

# Properties of Matter in Alien Sculptures



## Science and Visual Arts

Grade  
2

### Science Common Core Objective

4.2.D.1.b Compare the observable properties of objects before and after they have been subjected to various processes.

1.C.1.a Describe things as accurately as possible and compare observations with those of others.

### Writing Objectives

W3 Write narratives in which students recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure.

### Maryland Visual Arts Objectives Grade 2

3.1.a Experiment with art media, processes, and techniques and demonstrate a variety of ways they can be used to express meaning.

3.1.b Manipulate art, media, materials, and tools safely.



## CONNECTED OBJECTIVES

Students learn about matter and how to express in words what they have constructed. Students will demonstrate how to construct a sculpture by creating a chemical change in materials. Students will construct a written description of their sculptured "Aliens".

## MATERIALS & RESOURCES

- Salt
- Flour
- Beads
- Wooden toothpicks
- Wooden popsicle sticks
- Plastic googly eyes
- Visuals of sculpture

## KEY CONTENT VOCABULARY

- Matter
- Physical change
- Chemical change

## KEY ARTS VOCABULARY

- Manipulate
- Sculpture

# A S S E S S M E N T

- Teacher observation with checklist (below)
- Evaluate their written expressions (below)



# L E S S O N S T E P S

Introduce and define matter

- Ask the students what matter is and create a circle map.
- Show the students the definition of matter.

Creation of the alien matter

- Students make a mixture of salt , flour and dough to watch the physical change of matter.
- Students describe the changes they see.
- Students make the dough into a chemical change of matter by adding about 20 drops of water and letting the mixture dry.
- Provide instruction on what sculpture is and discuss additive and subtractive qualities of sculpting.
- Students become sculptors to and design aliens from their dough.
- Students sculpt their aliens with wooden toothpicks, popsicle sticks and add googly eyes.

Expressing their creation into words

- Students will write a narrative in which they tell how their alien was created describing the physical and chemical changes.

# EXTENSIONS & OPTIONS SOURCES & RESOURCES

- Students write a short story about their "alien"

G E T S M A R T T H R O U G H T H E A R T S

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S u p p o r t i n g D o c u m e n t s

# Sculpting Processes

- Carving

The sculptor starts with a block of material and cuts or chips it away. Relief sculptures are created by carving.



- Casting

The Sculptor makes a mold. He then pours melted down metal or other liquid into the mold. It hardens into the form. Bronze is a common metal used for casting.



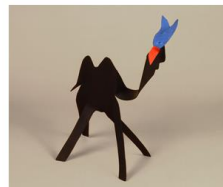
- Modeling

Modeling is the building up and shaping of soft material to create a sculpture. Clay and plaster can be used in modeling.



- Assembling

Also known as constructing, this is a process in which pieces of material are glued or joined together. Assembled Sculptures are built up.



## Opposite Methods



### Additive Sculpture Method

- When two or more pieces of clay are pressed together to create a new form. Pieces that are done with the additive method should be scored and slipped to make them stick together. If a piece of clay is not scored and slipped it will most likely fall off in the firing.

### Subtractive Sculpture Method

- When the clay is carved or pressed into it is considered a subtractive sculpture method. If the clay is carved or when clay is removed from the surface we call it a subtractive sculpture method. Often, a work of ceramic art will have both additive and subtractive methods used at the same time.

Writing Grade 2 : Matter  
The making of an "alien"

Each student will create a written explanation of their alien creation by following the criteria below:

- Must contain at least 4 complete sentences;
- Must contain a description of the alien and how it was created;
- Must contain the reason for creating the alien.

	CD (Contains 4 complete sentences)	PR(Contains 2-3 complete sentences)	NI(Contains 1 complete sentences)
Must contain at least 4 sentences			

	CD (Contains a description of the alien)	PR(Contains a description of their alien or how they created it)	NI(Contains no description of their alien)
Must contain a description of the alien			

	CD (Contains a description of why they created their alien)	NI(Contains no description of their alien)
Must contain a description of why they created their alien		

Average 3 grades=

Science Grade 2 : Matter  
The making of an "alien"

Each student will create a physical to chemical change in a substance by following the checklist provided. The teacher will check off each stage completed by each student by using the rubric below.

Student name	Add salt, flour, dough mixture together	Add 20 drops of water	Create alien by making their own creative design	Writing an explanation of their alien