THE EDUCATION FUND

FOR EXCELLENCE IN MIAMI-DADE PUBLIC SCHOOLS

2020-2021

Ideas With IMPACT

idea packet

sponsored by:

ASSURANT®

Edible Mandalas to the Rescue!

Edible Mandalas to the Rescue!

STEAM Lesson

Anna Weiss

a_weiss@dadeschools.net

Highland Oaks Middle School

School code: 6241

(305)932-3810

(305)932-0676 FAX

For information concerning Ideas with Impact opportunities including Adapter and Disseminator grants, please contact:

Audrey Onyeike,
Program Director
Ideas with IMPACT
The Education Fund
305-558-4544, Ext. 113
Email: audrey@educationfund.org
www.educationfund.org

Table of Contents

- Goals and Objectives
- Course Outline and Overview
- Lesson plan
- Resource List
- Student Work Samples
- Adapter Application

Goals and Objectives

The goal of the **Edible Mandalas** lesson is to provide the middle school students with an easy and fun way to understand Elements of Art, Principles of Design, the concept of mandalas, fractions, variety of vitamins in fruit and vegetables, science, research using technology, and good safety and health tips.

Using the Florida Standards listed below, students are exposed to STEAM ideas and realization that there is a practical application for theoretical concepts learned in school.

Florida State Standards

Skills and Techniques Standard 1

A. Uses and organizes two–dimensional and three-dimensional processes to produce works of art that are derived from personal experience, observation, or imagination.

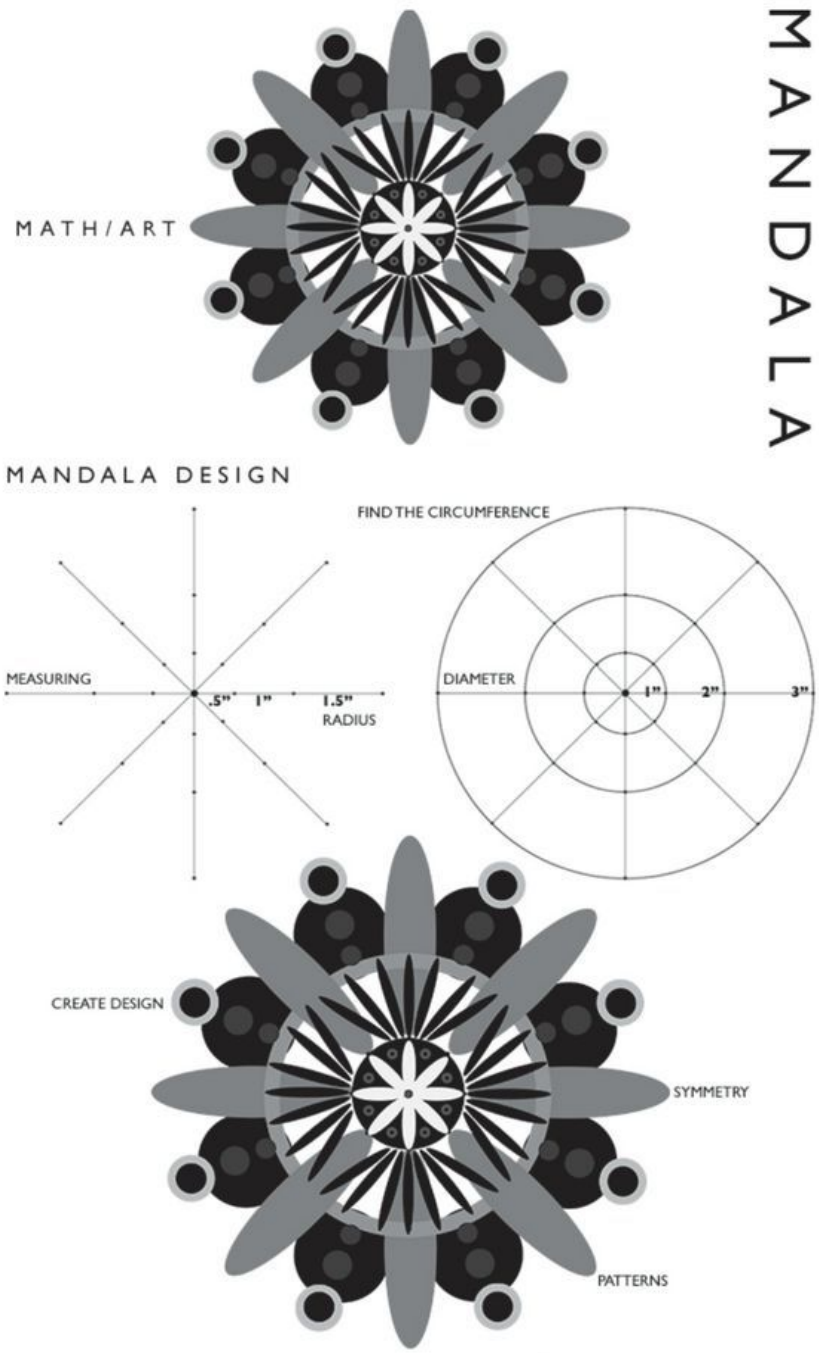
Science: SC.6.N.1.5 SC.7.N.1.5 SC.8.N.1.6 S.C.68.CS-PC31

