

**Lesson Plan Title**

Building Solids

**Grade Level**

Kindergarten

**Subject Area**

Science

**MSCCRS**

P.K.5B Students will demonstrate an understanding of how solid objects can be constructed from a smaller set.

P.K.5B.1 Use basic shapes and spatial reasoning to model large objects in the environment using a set of small objects (e.g., blocks, construction set).

P.K.5B.2 Analyze a large composite structure to describe its smaller components using drawing and writing.

P.K.5B.3 Explain why things may not work the same if some of the parts are missing.

**Art Form**

Music

**MSCCR Creative Arts Standards**

MU: Re7.2.K Perceive and analyze artistic work. Analyze how the structure and context of varied musical works inform the response. ANALYZE a. With guidance, demonstrate how a specific music concept (such as beat or melodic direction) is used in music

**Duration**

1 Hour - Could be broken into 2 sessions

**Materials**

Toothpicks (12 per pair of students)

Gumdrops or small balls of clay (8 per pair of students)

**Objectives**

Students will build a solid object from smaller pieces

Students will understand that somethings will not work without all of its parts.

Students will draw a picture of their solid and write (or dictate) one sentence about what they learned about solids.

Students will keep a steady beat in a song.

## **Vocabulary**

Solid

Beat

Tempo

## **Lesson Description**

What would happen if we removed a leg from this table?

What if your mom did not have a steering wheel in her car?

Would it still be a sandwich if you did not have any bread?

Each of these objects would not be the same without a missing piece.

We are going to make a solid then see what will happen if a piece is taken away!

But first, let's review:

What is a solid?

How is it different from something that is flat?

Who can name a solid? (cone, cube, cylinder, sphere)

Now you are going to work with a partner to build a solid using gumdrops and toothpicks.

Partner the students then pass out the material.

I want you and your partner to build a cube together. (provide help where needed).

Now you are going to draw a picture of your solid using the different colors of the gumdrops.

(Set the picture aside for now).

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What will happen if we take away one gumdrop?

Okay, everyone remove one gumdrop! What happened?

We're going to come back to why things may not work if some parts are missing.

Watch this video about keeping a steady beat.

<https://www.youtube.com/watch?v=0kaX2l413p8>

Let's keep a steady beat as we recite a nursery rhyme (choose one that the students are familiar with).

(I'm going to use Mary Had A Little Lamb)

Let's try to say the rhyme with everyone going at different speeds. Just say it on your own...

Does it feel right? No! Keeping a steady beat when performing together is essential to making a song work and sound correctly.

Listen to the song Mary Had A Little Lamb while tapping the steady beat

<https://www.youtube.com/watch?v=5aP2RzLNlhw>

Just like a song would not make sense without a steady beat, and a table would not make sense with only three legs, and a car would not make sense without a steering wheel, some things just need all their parts to work.

Ask students to write what they learned about solids on their picture (or dictate if needed)

### **Recommended Resources**

[https://www.youtube.com/watch?v=zZbM9n9j3\\_g](https://www.youtube.com/watch?v=zZbM9n9j3_g) steady drum beat

### **Extended Learning Activities**

Put 4 students together to see what kind of solid they can construct.

Play Don't Break the Ice, which deals with opposing forces keeping something in place.

### **Sources**

N/A

### **Tips**

Teach this after the students have been introduced to a cone, cube, cylinder and sphere.

This is a great activity for team building!

### **Author**

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