# We All Scream For



ICE CREAM!

### Main Books

Ice Cream written by Elisha Cooper

*Ice Cream: Including Great Moments in Ice Cream History* written by Jules Older

<u>Ice Cream Cones For Sale</u> written by Elaine Greenstein

### **Optional Library List**

*Ice Cream: The Full Scoop* written by Gail Gibbons

We All Scream for Ice Cream written by Lee Wardlow

From Cow to Ice Cream: A Photo Essay written by Bertram T. Knight

Ice Cream Treats: The Inside Scoop written by Paul Fleisher

### **Social Studies**

### Time Line

There are many different stories about how ice cream might have been discovered or invented. The history outlined on the history/timeline page is based on information found in *Ice Cream: Including Great Moments in Ice Cream History* by Jules Older.

Discuss how it is very possible for more than one person to have a similar idea. This seems to be the case with the evolution of ice cream! One thing we know for sure is that it took a lot of people and many, many years of experimenting to perfect the balance of texture and flavor we come to expect from today's ice cream.

There is also a trading card activity to work on alongside the timeline unit. Students will write down the name of the person, specific year this person was

mentioned in the ice cream history timeline, what this person contributed to ice cream history and then can either print out a picture of the person or draw a picture on the trading card.

### Printables:

Frozen in Time Accordion Ice Cream Trading Cards

### **History and President Regan**

On July 9, 1984 President Ronald Reagan issued a special Presidential Proclamation declaring the month of July as National Ice Cream Month.

Our United States law allows for the declaration of special selected public observances. These observances allow the President of the United States ("as designated by Congress or by discretion of the President") to issue a declaration or proclamation in regards to a special occurrence. The President typically provides an explanation or reasoning behind the special occurrence. As the president does this, he calls on the people of the country to observe the day "with appropriate ceremonies and activities".

Complete the Ice Cream Proclamation t-book.

### Geography

On page 30 of the book *Ice Cream: Including Great Moments in Ice Cream History* by Jules Older, the top five ice cream consuming countries are listed for the year 2000. They were:

- 5) Sweden
- 4) Australia
- 3) Finland
- 2) New Zealand
- 1) The United States of America

As of 2013, these results changed to 1) USA 2) New Zealand 3) Australia 4) Denmark and 5) Belgium.

Help your student research to find out the current top five countries consuming the most ice cream. Find, label, and number the countries on the map provided.

### **Language Arts**

### Vocabulary

Write the vocabulary word and definition on the ice cream scoop graphic. Stack and glue the scoops on the ice cream cone!

- 1) Bacteria: large group of disease causing microorganisms
- 2) Cream: Yellowish fatty part of milk that rises to the surface
- 3) Emulsifier: a substance added to milk after it is homogenized that attaches to the small bits of leftover fat and prevents them from lumping back together
- 4) Homogenization: Process that pushes small fat particles in milk through tiny holes in an effort to break down the particles and make the milk smooth and even
- 5) Inventor: A person who the first to make or create something
- 6) Palate: roof of the mouth where food is held for the tongue to taste
- 7) Pasteurization: Heating process that destroys bacteria in fresh milk and lengthens the time which milk can be safely stored
- 8) Patent: An official document provided from the government that allows the inventor sole rights to make, use and sell the described invention for a set period of time
- 9) Stabilizers: keep ice cream from forming ice crystals and help keep the ice cream from melting too fast
- 10) Udder: Sack that hangs under the cow's belly where milk is produced and stored by the cow.
- 11) Vanilla: flavoring extracted from the vanilla seed pod
- 12) Waffle: A crisp cake made from batter poured on a hot grid-like iron

### **Poetry**

Read and discuss the poem, "Bleezer's Ice Cream" by Jack Prelutsky. Do any of those flavors sound appetizing? Do any sound gross?

Use the form provided to encourage your student to write a similar style poem. You can **type right on the form.** 

I am {insert name}
I run {insert last name}'s ice cream store
there are flavors in my freezer
you have never seen before,
{insert number} divine creations
too delicious to resist,
why not do yourself a favor,
try the flavors on my list:

### Alphabetical Order

Pages 20-21 of *Ice Cream* lists ingredients used to make various flavors of ice cream. Write the ingredients in alphabetical order on the page provided.

### **Story Sequencing:**

Pages 30-31 of *Ice Cream* outlines the steps an ice cream taste tester must take when testing a batch of ice cream. Have child cut the strips out and organize them in the correct order.

**Complete Taste Test Strips** 

### Biography Booklets: Who's Who?

*Ice Cream Cones for Sale*! tells us a story about the great 1904 ice cream cone controversy. The book introduces us to six individuals that claimed to invent the ice cream cone.

Use the various accordion books (found in the chart at the top of the unit) to record information about each inventor. Inventors include Hamwi, Avayou, Menches, Fornachou, Doumar, and Marchiony.

### Creative Writing:

Italo's Big Idea - On page 17 of *Ice Cream Cones for Sale!*, the author imagines how Italo might have stumbled upon his cone invention. Using your imagination,

come up with a story of your own for how Italo created his invention. Record your story in the Italo's Big Idea mini-book.

### Compare/Contrast Cones

As we read in *Ice Cream Cones for Sale!* several people claimed to have discovered the ice cream cone at the World's Fair. However, we learn Italo had applied for a patent for his version of a cone before the fair opened. One page 23 the author shows an illustration of Italo's cone and the cone introduced at the fair. What are the individual characteristics of the two cones? What are some of the similarities of these two different cones? The differences? Use the provided Venn Diagram to compare and contrast the cones.

### Words Within a Word: Ice Cream

How many words can your student find in ICE CREAM? Complete the printable page.

### Math

### Calendar

Since July is National Ice Cream Month, you can make your own July Calendar Page to include in your lapbook. You can use this to teach your younger student counting and/or days of the week. An older student can write other important July dates (holidays, birthdays, etc.) on his calendar as well.

### Ice Cream Graph

Ask family and friends what their favorite kind of ice cream is. Chart your data on the graph provided.

### **Double the Fun**

Double the ingredients found in the provided ice cream recipe to make a double batch. Record your answers in the L-book.

### **Estimation**

Do you know many licks does it take to finish a single scoop of ice cream? How about how many spoonfuls to finish a cup of ice cream? Of course it will vary from child to child! Have you child write an estimation on the inside the matchbooks

and then try it out! Make sure to remind them to keep count as they complete their math for the day!

