

# National Real Sugar Day

## Lesson Plan



### Standard

**9.7.1** Explain the properties, compounds, and mixtures in foods and food products.

**8.5.10** Prepare breads, baked goods and desserts using safe handling and professional preparation techniques.

### Objective(s)

- Describe the purpose of real sugar in human diets
- Compare and contrast sugar cane and sugar beets
- Identify the functions sugar serves in cooking
- Prepare a dish and share with a peer to celebrate National Real Sugar Day

### Duration

1 hour

### Materials

- History of Sugar Timeline
- Sugar Timeline Cards
- National Real Sugar Day Slides
- Sugar Cane vs. Sugar Beets Venn Diagram
- Sugar Evaluation
- National Real Sugar Day Sticker
- Bonus File: Types of Sugars Reflection

### Bellringer

Students walk around and read the sugar timeline cards. They should fill out the timeline as they read the cards.

Teacher introduces that today, October 14, is National Real Sugar Day!

### Lecture

The teacher talks through the slides that describe sugar, where sugar is grown, and the functions sugar beets and sugar cane serve in recipes.

### Activity

Select a recipe that uses at least one type of sugar. Prepare the recipe in your lab groups.

### Closure

Complete the sugar evaluation for the recipe. Share the recipe, prepared dish, and evaluation with a peer to celebrate Real Sugar Day. Place a sticker on your dish.



# History of Sugar Timeline

Name: KEY Date: \_\_\_\_\_ Points: \_\_\_\_\_/8

**Instructions:** Using the sugar timeline cards, write down each significant event related to sugars on the timeline below.

Year	Significant Event Related to Sugar
8000 BC	First records of sugar domestication in Papua New Guinea. The indigenous people chewed the sugar raw.
350 CE	After raw sugar spread across the globe, India first crystalized the sugar.
1747	Sugar was identified in beet roots.
1751	Sugar cane was first brought to the US and grown in Louisiana.
1838	Sugar beets arrived in the US.
1900s	Mechanization of sugar beet and cane cultivation and advancements in science and technology to improve yield
Present Day	Sugar cane has been grown for years in a variety of regions, but is currently grown in Florida, Louisiana, and Texas. Sugar beets are grown in California, Colorado, Idaho, Michigan, Minnesota, Montana, Nebraska, North Dakota, Oregon, Washington, and Wyoming.
Today	Happy Real Sugar Day! October 14 is National Real Sugar Day! Bake a treat using real sugar!

# History of Sugar Timeline

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Points: \_\_\_\_\_/8

**Instructions:** Using the sugar timeline cards, write down each significant event related to sugars on the timeline below.

Year	
8000 BC	
350 CE	
1747	
1751	
1838	
1900s	
Present Day	
Today	

# Sugar Timeline Cards

**Teacher Instructions:** Cut each card below out using scissors. Next, place the cards around the room. Students will walk to each card and record the information.

## 8000 BC

First records of sugar domestication in Papua New Guinea. The indigenous people chewed the sugar raw.

## 350 CE

After raw sugar spread across the globe, India first crystalized the sugar.

## 1747

Sugar was identified in beet roots.

## 1751

Sugar cane was first brought to the US and grown in Louisiana.

## 1838

Sugar beets arrived in the US.

## 1900s

Mechanization of sugar beet and cane cultivation and advancements in science and technology to improve yield.

## Present Day

Sugar cane has been grown in a variety of regions for years, but is currently grown in Florida, Louisiana, and Texas. Sugar beets are grown in California, Colorado, Idaho, Michigan, Minnesota, Montana, Nebraska, North Dakota, Oregon, Washington, and Wyoming.

## Today

Happy Real Sugar Day! October 14 is National Real Sugar Day! Bake a treat using real sugar!



