



BOYS & GIRLS CLUBS

## Virtual Module: Slime Design

This module is written for staff to facilitate in real time using a video conferencing platform to connect with youth. Club staff can send home a kit of module-specific supplies at the beginning of the week to ensure youth have everything they need to participate.

Ages

**10 & Up**

**1**

week

# Summer Brain Gain STEM

# Introduction



# INTRODUCTION

## How To Use This Module

This module is written for staff to facilitate in real time using a video conferencing platform to connect with youth.

Club staff can send home a kit of module-specific supplies at the beginning of the week to ensure youth have everything they need to participate. If developing take-home supply kits, consider buying travel or mini-size ingredients instead of full-size jars of glue, foaming shaving cream, or Tide liquid detergent.

You should also ensure youth have permission from their caregivers before making slime and encourage them to prepare their slime workspace to avoid making a mess.

<b>Overview</b>	Youth will learn about the chemistry of slime and create their own custom slime.
<b>Guiding Questions</b>	How is slime made? Can I change its properties to make a slime of my own design?
<b>Culminating Activity</b>	Youth will make their own custom slime.
<b>Day 1</b>	<b>What Is Slime?</b> Youth will learn about the chemistry behind what makes slime so ooey and gooey and make a classic slime recipe.
<b>Day 2</b>	<b>Experimenting With Slime Properties</b> Youth will learn about experimental design as they take the classic slime recipe, change ingredients, and record the results.
<b>Day 3</b>	<b>Slime Variation #1</b> Youth will learn how to fix slime fails and create fluffy slime.
<b>Day 4</b>	<b>Slime Variation #2</b> Youth will create silly putty slime and develop a slime survey.
<b>Day 5</b>	<b>Design Your Own Slime</b> Youth will show off their slime in a Club-wide showcase!



# INTRODUCTION

## Materials

Each youth will need a "Slime Kit" made up of the follow supplies. If your Club is distributing take-home supply kits, we recommend supplying all of the **bolded** items. The other materials can be found around the home and provided by youth.

<b>Club Distributed Take-Home Supplies</b>	<b>5 4-ounce bottles</b>	<b>White Elmer's Glue</b>
	<b>1 box</b>	<b>Baking Soda</b>
	<b>1 bottle</b>	<b>Saline Solution</b>
	<b>5</b>	<b>Craft Sticks</b>
	<b>5 pair</b>	<b>Disposable Latex Gloves</b>
	<b>1 bottle</b>	<b>Food Coloring</b>
	<b>2 8-ounce bottles</b>	<b>Foaming Shaving Cream</b>
	<b>1 8-ounce bottle</b>	<b>Liquid Tide Laundry Detergent</b>
	<b>Micellaneous</b>	<b>Slime add-ins: glitter, colored beads, food coloring, pom poms, etc.</b>
	<b>Supplies from Home</b>	1 Small Bowl
1 Teaspoon		
1 Tablespoon		
5 Table Cover (Trash bag or Newspaper)		
5 16oz Storage Container (Optional)		

## Extensions

Youth could use technology to research and test out other slime recipes. For example:

- Toothpaste slime
- Galaxy slime
- Diaper slime
- Butter slime
- Cornstarch slime
- Unicorn slime

## Career Connections

In this module youth get to think like scientists, product developers, and entrepreneurs.

## Notes to The Facilitator

This module takes slime to the next level! Youth use principles of scientific experimental design while creating different types of slime all using simple ingredients that keep costs low.

Remember: this module is about the science behind slime, so try to focus on that so youth don't get carried away making slime just to make slime!

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# Slime Design

# WHAT IS SLIME?

**Group Size: 10-15**  
**Supplies Needed: Slime Kit**

**1**

## **WARM WELCOME & GROUP AGREEMENTS** **(5 MINUTES)**

**Say**, "Remember our group agreements: We are going to Check our Tech, Speak up, Listen to others, and Be kind when online."