### **Science**

### From Cow to Cone

The book *Ice Cream* outlines the steps to get milk from the cow to the cone. Discuss the process milk takes from the cow in the pasture to the cone in your home in six steps.

- 1. Milking
- 2. Transportation to Factory
- 3. Pasteurization and Processing
- 4. Flavoring
- 5. Freezing
- 6. Transportation to Store

Ask your student to create the "From Cow to Cone" mini-book.

### Freezing Temperature Experiment

### Making Cold Water Even Colder

Pages 4-6 of *Ice Cream: Including Great Moments in Ice Cream History* Salt talks about how salt lowers the temperature of the water, allowing it to get colder quickly. This drops the temperature of the water to below freezing (around 28 degrees F and -2 degrees c). This super cold icy water quickly helps turn our liquid ice cream mix into a solid.

The children will take part in a very simple science experiment. They will need the following:

2 clear plastic cups

Salt

Ice

Water

2 thermometers (ones that are easily read, preferably in both Celsius and

Fahrenheit, and safe for use by children)
Measuring spoons
Timer

- 1) Fill two clear plastic cups 1/2 full with crushed ice.
- 2) Pour 1 Tablespoon of water into each cup.
- 3) Place the thermometers in each cup.
- 4) In one cup place two teaspoons of salt. Label that cup "Salt". Stir the water.
- 5) Observe the temperature of each cup and record.
- 6) Check and record the temperature of each cup ever 15 minutes (for a total of 30 minutes)

Your younger student should be able to complete the Salty Slush Trifold (younger option).

Molecule Rule: Giving the Cube a Cold Shoulder (extension for older students) Water molecules bump against the ice cube. The ice molecule takes heat energy away from the water molecule. In doing this the water molecule has less heat energy and so it's colder. Without salt the cold water molecule would refreeze back on the ice cube. When you add salt to the icy water the water molecule can't reattach itself to the ice cube. And as more ice cubes strip the heat energy from the water and use this energy to detach the water drops in temperature allowing our liquid ice cream mix to form into a solid.

Your older student should be able to complete the Salty Slush Trifold (older option).

### **Pasteurization**

Page 26 of *Ice Cream* talks about the various steps milk needs to go through before being made into ice cream. One of those steps is pasteurization. If your student shows interest, read through the Odious Organisms page. It explains how organisms enter our milk supply and how pasteurization helps to eliminate them. Have the older kids research the pasteurization process.

Complete this printable - Milk: From Pasture to Pasteur (older kids)

### **Ice Cream Making Process**

The booklet for this lesson explains why air is so important in making ice cream smooth and creamy. A picture of the major parts of a hand crank ice cream

machine is included for the kids to label using pages 6 and 7 of *Ice cream: Including Great Moments in Ice Cream History* as a guide. The kids are encouraged to describe how the hand crank machine works to create creamy ice cream and also the commercial ice cream machine.

Complete: "Air: What Does It Do?" mini-book.

### **Just For Fun**

### Design your own ice cream carton label

On pages 23-24 of *Ice Cream* the author talks about how ice cream factories order their own special custom cartons. These cartons include a name and a drawing on them. This is your opportunity to design your own Custom Carton Cartoon!

### Ice Cream Treat Match Up

Complete the flap book.

Answers are: a. Ice Cream Sandwich, b. Ice Cream Soda, c. Banana Split, d. Ice Cream Sundae, e. Ice Cream Bar, f. Pie a la Mode, g. Ice Cream Cake

### Ice Cream in a Bag Recipe

### Ingredients:

1 gallon plastic zipper bag

1 quart plastic zipper bag

4 cups ice

3/4 cup rock salt

1/2 cup whole milk

1/2 cup heavy whipping cream

1 teaspoon vanilla

2 tablespoons sugar

Directions: Pour the milk, vanilla, and sugar in to one of the quart zipper bags. Carefully squeeze out the air and seal the bag tightly. Place the bag into the galloon zipper bag. Place ice and rock salt into the other quart bag. Seal bag tightly. Shake and toss bag for 10 minutes. Open gallon bag, remove quart bag of ice cream. Wipe zipper area of the bag to prevent salty water from sneaking into the ice cream mixture. Spoon ice cream into cups and enjoy!

### **Cupcake Cones**

1 package dry cake mix (any flavor)24 flat bottomed ice cream coneswater, oil and eggs indicated on box of cake mix

- 1) Preheat oven to 350F.
- 2) Mix cake mix per directions on box.
- 3) Place ice cream cones in muffin pan and fill about 1/2 to 3/4 full.
- 4) Bake 15 to 20 minutes or until done.
- 5) Cool on a wire rack. Let cool completely if frosting.

When frosting cupcakes, place frosting inside quart sized ziplock bag. Seal. Snip corner of bag with scissors. Squeeze frosting onto cupcake in a swirl so the icing resembles a soft served cone. Makes 18 to 24 cupcakes