# Sugar Beets & Sugar Cane

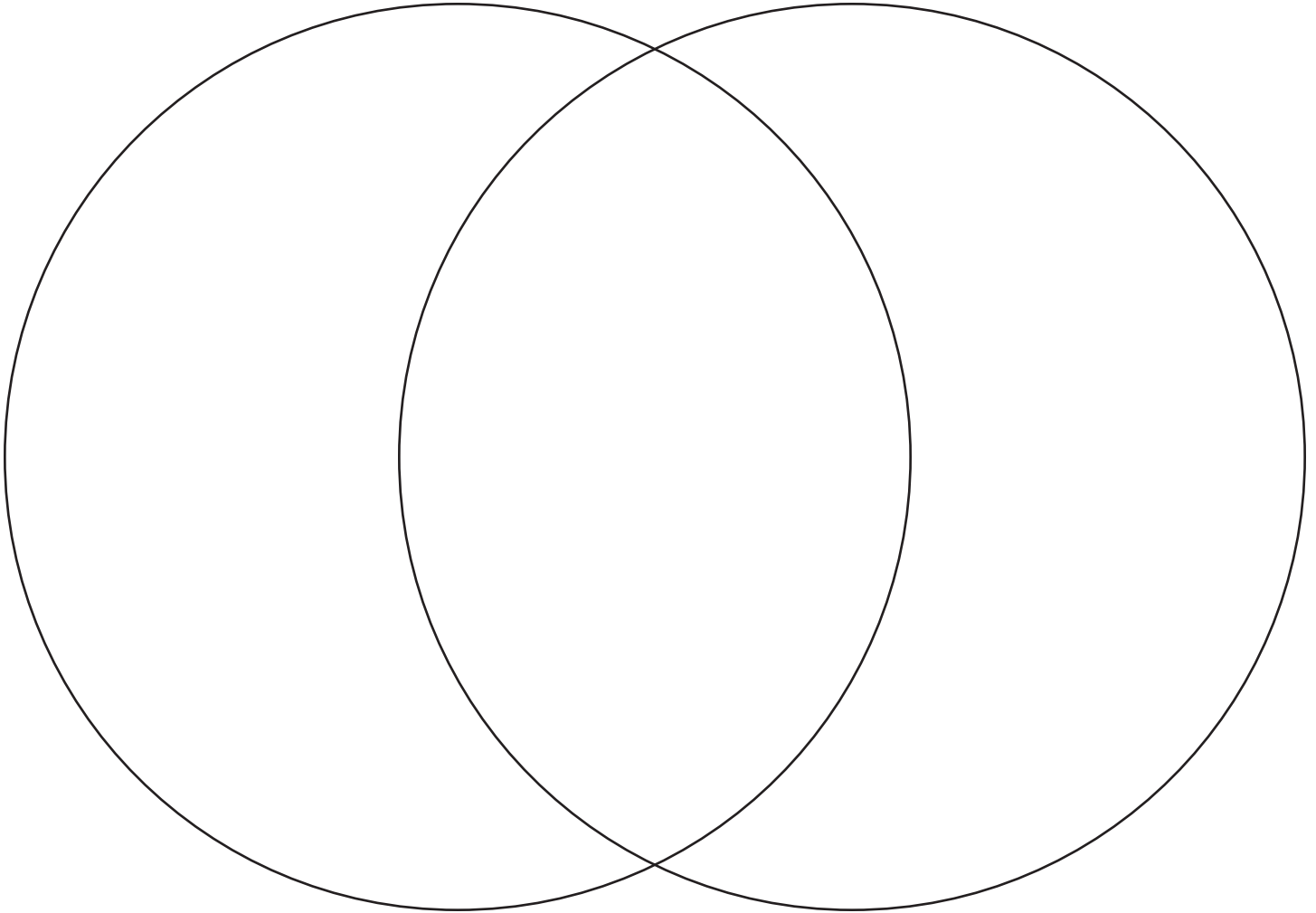


Name: \_\_\_\_\_ Date: \_\_\_\_\_ Points: \_\_\_\_\_/20

Instructions: After listening to the slides, compare and contrast sugar beets and sugar canes.