**Ask**, "How can we continue to honor these Group Agreements in this virtual space?"

**Ask**, "Is there anything we should add to this list of commitments?"

**2**

## **COMMUNITY BUILDER: RECIPES AND INSTRUCTIONS** **(10 MINUTES)**

**Ask**, "Have you ever made something using a recipe or set of instructions? What did you make? How did it turn out?"

**Give** youth a chance to share by unmuting themselves or by typing in the chat.

**3**

## **MAIN ACTIVITY INSTRUCTIONS SEE PAGE 2** **SUPPLIES BELOW** **(30 MINUTES)**

### **Supplies from Home:**

- Small bowl
- Teaspoon
- Tablespoon
- Table cover (newspaper or garbage bag)
- Storage container (optional)

### **Supplies from Take-Home Kit:**

- 1 4oz bottle Glue
- Baking soda
- Saline solution
- Food coloring (optional)
- 1 Craft stick
- 1 pair Latex gloves

**4**

## **REFLECTION** **(5 MINUTES)**

**What?**- The video introduced us to the concept of viscosity or the thickness of liquids. What are some examples of liquids with a high viscosity (very thick)? (Honey, syrup, ketchup, condensed milk) What are some examples of liquids with a low viscosity? (Water, milk, juice)

**So What?**- How is slime similar to a balloon? (Hint: They're both polymers!)

**Now What?**- What are some different ways we could use and play with the slime we made?

**5**

## **CLOSING & CHECK OUT** **(5 MINUTES)**

**Recognize** youth for the work making classic slime.

**Remind** youth to clean up their work space and put materials away.

**Provide** members with clear instructions for the next time you will meet.

# WHAT IS SLIME?

Group Size: 10-15  
Supplies Needed: Slime Kit

3

## MAIN ACTIVITY (30 MINUTES)

### Introducing Youth to the Activity

**Ask** youth, "Have you ever made slime? What kind did you make? How did you make it?"

**Say**, "Today we're going to learn about slime and make some of our own!"

### Step-by-step Directions

#### **Step 1: Balloon Skewer Experiment**

- **Do** the [balloon skewer experiment](#) for youth to see or watch a [video](#) of it together.
- **Pause** the experiment at various points to ask youth what they think will happen and why.

#### **Step 2: What is Slime?**

- **Say**, "Just like a balloon, slime is made of a chemical called a polymer. Polymers are really long and stretchy molecules. The polymers in the balloon stretch apart when you blow it up."
- **Show** the video "[What Makes Slime?](#)" and pause occasionally to check for understanding.

#### **Step 3: Classic Slime**

*Facilitator's Note: You can have youth make slime along with you using the recipe below (adapted from [here](#)) or have them watch as you make it.*

- **Explain** that youth will be making their own slime but substituting saline solution for borax. Both are activators or chemicals that help "tie" the slime together.
- **Pour** a 4-ounce bottle of glue into a bowl.
- **Add** ½ teaspoon baking soda and stir with the craft stick.
- **Add** 1-1.5 tablespoons of contact lens solution and stir.
- **Optional: Add** a few drops of food coloring and stir.
- **Mix** and knead the mixture until it forms into slime.



# EXPERIMENTING WITH SLIME PROPERTIES

Group Size: 10-15  
Supplies Needed: Slime Kit

## 1 WARM WELCOME & GROUP AGREEMENTS (5 MINUTES)

**Say**, "Remember our group agreements: We are going to Check our Tech, Speak up, Listen to others, and Be kind when online."