### **Ice Cream Cookie Cups**

\*Package refrigerated cookie dough

(2) 12-cup Muffin pans

### Aluminum foil

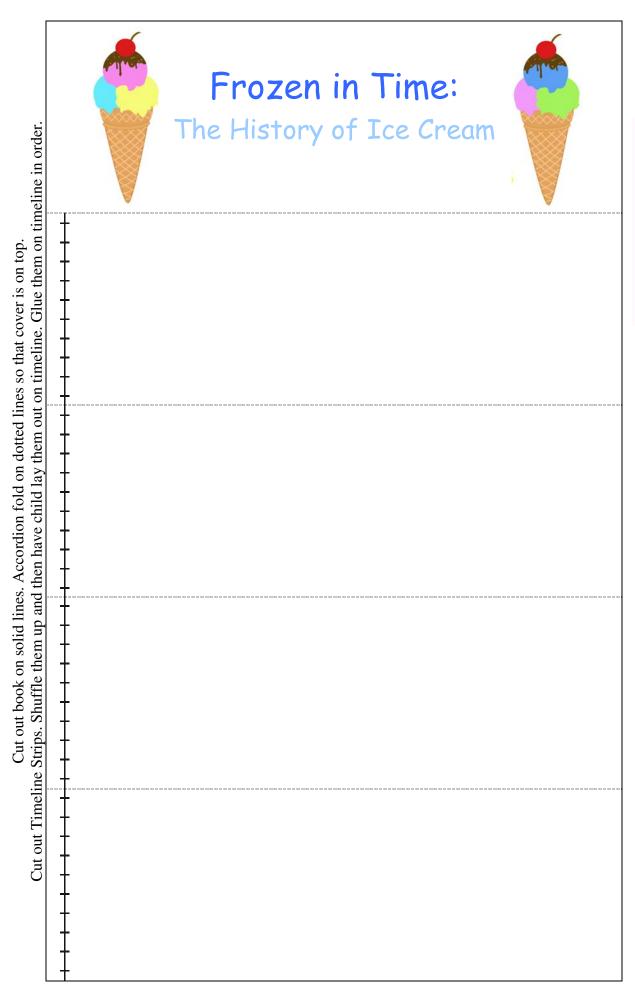
- 1) Divide dough in half. Form each half into a disc. Wrap each disc in saran wrap. Chill for 2 hours.
- 2) Preheat oven to 375 degrees F. Turn muffin pans bottom side up. Cover bottoms of cups with squares of foil. Only use every other cup to allow for space between cups. Spray foil with non-stick cooking spray.
- 3) Unwrap one disc of dough. Roll it out into a 1/8 inch thickness (place between two pieces of waxed paper for more ease in rolling). Cut out 4 inch circles of dough using water glass. Place circle of dough over bottom of cup bottom, smoothing any cracks. Repeat with other discs. Re-roll as needed re-using dough scraps.
- 4) Bake cookie cups for 10-12 minutes or until light brown. Cool for 10 minutes then remove the foil and cookie cup together from the muffin pan bottoms. Peel off foil and let cups cool completely on a cooling rack.
- 5) To serve, fill each cookie cup with a scoop of ice cream. Makes 10 cookie cups

\*You can substitute your favorite homemade cookie dough for refrigerated cookie dough.

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2000	World's largest ice cream factory was in Bakersfield, California.	
1937	Earl Prince invented the Price Castle Multi-Mixer milk shake maker.	
1920- 1923	The Popsicle, Eskimo Pie, and Good Humor bar were invented.	
1904	David Strickler created the Banana Split.	
1904   1904   1920-  1937   2000   1923	Earnest A. Hamwi made the first waffle cone at the 1904 World's Fair in St. Louis.	
1896	Italian-American Italo Marchiony created the ice cream cone.	
1881	It is said Ed Berners of Two Rivers, Wisconsis made the first ice cream sundae.	
1876	Ice Cream Soda was introduced to the world at the 1876 Centennial Festival in Philadelphia.	
1874	Robert Green invented the Ice Cream Soda.	
1867	American scientist Benjamin Thompson invented the Baked Alaska.	
1848	Milkman Jacob Fussell opened the first ice cream factory in the United States.	
1843	Nancy B. Johnson invented the hand-cranked ice cream freezer.	
1820	African American, Augustus Jackson, made ice cream in the white house for First Lady Dolly Madison and went on to improve ice cream.	
1780	Thomas Jefferson brought a recipe for vanilla ice cream to the United States after visiting France.	
1744	William Black wrote about a strawberry and milk ice cream dessert served at a banquet given by the Governor of Maryland.	
1660	Cafe Procope opened in Paris, France, giving common people their first taste of ice cream.	
1300- 1600	Cow's milk was added to water ice recipes.	
1300	Marco Polo brought back recipes for "water ices" when he returned to Italy from Asia.	
64	Roman Emperor Nero had snow hauled down from the Apennine mountains to mix with fruit, honey and wine.	

Cut out trading cards on solid lines.

Fold in half on dotted lines with text to the outside, and glue front and back halves together. Child can draw or insert a picture of each person in the box, and fill out info. Store in pocket.

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Occupation:	
Vacus	
What did this person do?:	
· <del></del> ·	
Occupation:	
Occupation	
Year:	
What did this person do?:	
Triac dia dia perseri dell'	



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### Frozen In Time: Why Emperor Nero Might Be An Ice Cream Hero

The History of ice Cream

64 AD - A long, long, long, time ago (almost two thousand years ago!) a man named Nero ruled the Roman Empire. (This meant his was an Emperor.) Somehow Emperor Nero learned how yummy fruit, honey and wine tasted when mixed with snow. He liked it so much he sent his strongest slaves up the Apennine Mountains to gather snow then run it back to him as fast as they could. Luckily for Nero (and not so lucky for the slaves...) the snow would lie on the mountains all year long, so Nero would never have to go without his sweet, icy treat.

1300 AD - Marco Polo was a very important Italian explorer. It is said that he returned to Italy with many different spices and silks from his travels in Asia. Some say he brought back recipes for water ices, which amazed the Italians.

1670 AD – Ice cream was a dessert reserved for the very rich. However, an Italian by the name of Francesco Procope changed all that by opening a café in Paris, France. His café, Café Procope, quickly became famous for making large batches of ice cream, which made the sweet creamy treat available to everyone.

1744 AD – William Black attended a fancy banquet dinner hosted by the Governor of Maryland, Thomas Bladen. In a journal entry Black described a most delicious dessert of strawberry ice cream. This was the earliest mention of ice cream in America.

1780 AD – Thomas Jefferson was a big fan of ice cream! It is said he brought back a recipe for Vanilla ice cream from France. If you visit the Library of Congress website, you can see his handwritten recipe! <a href="http://www.loc.gov/exhibits/treasures/tri034.html">http://www.loc.gov/exhibits/treasures/tri034.html</a>

1820 AD – First lady, Dolley Madison, loved ice cream! White House chef Augustus Jackson kept pretty busy whipping up the cool delicious treat for Presidential parties. Upon retiring from the White House, Augustus made ice cream in Philadelphia, Pennsylvania, making him possibly the first African American ice cream manufacturer in America.

1843 – Ice cream making had been a difficult and tiring process of constantly turning and scraping large pots filled with ice cream mixture. Nancy B. Johnson decided to come up with a more efficient way of making ice cream and invented the hand operated ice cream freezer. This ice cream freezer featured a hand operated crank which stirred the ice cream, allowing it to freeze smooth and creamy. She patented it on September 9, 1843, Patent No. 3254. For the first time people could easily make ice cream in their own homes!