**Sugar Beets**

**Sugar Cane**



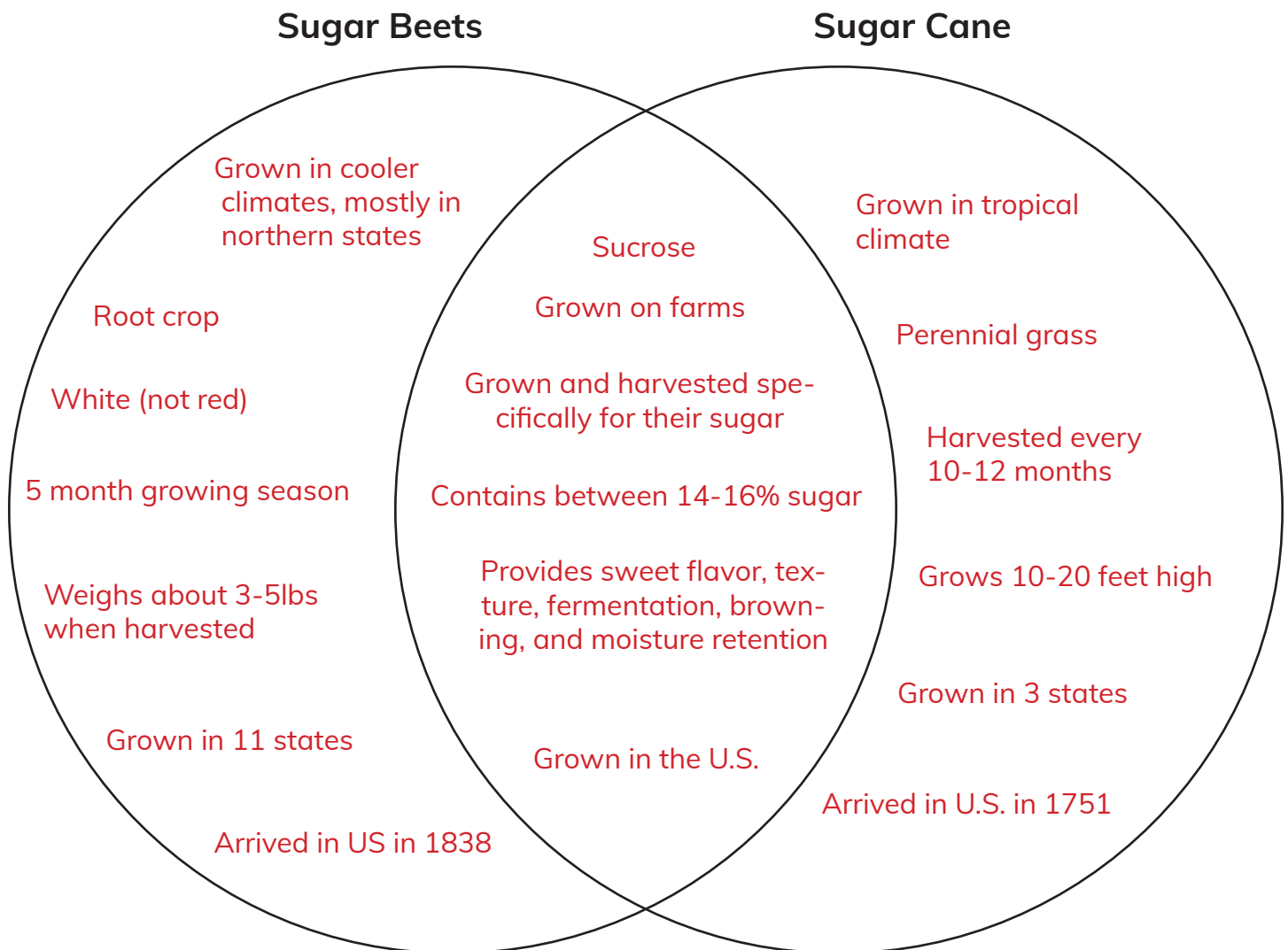


# Sugar Beets & Sugar Cane



Name: KEY Date: \_\_\_\_\_ Points:      /20

Instructions: After listening to the slides, compare and contrast sugar beets and sugar canes.



# Salted Chocolate Chunk Cookies

Name: \_\_\_\_\_ Date: \_\_\_\_\_



## Ingredients

1/2 cup unsalted butter, room temperature  
2 tablespoons granulated sugar  
2 tablespoons turbinado sugar  
3/4 cup plus 2 tablespoons packed light or dark brown sugar  
1 large egg  
1 teaspoon vanilla extract  
3/4 teaspoon baking soda  
1/4 teaspoon fine sea salt  
1 3/4 cups all-purpose flour  
1/2 pound semisweet chocolate, cut into roughly 1/2-inch chunks with a serrated knife  
Flaky sea salt, to finish

**Yields: 24 Cookies**

## Procedures

1. Heat oven to 360°F
2. Line a baking sheet with parchment paper.
3. In a large bowl and using an electric mixer, cream the butter and sugars together until very light and fluffy.
4. Add egg and vanilla, beating until incorporated, and scraping down the bowl as needed.
5. Beat in salt fine sea or table salt and baking soda until combined.
6. Add the flour on a low speed until just mixed. The dough will look crumbly at this point.
7. With a spatula, fold/stir in the chocolate chunks.
8. Scoop cookies into 1 1/2 tablespoon mounds, spacing them apart on the prepared baking sheet.
9. Sprinkle each with a few flakes of sea salt.
10. Bake for 11 to 12 minutes, until golden brown.
11. On a baking sheet, let cookies bake outside of the oven for 5 minutes before transferring a cooling rack.
12. Transfer to a cooling rack.
13. Serve.