**Ask**, "How can we continue to honor these Group Agreements in this virtual space?"

**Ask**, "Is there anything we should add to this list of commitments?"

## 2 COMMUNITY BUILDER: TYPES OF SLIME (10 MINUTES)

**Visit** [this website](#) for a list of unique types of slime.

**Invite** youth to choose a few interesting-sounding slimes for you to click on.

**Ask**, "What makes this slime unique? What ingredients are used to make it?"

## 3 MAIN ACTIVITY INSTRUCTIONS SEE PAGE 2 SUPPLIES BELOW (40 MINUTES)

### Supplies from Home:

- Small bowl
- Teaspoon
- Tablespoon
- Table cover (newspaper or garbage bag)
- Storage container (optional)

### Supplies from Take-Home Kit:

- 1 4oz bottle Glue
- Baking soda
- Saline solution
- Food coloring (optional)
- 1 Craft stick
- 1 pair Latex gloves

## 4 REFLECTION (5 MINUTES)

**What?**- What happened when we changed the amount of ingredients in the slime recipe? How was each slime different?

**So What?**- Have you ever tried to experiment with a recipe? What happened?

**Now What?**- What other ingredients do you think we could use to create slime?

## 5 CLOSING & CHECK OUT (5 MINUTES)

**Recognize** youth for the work making classic slime.

**Remind** youth to clean up their work space and put materials away.

**Provide** members with clear instructions for the next time you will meet.



# EXPERIMENTING WITH SLIME PROPERTIES

Group Size: 10-15  
Supplies Needed: Slime Kit

3

## MAIN ACTIVITY (40 MINUTES)

### Introducing Youth to the Activity

**Remind** youth about the classic slime they made in the previous session and ask a volunteer to explain how to make it.

**Ask**, "What if we changed the amount of ingredients that we used? What do you think would happen if we used more baking soda? Less saline solution?"

### Step-by-step Directions

#### **Step 1: Making Hypothesis**

- **Say**, "Let's experiment with using different amounts of baking soda and water in our slime recipe."
- **Ask**, "How much baking soda did we use in the classic slime recipe?" (½ teaspoon)
- **Ask**, "How much saline solution did we use in the classic slime recipe?" (1-1.5 tablespoons)
- **Say**, "A hypothesis is a guess about what you think might happen. We're going to do an experiment in which we change the amounts of ingredients we use in our slime recipe. Let's make some hypotheses about how those changes might affect our slime."
- **Discuss** the different variations in the recipe you'll use for the experiment and have youth write their hypotheses for each in the "Hypotheses and Observations" sheet. Invite some volunteers to unmute themselves and share their hypotheses or type them into the chat.

#### **Step 2: Slime Recipe Variations**

*Facilitator's Note: You can have youth make slime with you or you can have them watch as you make it.*

- **Instruct** all youth to pour their 4-oz bottle of glue into a bowl.
- **Instruct** youth to add 1/2 tbsp baking soda and 1 tbsp saline solution to the glue and stir.
- **Ask** youth to record what they see on their "Hypotheses and Observations" sheet.
- **Ask**, "If the second recipe calls for 1 tbsp baking soda and we've already put in 1/2 tbsp baking soda, how much more do we need to add?" (1/2 tbsp)
- **Instruct** youth to add 1/2 tbsp baking soda and stir.
- **Ask** youth to record what they see on their "Hypotheses and Observations" sheet.
- **Instruct** youth to add 2 tbsp water to the mixture and stir.
- **Ask** youth to record what they see on their "Hypotheses and Observations" sheet.
- **Ask**, "Was your hypothesis correct?"

# EXPERIMENTING WITH SLIME PROPERTIES

Group Size: 10-15  
Supplies Needed: Slime Kit

## 3

### WORKSHEET

Hypothesis #1 (1/2 tbsp baking soda, 1 tbsp saline solution):

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Hypothesis #2 (1 tbsp baking soda, 1 tbsp saline solution):

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Hypothesis #3 (1 tbsp baking soda, 1 tbsp saline solution, 2 tbsp water):

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SLIME RECIPE	OBSERVATIONS
<ul style="list-style-type: none"><li>• 1/2 tablespoon baking soda</li><li>• 1 tablespoon saline solution</li></ul>	How does it feel? What does it look like (stretchy, shiny, sticky, color)? What does it sound like?
<ul style="list-style-type: none"><li>• 1 tablespoon baking soda</li><li>• 1 tablespoon saline solution</li></ul>	
<ul style="list-style-type: none"><li>• 1 tablespoon baking soda</li><li>• 1 tablespoon saline solution</li><li>• 2 tablespoons water</li></ul>	

# SLIME VARIATION #1

Group Size: 10-15  
Supplies Needed: Slime Kit

1

## WARM WELCOME & GROUP AGREEMENTS (5 MINUTES)

**Say**, "Remember our group agreements: We are going to Check our Tech, Speak up, Listen to others, and Be kind when online."