(A copy of the patent is attached as Word doc)

1848 AD – A milk man by the name of Jacob Fussell opened America's first ice cream factory in Pennsylvania.

1867 AD – An American scientist by the name of Benjamin Thompson invented the dessert which was later known as the Baked Alaska. It was first called Omelette Surprise. In 1867 Charles Ranhofer, a chef at Delmonico's restaurant in New York City changed the dessert's name to Baked Alaska in honor of the American purchase of Alaska. This dessert has layers of cake, ice cream and meringue.

- 1874 AD- Robert Green accidentally invents the ice cream soda. He had originally been selling a mix of syrup, cream and carbonated water to his customers in Philadelphia, Pennysylvania. According to the story, he ran out of cream, substituted ice cream and made lots of money selling his delicious new treat!
- 1876 AD The Ice Cream Soda was officially introduced at the 1876 Centennial Festival in Philadelphia, Pennsylvania.
- 1881 There are many stories about who might have invented the ice cream sundae. One story claims Ed Berners of Two Rivers, Wisconsin made and sold this chocolaty ice cream treat only on Sundays.
- 1896 AD An Italian-American named Italo Marichiony created the first ice cream cone. This cone resembles what we refer to as the wafer cone. His was awarded a patent for his cone design on December 15, 1903.
- 1904 AD Ernest A. Hamwi is said to have made the very first waffle cone at the 1904 World's Fair in St. Louis Missouri. He was selling a skinny Persian waffle called a zalabia next door to a man that was selling ice cream in dishes. According to the story, the ice cream seller ran out of dishes and Hamwi saved the day by wrapping a zalabia around a scoop of ice cream.
- 1904 David Strickler invented the Banana Split in Latrobe, Pennsylvania. He was a young assistant working in Tassell's Pharmacy. His recipe was like this: Split a banana. Place the banana halves (flat sides facing down) along the sides of the dish. Remove the peel. Scoop three scoops of ice cream on top of the bananas. Top each scoop with different toppings. Spread whipped cream all over the top. Sprinkle on some more fruit. Eat!
- 1920-1923 The Popsicle was actually invented in1905 in San Francisco, California. An 11 year old boy named Frank Epperson left a mixture of powdered soda and water in a cup on his porch. He also left a stirring stick in the cup. It was really, really cold overnight. Epperson woke up the next morning and discovered his frozen pop. He didn't apply for and receive a patent for his invention until 1923. .,
- Eskimo Pie was invented in Onawa, Iowa. This ice cream treat covered with a chocolaty shell was invented by school teacher and local candy shop owner Christian Kent Nelson. It is said his invention was inspired by a little boy who couldn't decide between ice cream and a candy bar.
- Good Humor Bar, a chocolate covered ice cream bar on a stick, was invented by Harry Burt of Youngstown, Ohio. It is said Harry was trying to invent a smooth chocolate coating for his ice cream. The topping was delicious, but very, very messy. Burt's son, Harry Jr, suggested he freeze the chocolate coated treat using wooden sticks as handles.
- 1937 Earl Prince invented a five-spindled, single-motored mixer that could make five milkshakes at a time! The invention was called the Prince Castle Multi-Mixer. (\*\*\*NOTE: The book, Ice Cream: Including Great Moments in Ice Cream History by Jules Older describes the mult-imixer as having six spindles. I spent time researching this on the Internet and all accounts I could find of this machine described it as having five spindles, not six.)

2000 - The world's largest ice cream factory was located in Bakersfield, California.

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### Proclamation 5219 -- National Ice Cream Month and National Ice Cream Day, 1984

### July 9, 1984

By the President of the United States of America

### A Proclamation

Ice cream is a nutritious and wholesome food, enjoyed by over ninety percent of the people in the United States. It enjoys a reputation as the perfect dessert and snack food. Over eight hundred and eighty-seven million gallons of ice cream were consumed in the United States in 1983.

The ice cream industry generates approximately \$3.5 billion in annual sales and provides jobs for thousands of citizens. Indeed, nearly ten percent of all the milk produced by the United States dairy farmers is used to produce ice cream, thereby contributing substantially to the economic well-being of the Nation's dairy industry.

The Congress, by Senate Joint Resolution 298, has designated July 1984 as ``National Ice Cream Month,'' and July 15, 1984, as ``National Ice Cream Day,'' and authorized and requested the President to issue a proclamation in observance of these events.

Now, Therefore, I, Ronald Reagan, President of the United States of America, do hereby proclaim July 1984 as National Ice Cream Month and July 15, 1984, as National Ice Cream Day, and I call upon the people of the United States to observe these events with appropriate ceremonies and activities.

In Witness Whereof, I have hereunto set my hand this ninth day of July, in the year of our Lord nineteen hundred and eighty-four, and of the Independence of the United States of America the two hundred and ninth.

### Ronald Reagan

[Filed with the Office of the Federal Register, 10:32 a.m., July 10, 1984]

This side gets glued into lapbook

# Ice Cream Proclamation



July 9, 198<del>4</del>

Cut out book on solid lines and fold on dotted lines. Two side flaps will fold in towards center, and then cover fill fold down.

Older students- write the answers to these questions on the flaps:

- 1) What were some reasons President Reagan gave for declaring July as National Ice Cream Month?
- 2) How do you think declaring a National Ice Cream Month or Day might benefit the dairy industry?
- 3) How do you plan on celebrating National Ice Cream Month?

Younger students-- write the answers to these questions on the flaps:

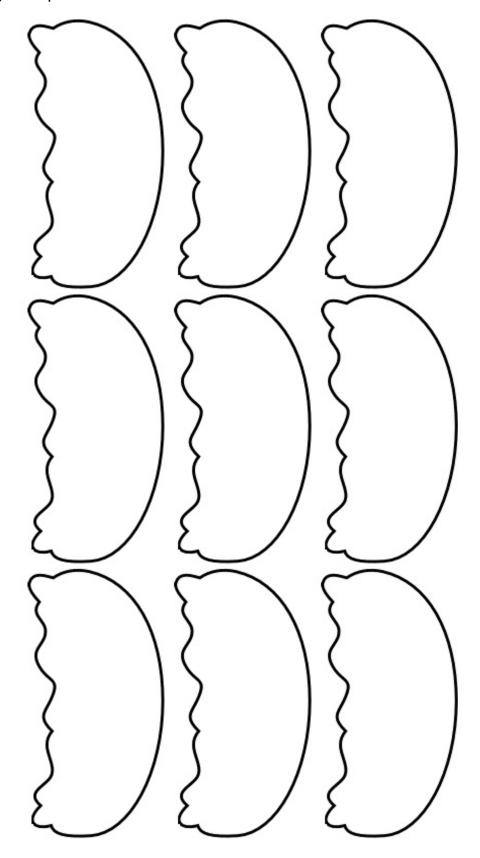
- 1) What month is National Ice Cream Month? What day is National Ice Cream Day?
- 2) What are some reasons President Reagan gave for his Proclamation?
- 3) How will you celebrate National Ice Cream Month?

