becoming employable. Learning to follow directions and in the sequence that you are asked is a first step in becoming a good, responsible employee. You want to be an employee one can rely on to do the job as requested. This project will teach the students to follow directions, not only to location, but on the job directions which applicable in the concrete businesses. How to make an excel sheet for checking off equipment at the job site. How to follow a correct sequence of directions.

Connecting this project to the curriculum of vocational skills.

It will also teach the students about colors and how the concrete business uses the color wheel to determine colors requested by customers.

Materials needed for final lesson:

- Cloth (to cover ground)
- Cloth to cover table
- Brushes to apply color to concrete
- Water containers
- Containers for paint
- Containers for sealer
- Student shirts
- Scotch Guard
- Stencils
- Frog Tape
- Paper towels

Materials needed from Rescue Concrete:

- Pre-made concrete squares
- Colors
- Sealer

Skills students will learn

- How to follow specific directions to gain desired outcome
- How to follow directions in sequence
- How to obtain driving directions
- How to use a color wheel to mix colors for a preferred color
- How to work as a team to accomplish a project
- Students will learn that the construction industry has jobs available

Student Deliverables

- Monster Drawing – follow directions
- Peanut Butter Sandwich – making in sequence
- Excel worksheet/job site check off list (this is to include 2 items dealing with concrete tools along with a pictures)
- Items from scavenger hunt
- Color Wheel
- Edible cupcake with a secondary colored frosting
- Decorative Concrete square

Day 1

Introduction to what the teacher did over the summer. Working with rescue concrete.

Show Rescue Concrete website

www.rescueconcrete.com

Students go out on website and look around

Explain the project

Day 2

Follow Directions – teacher reads Directions (auditory)

See attachment

Video – Yard Crashers

Day 3

Follow Directions in sequence

Have students tell teacher or classmate how to make a peanut and jelly sandwich.

Plates

Knife

Napkins

Peanut Butter

Jelly

Bread

Video – Turf Wars

Day 4

Goggle map to find directions

Practice looking for specific directions

Your house from school

Specific area and directions to rescue concrete project (provided by teacher)

Video – Yard Crasher

Day 5

Watch video on concrete – why use concrete

Watch video on the basic steps of laying concrete- Overview

Basic tools of the trade

Make an excel job site check sheet- completed worksheet for demonstration

Day 6

Following job site directions

Scavenger hunt

Materials:

Map with instructions (School map)

Articles that need to be found and site bags

Timesheet

Articles to take on site (Pencils and rulers)

Day 7

Make an edible color wheel

www.princetonol.com

Explain primary colors

Explain secondary colors

Materials:

Wafers for each student

Frosting: Lemon, Raspberry, vanilla

Bowls

Spoons

Knife

Food coloring

Blank color wheel placemats

Day 8

Nick Winn/Rescue Concrete

Mix colors and

We watched Yard Crashers on DIY because Mr. Winn is the concrete expert on the show. He is also the concrete expert on Turf Wars. Both shows are hosted by Ahmed Hassan. Mr. Winn brought home to the staining party and the students were beside themselves.

Ahmed talked with them, talked about his show, landscaping etc. It was a fabulous day for the students.

Day 9

Landscape teacher visits classroom- explains back yard landscapes ideas and tricks

Pencils

Paper

Landscape teacher will bring additional tools needed.

Students were

Banquet

Day 10

Finish landscape project – drawing of back yard

Conclude entire project

FOLLOW DIRECTIONS

Enrichment Suggestions

- Have students participate in a mock project from the interviewing process to the bidding to the completion a project. Have the students involved in the production meetings, learning about the timing of the project, problems that occur with a project and importance of following directions, being a team player. Learning all the different aspects of construction and the time and energy that watch player must make to complete a successful product for a customer.

Student Resources

- Online searches
- Worksheet/job site check sheet
- Pens/Pencils
- Paint brushes
- Lab jackets – shirts
- Color wheel placemat
- Elmo

Foundation Academic Standards

Special Education (Basic Goals)

Comply with requests and directions

V 5.9.1) The student will practice, following directions and requests.

Job Expectations and outcomes

(V 5.6.2) The student will discuss and role-play, practice job skills.

7th Grade – Science Standards

Investigate and Experimentation

7. Scientific progress is made by asking meaningful questions and conducting careful Investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:

- d. Construct scale models, maps, and appropriately labeled diagrams to communicate scientific knowledge.

7th Grade – Performing and Visual Arts

2.0 Creative Expressions

Creating, Performing, and Participating in the Visual Arts

Students apply artistic processes and skills, using a variety of media to communicate meaning and intent in original works of art.

- 2.4 Develop skill in mixing paints and showing color relationships.

CTE Pathway Standards

7.0 Responsibility and Flexibility

Students know the behaviors associated with the demonstration of responsibility and flexibility in personal, workplace, and community settings:

- 7.1 Understand the qualities and behaviors that constitute a positive and professional work demeanor.

1.4 Visual and Performing Arts

2.0 Specific applications of Visual Arts standards at the proficient level (grades nine through twelve):

- (2.1) Solve a visual arts problem that involves the effective use of the elements of art and the principles of design.

Lesson Plan Relevance To Externship

- Students will learn that being responsible, trustworthy employees can earn the respect of their employer. They also learn that following directions are essential for an employer and for their advancement in the company. The concrete business as well as other construction businesses needs to have labors that can follow directions. The students will learn they can obtain jobs in the construction business by having the attitude and the willingness to learn. Many jobs are from independent contractors or through the labor unions. The most important thing the students will learn is that they can obtain a job in the construction field, make a good living and be a production member of society.
- Students will learn the sequence of preparing and pouring of concrete
- Students will learn the various uses of concrete.
- Students will be able to produce a decorative square of concrete by using various colors. Students will make a cement collage

Rubric for:

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Student Deliverables	1 Exceeds Expectations	2 Meets Expectations	3 Approaches Expectations	4 Fails to meet Expectations
Scavenger Hunt	Complete the assignment to 100% accuracy, was an active participant and helpful. Signed timesheet/employer signed timesheet. Check in list turned in.	Completed assignment to 80% accuracy, was an active participant.	Attended class and was an active participant but failed to complete assignment successfully.	Attended class but did not turn in assignments. Was disruptive.
Monster Drawing Peanut Butter sandwich	Complete the assignment to 100% accuracy, was an active participant and helpful. Followed directions and drew the monster correctly.	Completed assignment to 80% accuracy, was an active participant	Attended class and was an active participant but failed to complete assignment successfully.	Attended class but did not turn in assignments. Was disruptive.
Edible Cupcake Color wheel	Complete the assignment to 100% accuracy, was an active participant and helpful. Mixed the colors correctly, cleaned up their area.	Completed assignment to 80% accuracy, was an active participant	Attended class and was an active participant but failed to complete assignment successfully.	Attended class but did not turn in assignments. Was disruptive.
Concrete Painting	Complete the assignment to 100% accuracy, was an active participant and helpful. Followed directions given by Mr. Winn.	Completed assignment to 80% accuracy, was an active participant	Attended class and was an active participant but failed to complete assignment successfully.	Attended class but did not turn in assignments. Was disruptive.