**Ask**, "How can we continue to honor these Group Agreements in this virtual space?"

**Ask**, "Is there anything we should add to this list of commitments?"

2

## COMMUNITY BUILDER: ADD ON (10 MINUTES)

**Invite** youth to make a [collaborative drawing online](#).

*Facilitator's Note: If youth are unable to join, you can solicit ideas from them to draw yourself.*

**Draw** an image on the whiteboard and invite youth to add to the scene. They can add anything as long as it makes sense in the scene!

3

## MAIN ACTIVITY INSTRUCTIONS SEE PAGE 2 SUPPLIES BELOW (35 MINUTES)

### Supplies from Home:

- Small bowl
- Teaspoon
- Tablespoon
- Table cover (newspaper or garbage bag)
- Storage container (optional)

### Supplies from Take-Home Kit:

- 1 4oz bottle Glue
- Baking soda
- Saline solution
- Foaming shaving cream,
- Food coloring (optional)
- 1 Craft stick
- 1 pair Latex gloves

4

## REFLECTION (5 MINUTES)

**What?**- What are some ways the video showed of how to fix slime fails?

**So What?**- How did you apply that information when creating fluffy slime without having a recipe to follow?

**Now What?**- What tips would you give to someone who was making fluffy slime for the first time?

5

## CLOSING & CHECK OUT (5 MINUTES)

**Recognize** youth for the work making classic slime.

**Remind** youth to clean up their work space and put materials away.

**Provide** members with clear instructions for the next time you will meet.



# SLIME VARIATION #1

Group Size: 10-15  
Supplies Needed: Slime Kit

3

## MAIN ACTIVITY (35 MINUTES)

### Introducing Youth to the Activity

**Say**, "In the drawing activity, we started with one image and ended up with a complex scene. Coming up with a new product is much like that. You start with a simple product and then add variations or make changes to improve it and make it better for people."

**Say**, "There are different variations of slime and sometimes while experimenting with these variations, we might get a slime fail. Today we are going to learn how to "fix" slime fails and try making a new variation of slime."

### Step-by-step Directions

#### Step 1: Slime Fails

- Ask, "Have you ever tried to make slime and it didn't turn out right? What happened?"
- Ask, "What are some ideas of things you could do to fix slime fails?"
- Show the video [How to fix every slime](#).
- Ask, "What can you do if the slime rips when you pull it apart?" (Add water)
- Ask, "What can you do if the slime is stringy and sticky?" (Add saline solution)
- Ask, "What can you do if the slime is stringy but not sticky?" (Add glue)
- Say, "If we mess up when making slime, we can use these tips to fix our slime fails."

#### Step 2: Fluffy Slime

*Facilitator's Note: You can have youth make the slime along with you or have them watch you make it.*

- **Explain** that youth are going to make fluffy slime by adding an additional ingredient to the classic slime recipe: shaving cream.
- **Instruct** youth to pour the glue into the bowl.
- **Have** youth add the following ingredients one by one and stir: shaving cream, glue, baking soda, saline solution.
- **Encourage** youth to use a little bit of each ingredient at a time so they don't run out.
- Optional: **Add** a few drops of food coloring and stir.
- **Instruct** them to fill out the Slime Log Sheet with the quantities they use of each ingredient
- **Remind** youth that if they use more of any ingredient, they should write this additional amount in the appropriate column and total it at the end so they can recreate their recipe later!

*Facilitator's Note: Don't tell them the precise quantities of each ingredient to use! They may get frustrated but explain that you will work together to solve any slime fails.*

- **Involve** the group in solving any slime fails.
- **Ask** each youth to describe the slime they've made and share their final recipe.