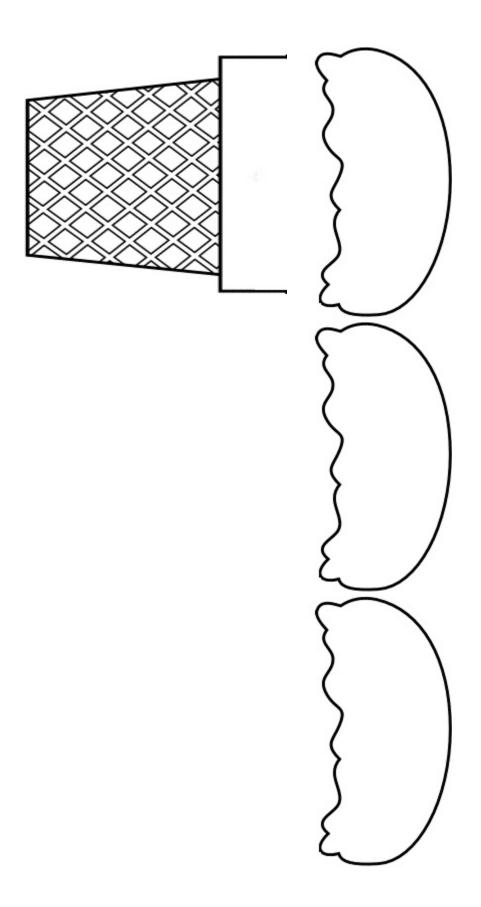
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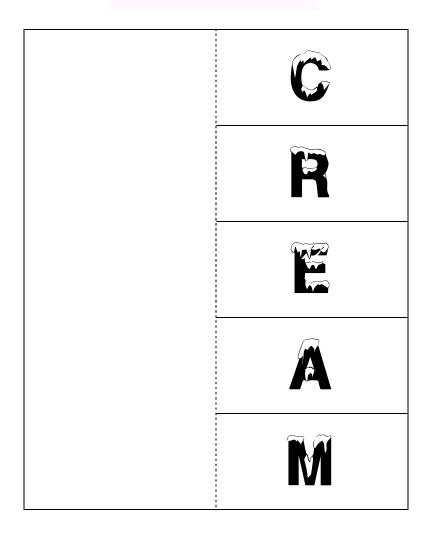
Cut on solid lines and fold on dotted lines with text to the outside.

Use to record an Acrostic Poem about cream.

Each line of the poem will begin with the letter on the flap.

Acrostic poems sometimes rhyme, although they don't have to.

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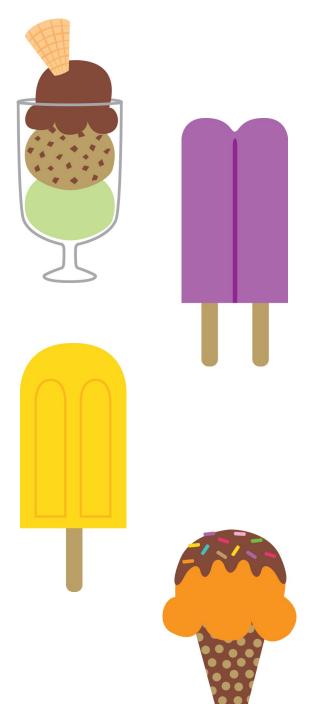


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# Bleezer's Ice Cream

I am Ebenezer Bleezer,
I run BLEEZER'S ICE CREAM STORE,
there are flavors in my freezer
you have never seen before,
twenty-eight divine creations
too delicious to resist,
why not do yourself a favor,
try the flavors on my list:



COCOA MOCHA MACARONI TAPIOCA SMOKED BALONEY CHECKERBERRY CHEDDAR CHEW CHICKEN CHERRY HONEYDEW TUTTI-FRUTTI STEWED TOMATO TUNA TACO BAKED POTATO LOBSTER LITCHI LIMA BEAN MOZZARELLA MANGOSTEEN ALMOND HAM MERINGUE SALAMI YAM ANCHOVY PRUNE PASTRAMI SASSAFRAS SOUVLAKI HASH SUKIYAKI SUCCOTASH BUTTER BRICKLE PEPPER PICKLE POMEGRANATE PUMPERNICKEL PEACH PIMENTO PIZZA PLUM PEANUT PUMPKIN BUBBLEGUM BROCCOLI BANANA BLUSTER CHOCOLATE CHOP SUEY CLUSTER **AVOCADO BRUSSELS SPROUT** PERIWINKLE SAUERKRAUT COTTON CANDY CARROT CUSTARD CAULIFLOWER COLA MUSTARD ONION DUMPLING DOUBLE DIP TURNIP TRUFFLE TRIPLE FLIP GARLIC GUMBO GRAVY GUAVA LENTIL LEMON LIVER LAVA ORANGE OLIVE BAGEL BEFT WATERMELON WAFFLE WHEAT

I am Ebenezer Bleezer, I run BLEEZER'S ICE CREAM STORE, taste a flavor from my freezer, you will surely ask for more.

by Jack Prelutsky



## Ice Cream



Iam

I run ICE CREAM STORE,

there are flavors in my freezer you have never seen before, five divine creations too delicious to resist, why not do yourself a favor, try the flavors on my list:



Iam

I run ICE CREAM STORE,

taste a flavor from my freezer, you will surely ask for more.



# Alphabetical 7 Ingredients

Print out and cut strips on solid lines.