Technology: 1C

Engineering: CTE-TECED.68.ENGTEC.04.04

Art: VA.68.S1.1-1,5 VA.68.S.3.1-4 VA.68.H.3.1-3 VA.68.F1.1-2 VA.68.O.3.1

Math: MAFS.6.RP.1.1, 1.2 MAFS.7.RP.1.1, 1.2 MAFS.8.G.1.1, 1.2



Mandala Math

WE *are* TEACHERS
www.weareteachers.com

Course Outline and Overview

Students will participate in a group discussion about each part of the project, but will work individually to complete it. This lesson can be taught both in traditional classroom and online, providing that students learn from home with adult supervision. Initially students will go over the art component including color wheel, elements of art, and principles of design. Then students will learn about mandalas, followed by a mini-lesson on geometry. After students complete the art project, they will work on research as a home learning activity. Finally, during the whole class critique, students will discuss everyone's projects and share their research findings. This is a multi-step project involving various disciplines. The timeline for this project is about three to four two-hour classes.

Class 1 (2 hours)

Students will review 7 Elements of Art: line, shape, form, space, color, value, and texture as well as 7 Principles of Design: balance, contrast, emphasis, pattern, unity/variety, movement, and rhythm. Students will look at examples of traditional, contemporary, and edible mandalas (on the computer screen at home or Promethean board at school) and find where elements of art and principles of design are present. Then students will explore the traditional mandalas including history and meanings of symbols on YouTube video. Students will discuss which patterns, ideas, and symbols are meaningful to them, and create an individual mandala sketch.

Class 2 (2 hours)

Students will be taught a mini-lesson in geometry, specifically about radial symmetry, radius, diameter, angles, fractions in the circle, and how to measure area and circumference. Students will see how math can be useful in creating a work of art, and how a work of art can help understand some abstract mathematical concepts, connecting this lesson to mandalas. Students will explore contemporary mandalas and will be introduced to edible mandalas via YouTube

video and examples created by teacher and former students. After a 5-minute break, a teacher will show a live example on how to create a mandala using fruit and vegetables. Teacher will also demonstrate important safety and sanitary concepts such as putting the hair up before starting to prepare a mandala, cleaning working area, washing hands often, wearing gloves, and being careful with the kitchen knife and other tools. While making a mandala a teacher will show a practical application of geometry in creating this project. A teacher will draw an outline of a mandala on a paper plate, write the measurements and fractions, then cover it with plastic wrap and arrange fruit and vegetables to create a colorful eatable mandala.