# SLIME VARIATION #1

Group Size: 10-15  
Supplies Needed: Slime Kit

3

## WORKSHEET

SLIME INGREDIENT	AMOUNT USED
Shaving Cream	
Glue	
Saline Solution	
Baking Soda	



# SLIME VARIATION #2

**Group Size: 10-15**  
**Supplies Needed: Slime Kit**

**1**

## **WARM WELCOME & GROUP AGREEMENTS** **(5 MINUTES)**

**Say**, "Remember our group agreements: We are going to Check our Tech, Speak up, Listen to others, and Be kind when online."

**Ask**, "How can we continue to honor these Group Agreements in this virtual space?"

**Ask**, "Is there anything we should add to this list of commitments?"

**2**

## **COMMUNITY BUILDER: SHOPPING FOR SHAMPOO** **(10 MINUTES)**

**Ask**, "What's your favorite shampoo? Why do you like it?"

**Ask**, "What do people think about when buying shampoo?" (smell, hair type, results, cost)

**Give** youth a chance to share by unmuting themselves or by typing in the chat.

**3**

## **MAIN ACTIVITY INSTRUCTIONS SEE PAGE 2** **SUPPLIES BELOW** **(35 MINUTES)**

### **Supplies from Home:**

- Small bowl
- Teaspoon
- Tablespoon
- Table cover (newspaper or garbage bag)
- Storage container (optional)

### **Supplies from Take-Home Kit:**

- 1 4oz bottle Glue
- Tide liquid laundry detergent
- Food coloring (optional)
- 1 Craft stick
- 1 pair Latex gloves

**4**

## **REFLECTION** **(5 MINUTES)**

**What?**- What are some of the different types of slime you can make?

**So What?**- Why is it important to understand a customers' preferences and likes when starting a business?

**Now What?**- Do you think you would like to start your own business? What kind of business would you start?

**5**

## **CLOSING & CHECK OUT** **(5 MINUTES)**

**Recognize** youth for the work making classic slime.

**Remind** youth to clean up their work space and put materials away.

**Provide** members with clear instructions for the next time you will meet.



# SLIME VARIATION #2

Group Size: 10-15  
Supplies Needed: Slime Kit

3

## MAIN ACTIVITY (35 MINUTES)

### Introducing Youth to the Activity

**Say**, "As we saw in the Community Builder, sometimes customers have different preferences and likes that determine what kind of product they want to buy."

**Ask**, "What are some different preferences people have when it comes to buying slime?"

**Say**, "Today we're going to learn how to make a new variation of slime that

### Step-by-step Directions

#### **Step 1: Silly Putty Slime**

*Facilitator's Note: You can have youth make slime along with you using the recipe below or have them watch as you make it.*

- **Remind** youth that all slime recipes include an activator to help "tie" the slime together.
- **Ask**, "What are some activators we've learned about?" (Borax, saline solution)
- **Explain** that youth are going to make slime using a different activator: liquid laundry detergent.
- **Instruct** youth to pour the glue into a small bowl.
- **Tell** youth to add 4 teaspoons of liquid laundry detergent, stir, then add 2 more teaspoons.
- Optional: **Add** a few drops of food coloring and stir.
- **Instruct** youth to knead the ingredients together until they have silly putty slime!

#### **Step 2: The Business of Slime**

- **Ask**, "Did you ever think that selling slime could be a business?"
- **Show** youth the [Hershey 2.0 Recap](#) (1 minute).
- **Say**, "The World Slime Convention brings slimers from around the world together to showcase and sell their unique slime creations."
- **Ask**, "What do you have to think about before starting your own slime business?"
- **Explain** that one of the first things you have to think about is your potential customers.
- **Remind** youth that not all customers want the same thing in a product.
- **Say**, "If we're going to start a slime business, we need to know what kind of slime our customers like. How can we find that out?"
- **Say**, "One way we can find that out is by creating a survey. Let's think of 3 simple questions we can ask in our survey." (e.g. What color slime do you like? What texture do you like? What add-ins would you want?)
- **Encourage** youth to give the survey to their friends and family and instruct them to put a tally or check mark for each answer.
- **Post** the survey on your Club's Facebook page for greater reach.