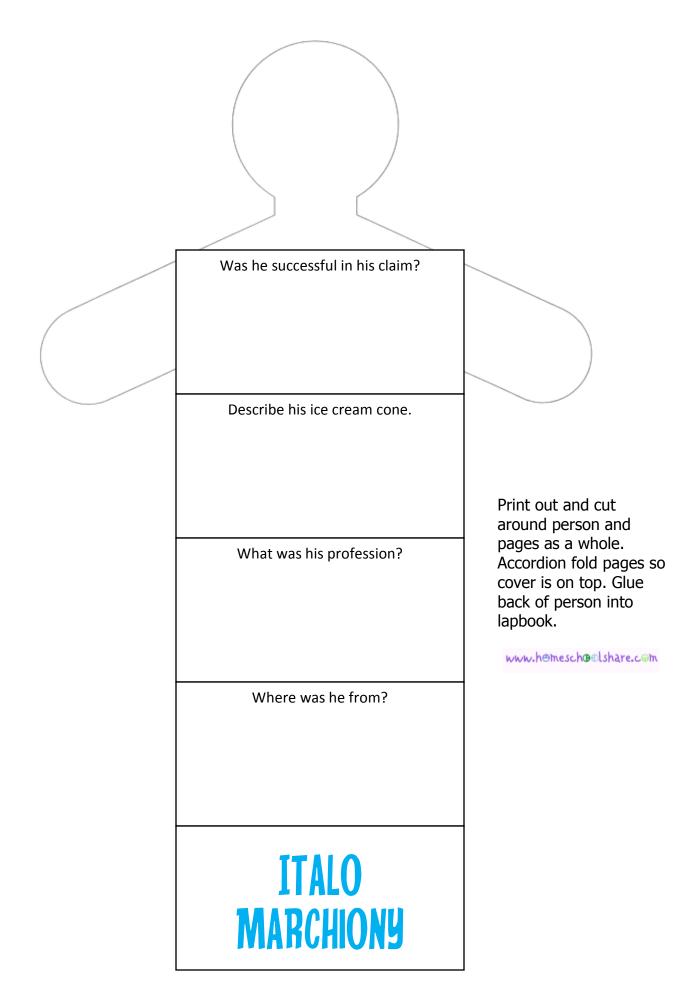
Mix up strips and have child put them in correct order. Staple on left and glue into lapbook.

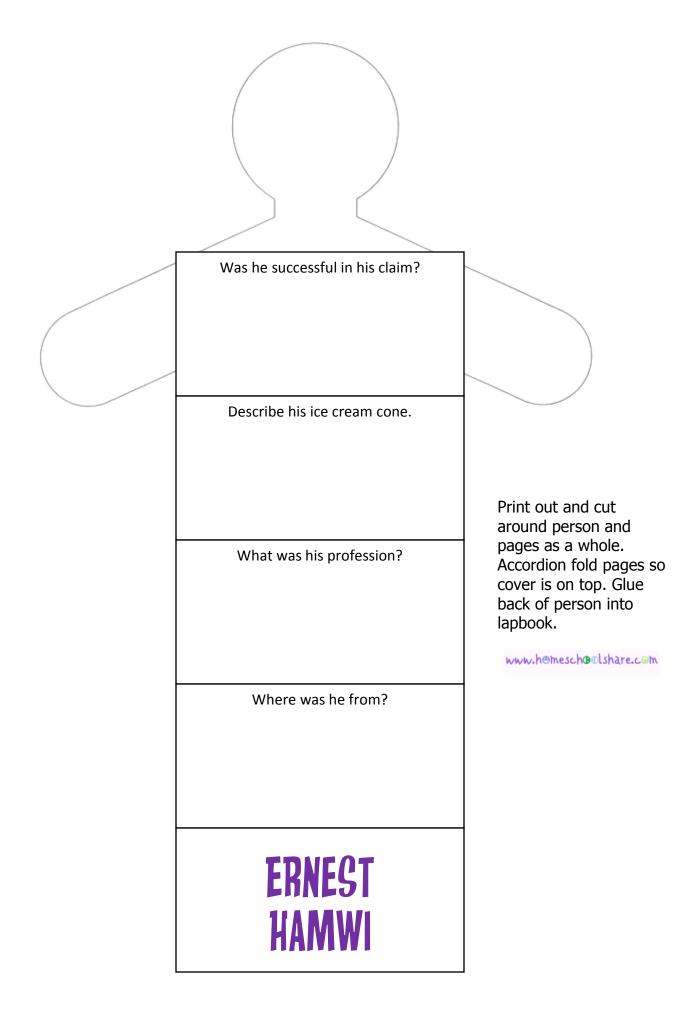
Taste Testing
Taste tester removes ice cream carton from conveyer belt.
He rinses his mouth,
He swirls ice cream around his palate,
He checks look, smell, texture and taste of ice cream.
He cuts carton in half with a double handed knife.