# Sugar Evaluation

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Points: \_\_\_\_\_ /20

Name of Recipe:	
Recipe Source:	Lab Members Names:
Name three things that went well in your lab.	Name two areas of improvement in your lab.
What types of sugar did your recipe use?	Name two other similar recipes that use the same type of sugar.
<p>Which functions did the sugar perform in the recipe? Check all that apply.</p> <ul style="list-style-type: none"><li><input type="checkbox"/> Sweet Flavor</li><li><input type="checkbox"/> Texture</li><li><input type="checkbox"/> Yeast Fermentation</li><li><input type="checkbox"/> Browning</li><li><input type="checkbox"/> Moisture Retention</li></ul>	
<p>Celebrate! Happy National Real Sugar Day! Share your recipe, food, and evaluation with a peer. Explain in paragraph form a summary of what you have learned today.</p>	



# Types of Sugars Reflection

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Points: \_\_\_\_\_/12

**Instructions:** Referring to the recipe and the Types of Sugars (Sugar Association, 2022) handout, answer the questions relating to the types of sugars used in the salted chocolate chunk cookies.

1. List the amount of each sugar used in the recipe in the boxes below. Use the resource, describe each type of sugar.

	Amount Used in Recipe	Description of Type of Sugar
Turbinado		
Granulated Sugar		
Brown Sugar		

2. What type of sugar do you most typically find in a sugar bowl?
3. What type of sugar is used most typically in icings and frostings?
4. What type of sugar does Barbados sugar refer to?
5. Which sugar is described as, “blond color, mild brown sugar flavor and larger crystals?”
6. Carrie wants to create a sparkling appearance on her cookies. What type of sugar should she sprinkle on top and why?

# TYPES OF SUGARS

All sugar is made by first extracting sugar juice from sugar beet or sugar cane plants, and from there many types of sugar can be produced. Through slight adjustments in the process of cleaning, crystallizing and drying the sugar and varying the level of molasses, different sugar varieties are possible. Sugars of varying crystal sizes produce unique functional characteristics that make the sugar suitable for different foods and beverages. Sugar color is primarily determined by the amount of molasses remaining on or added to the crystals, giving pleasurable flavors and altering moisture. Heating sugar also changes the color and flavor (yum, caramel!). Some types of sugar are used only by the food industry and are not available in the supermarket.

**See below for a few facts about some of the various types of sugar.**

## WHITE SUGARS (contain little or no molasses)

### Granulated sugar (Table sugar)

- + “Regular” or granulated sugar is what you typically find in your sugar bowl
- + Granulated sugar is the most common sugar called for in recipes when cooking and baking
- + “Regular” sugar granules are fine because small crystals are ideal for bulk handling and not susceptible to caking

### Powdered sugar

- + Powdered or confectioners sugar is simply granulated sugar ground to a smooth powder, mixed with a small amount of cornstarch to prevent caking and then sifted
- + Powdered sugar is often used in icings, confections and whipping cream
- + You can make it at home: blend 1 cup white sugar and 1 tablespoon cornstarch to get 1 cup of powdered sugar

### Sanding sugar

- + Used mainly in baking and confectionery as a sprinkle on top of baked goods, sanding sugar can have large or fine crystals
- + This sugar reflects light and gives the products a sparkling appearance



## BROWN SUGARS (contain varying levels of molasses)

### Light and Dark Brown sugar

- + Brown sugars are made by mixing white sugar with various amounts of molasses
- + Light brown sugar is often used in sauces and most baked goods
- + Dark brown sugar has a deeper color and stronger flavor than light brown sugar. The rich, full flavor makes it ideal for gingerbread, baked beans, barbecuing and other full-flavored foods
- + Brown sugars tend to clump because they contain more moisture than white sugars, allowing baked goods to retain moisture well and stay chewy

### Turbinado sugar

- + Turbinado sugar, sometimes known as Demerara sugar or Raw cane sugar, is a partially processed sugar which retains more of the naturally present molasses
- + It has a blond color, mild brown sugar flavor and larger crystals than brown sugars used in baking
- + Turbinado sugar is the sugar in your packet of “raw cane sugar.” This type of sugar has been processed just enough to make it safe to eat

### Muscovado sugar

- + Muscovado sugar, also known as Barbados sugar, is an unrefined cane sugar in which the molasses has not been removed
- + This sugar is very dark brown in color and has a particularly strong molasses flavor
- + Muscovado sugar crystals are slightly coarser and stickier than regular brown sugar, giving it a sandy texture