# DESIGN YOUR OWN SLIME

Group Size: 10-15  
Supplies Needed: Slime Kit

## 1 WARM WELCOME & GROUP AGREEMENTS (5 MINUTES)

**Say**, "Remember our group agreements: We are going to Check our Tech, Speak up, Listen to others, and Be kind when online."

**Ask**, "How can we continue to honor these Group Agreements in this virtual space?"

**Ask**, "Is there anything we should add to this list of commitments?"

## 2 COMMUNITY BUILDER: SALES PITCH (5 MINUTES)

**Pick** a simple, random object to show youth (e.g. pen, ruler, scissors, placemat, etc.).

**Have** youth take turns giving a reason why the object is awesome (e.g. it's a nice color, it's lightweight, it's useful for cutting, it collects food crumbs, etc.)

**Continue** until someone runs out of ideas or repeats something that was already said.

## 3 MAIN ACTIVITY INSTRUCTIONS SEE PAGE 2 SUPPLIES BELOW (40 MINUTES)

### Supplies from Home:

- Small bowl
- Teaspoon
- Tablespoon
- Table cover (newspaper or garbage bag)
- Storage container (optional)

### Supplies from Take-Home Kit:

- 1 4oz bottle Glue
- Baking soda
- Saline solution
- Tide Laundry Detergent
- Slime add-ins (optional)
- 1 Craft stick
- 1 pair Latex gloves

## 4 REFLECTION (5 MINUTES)

**What?**- What was fun about creating your own unique slime recipe? What was challenging?

**So What?**- Why was it important to write down the recipe as you developed it? What would happen if you didn't?

**Now What?**- What would you do next if you wanted to start a real slime business?

## 5 CLOSING & CHECK OUT (5 MINUTES)

**Recognize** youth for the work making classic slime.

**Remind** youth to clean up their work space and put materials away.

**Provide** members with clear instructions for the next time you will meet.



# DESIGN YOUR OWN SLIME

**Group Size: 10-15**  
**Supplies Needed: Slime Kit**

**3**

## MAIN ACTIVITY (40 MINUTES)

### Introducing Youth to the Activity

**Share** and **discuss** the results of the Facebook Slime poll. What type of slime do people like?

**Ask** any youth that surveyed their friends or family to share what they discovered.

### Step-by-step Directions

#### **Step 1: Slime Experimentation and Documentation**

- **Explain** that youth are going to work on creating their own unique slime using any or all of the available slime ingredients. They can create a slime that potential customers might want to buy, or they can create their own unique slime just for them to play with.
- **Tell** youth that they should write down the names and amounts of ingredients they use so that they can recreate the slime later or share the recipe with friends and family.
- **Say**, "First you will create your slime recipe, and then select your slime add-ins."
- **Do** an example with the entire group, inviting youth to suggest the amount of ingredient to add to create your unique group slime. Remember to document as you go along!
- **Discuss** solutions for any slime fails that occur.
- **Allow** youth 10-12 minutes to develop and document their own unique recipe checking in as they work to solve for any slime fails.
- **Encourage** youth to use the ingredients sparingly because once they use up their ingredients, that's it!
- **Instruct** youth to mix the slime add-ins of their choice into the recipe.

#### **Step 2: The Business of Slime**

- **Say**, "Yesterday we learned that it's important to know your customers' likes and preferences before starting a business."
- **Ask**, "What other things do you need to start a slime business?" (Money, workspace, lots of ingredients, customers, company name, logo, price)
- **Say**, "One of the most important things in starting a business is coming up with a cool name for your product!"
- **Allow** youth a few minutes to think of a name for their slime or brainstorm slime names together.
- **Say**, "Now you have the beginnings of a slime business!"