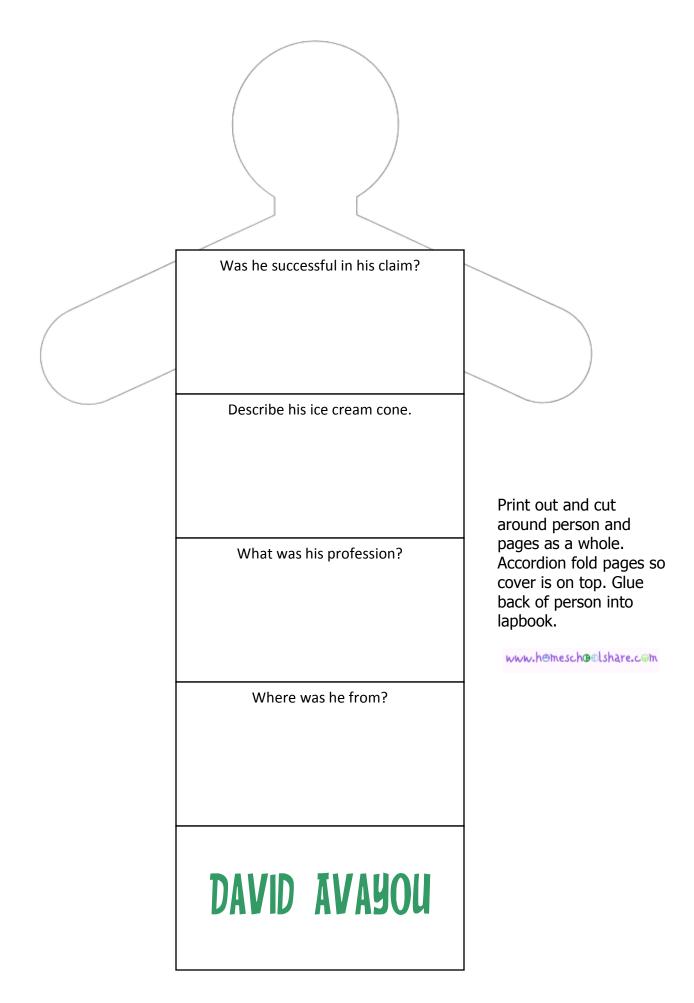
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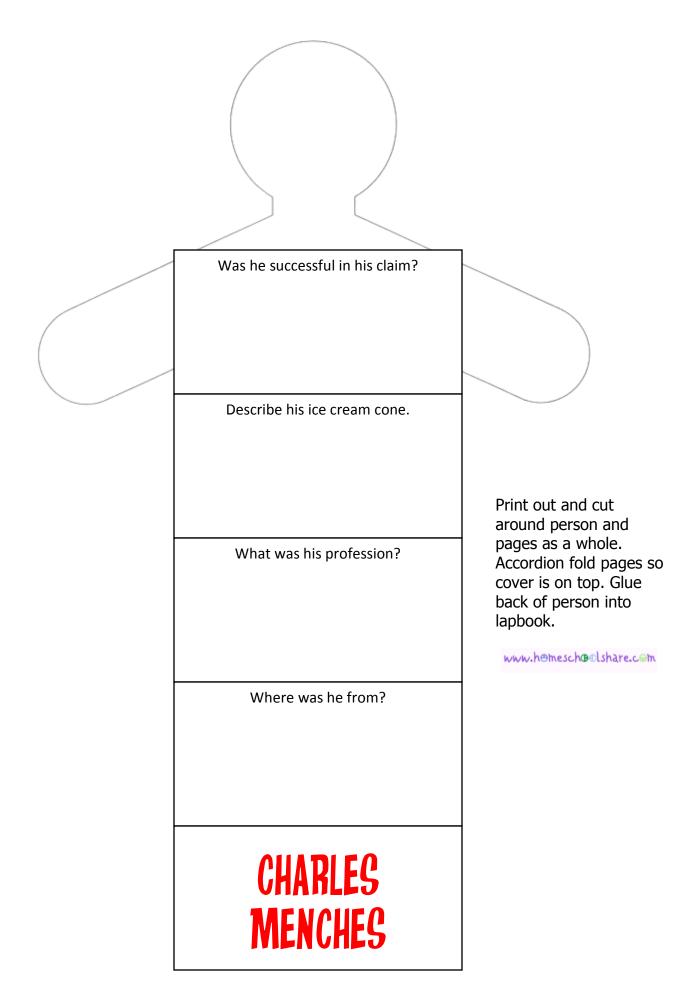
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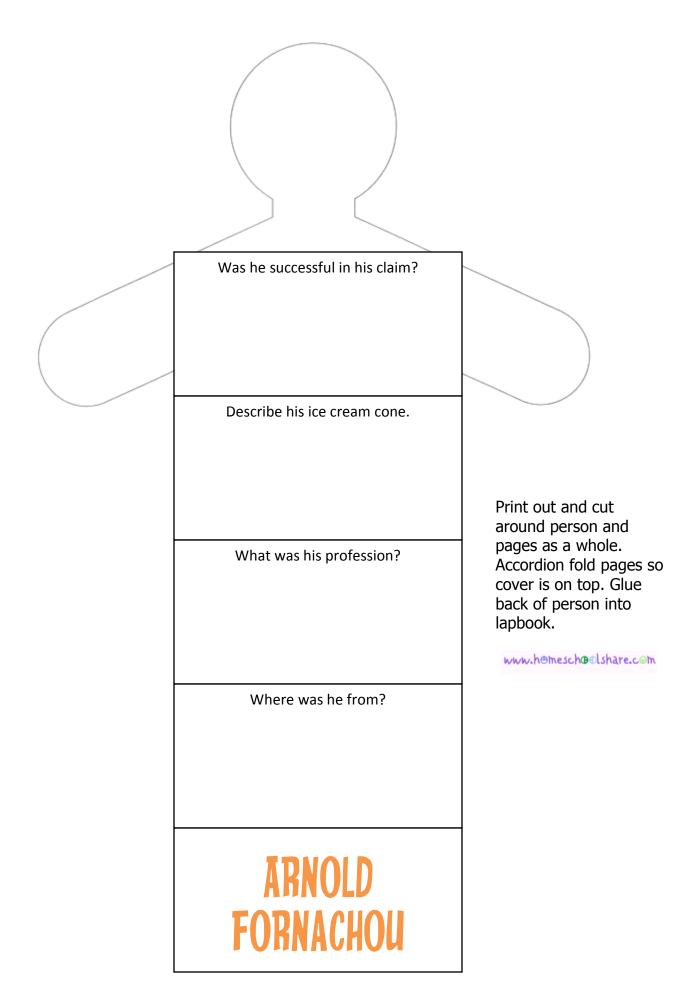
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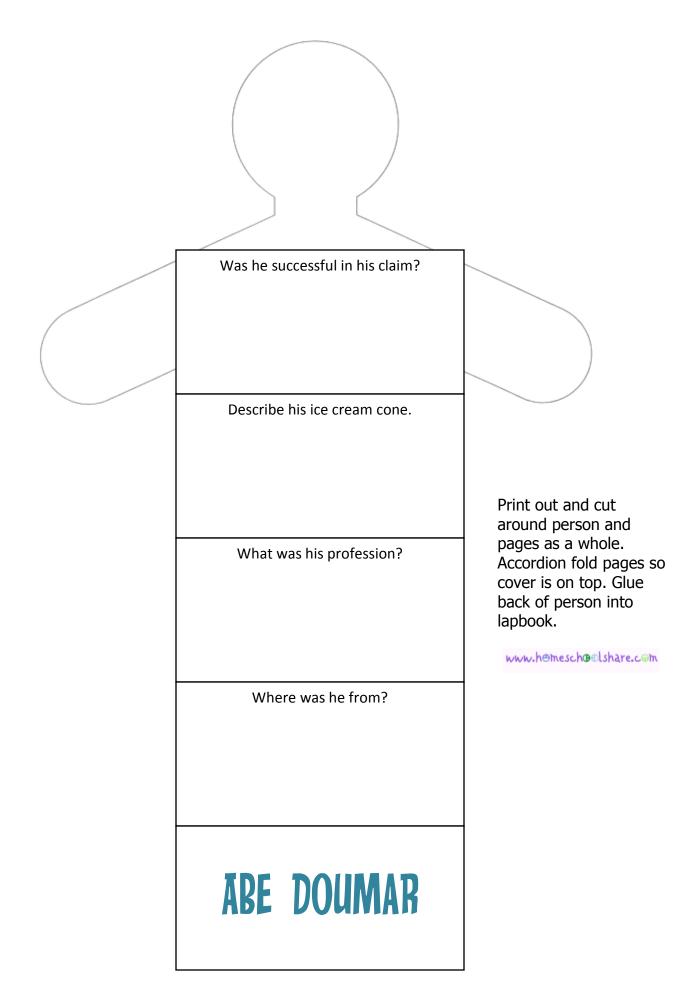