Class 3 (2 hours)

This will be a studio time for students to draw mandalas, take and record measurements, and create individual edible mandalas. If students are working at home, their parents should supervise the project and may join in the mandala making. At the school setting a teacher will supervise the students. At home setting students will be responsible for providing their own supplies. At the school setting students will be asked to bring fruit and vegetables, but the teacher will have plates, rulers, plastic wrap, plastic cutting knives, and extra fruit and vegetables to share. After students finish making their mandalas they need to take a pictures of their creations to use in the class critique and discussion. Then students will use the remainder of class to have a healthy snack.

Class 4 (2 hours)

Students will come to class with research about vitamins and other health benefits in their specific mandalas. Students will put up the pictures of their mandalas on the computer for others to see and discuss the elements of art and principles of design used in the mandalas, the mathematical measurements, and the overall health value of each mandala. Everyone needs to actively participate in the discussion for a grade.

Visual Arts Lesson Plan

Grade: 6-8 Time: 8 hours

Lesson: Edible Mandalas to the Rescue!

Materials:

Sketchbooks, pencils, erasers, 12” or 18” rulers, compasses, plastic circle templates, protractors, large plastic or paper plates, variety of fruit and vegetables, saranwrap, plastic knives, gloves, aprons, hair nets

Activities:

Students review Elements of Art and Principles of Design. Teacher introduces the lesson on Mandalas and leads a discussion about them. Students draw individual mandalas. Teacher introduces a lesson on geometry. Students measure their mandalas. Teacher demonstrates how to make a fruit and vegetable mandala. Students create individual fruit and vegetable mandalas, take pictures of them and submit on Teams. Students eat their mandalas. Students research the vitamins present in their mandalas. Students participate in teacher-moderated critique about their finished projects.

Vocabulary:

Composition, Elements of Art (Line, Shape, Form, Space, Color, Value, Texture), Principles of Design (Balance, Contrast, Emphasis, Pattern, Unity/Variety, Movement, Rhythm), hue, radial balance, symmetry, area, radius, diameter, circumference, Mandala, symbolism

ESOL Strategies:

VC –Vocabulary in context

WGIR – Whole group to individual response

VAKT – Visual, Auditory, Kinesthetic, tactual

Performance Assessment/Evaluation

- Observation of final product
- Group critique
- Observation of process
- Self-assessment by student
- Research report

Integrated Curriculum

STEAM: Science, Technology, Engineering, Art, Math; vocabulary

Concepts/Skills

Elements of Art, Principles of Design, fractions, radial symmetry, Geometry: area of a circle, circumference, Healthy foods

Resource List

Books:

"Color Your Mandala" by Cassandra Lorius, Cico Books, London, 2010

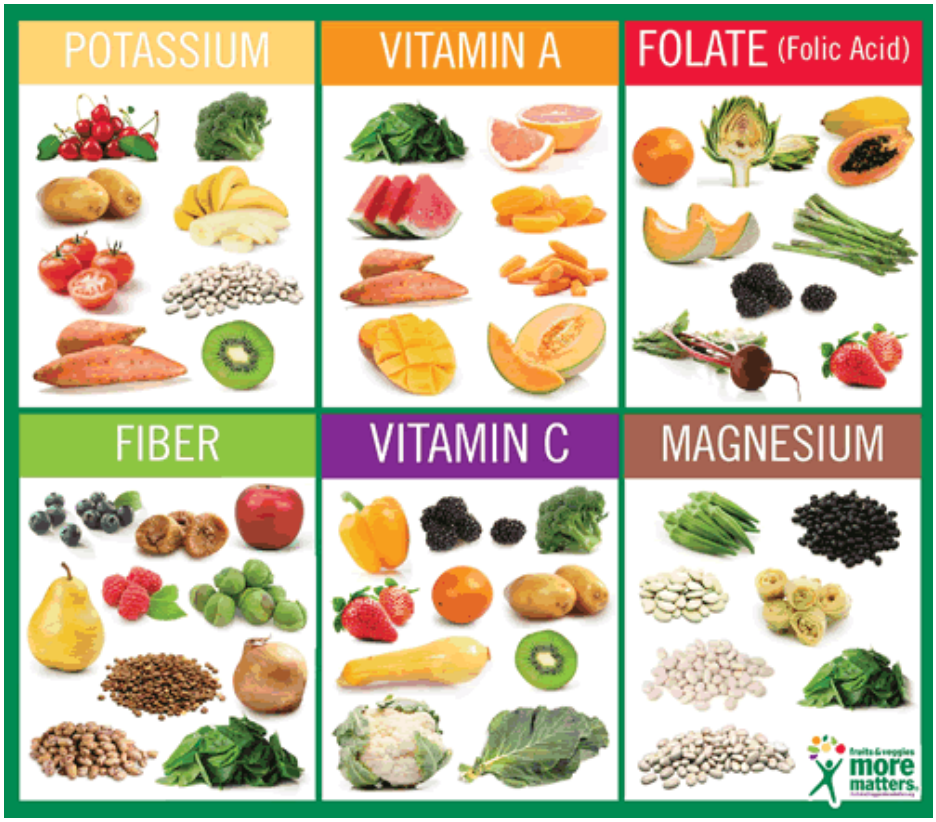
"Mandala for the Inspired Artist" by Alyssa Stokes, Louise Gale, and Marisa Edghil, Walter Foster Publishing, 2016

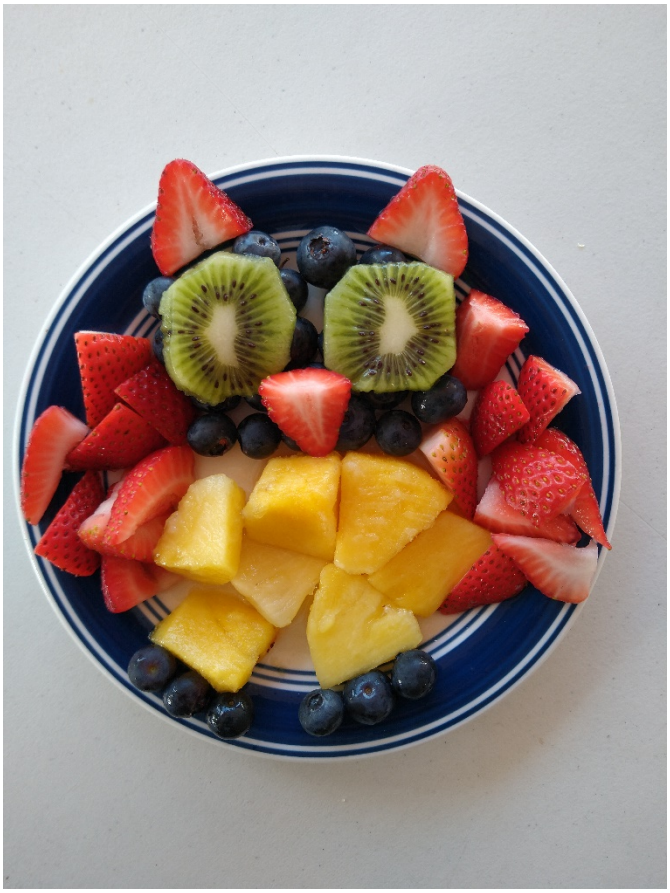
"Mandala" by Jose Arguelles, Shambhala Publication, 1995

Websites:

https://www.youtube.com/watch?v=zZJirCVVYFo (How to Make a Fruit Mandala), https://www.youtube.com/watch?v=2Zs1pQ3mCx4 ("Mandala paso a paso y tips!" for Spanish-speaking students.

https://fruitsandveggies.org/stories/key-nutrients-that-protect/ - Key Nutrients in Fruits & Vegetables



Student Work Samples

Edible Bird Sculptures