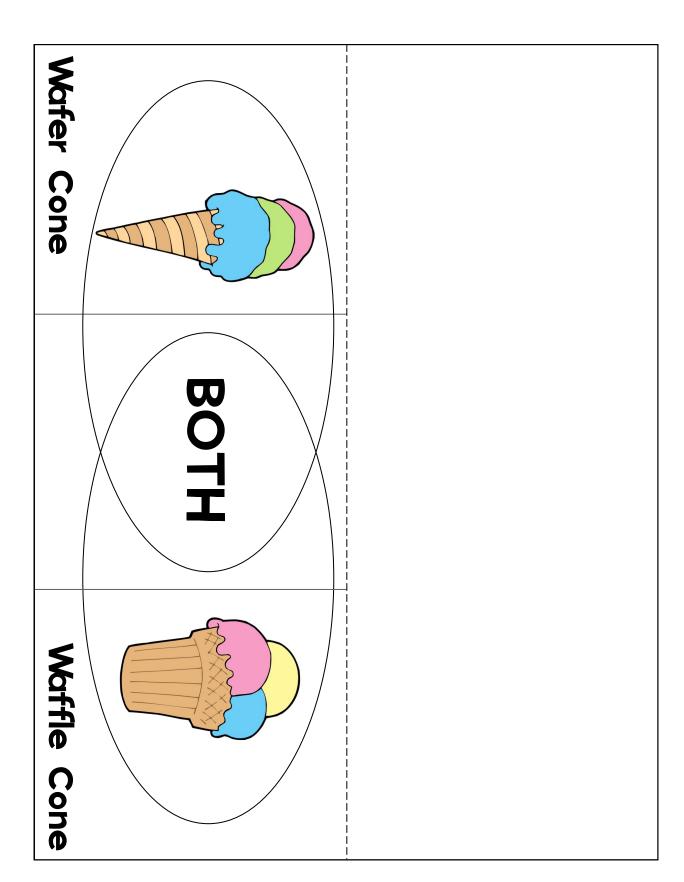












## Make as many words as you can from the letters in

## ICE CREAM



_	
_	
-	
_	
_	
_	
_	
-	

Sun
Mon
Tue
Wed
Thu
Fr.
Sat



# YIU



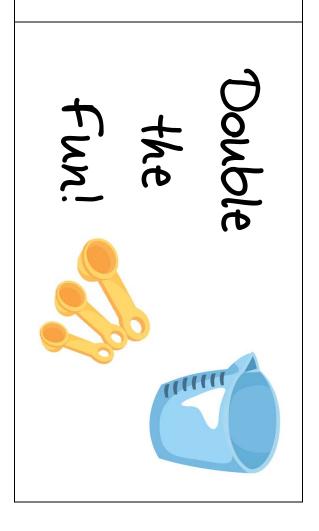
**Directions:** Cut out the cover piece on this page. Cut out the graph on next page. Complete the graph. Fold graph in half like a hotdog. Paste cover to the front.



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10				
9				
8				
7				
6				
5				
4				
3				
2				
1				
	Chocolate	Strawberry	Vanilla	Other

Double the recipe to make two batches of ice cream!



Cut out L book as one piece. Fold book on dotted line so that left side goes in, and then glue "double the recipe..." on blank side. Fold down top flap over all pages, and glue cover. Your finished book will be a  $3" \times 5"$  rectangle.

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Use these mini-books with the lesson on estimation. Cut books out. Fold on lines (matchbook style).

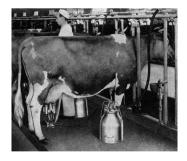
## The Cup The Cone How many How many spoonfuls licks does it does it take take to finish to finish a a scoop of scoop of ice ice cream? cream?

Graphic credit for this page: Goodness&Fun

at cup?	Salty Slush younger option
Why do you think the water was colder in that cup?	
Why do you thi	Salty Slush
Which cup's ice melted first?	
What were the temperature readings for each cup?	Cut out book as one piece. Fold in thirds. Cut and paste cover piece to the front.

water?	Salty Slush older option
Why is salt water colder than plain ice water?	
Why is salt w	Salty Slush
Why does salt make ice melt?	Thurlindfudfudfudfudfudfudfudfudfudfudfudfudfud
What do water molecules do at freezing temperatures?	Cut out book as one piece. Fold in thirds. Cut and paste cover piece to the front.

# odious organisms PASTEURIZATION FAQ'S



Q: What is Pasteurization?

A: Heating of liquid, most commonly milk, to a temperature between 131 and 138 degrees F (between 55 and 70 degrees C) in order to destroy harmful organisms (bacteria).

Q: Does Pasteurization affect the flavor of milk?

A: No. This process does not change the flavor, composition or nutritional value of the milk.

Q: Who discovered Pasteurization?

A: French Chemist Louis Pasteur devised the process in 1865.

Q: What bacteria are common in milk production?

A: - Salmonella: most common disease transmitted in raw milk. Salmonella is found in the fecal matter of cows. It can be picked up on the animals hair or teats and passed to humans through non pasteurized milk products.

- Listeria monocytogenes: This organism is typically found in soil.
- Yersinia enterocolitica: Is found in streams, lakes and wells. It spreads from the water to warm-blooded animals
- Camphlobacter jejuni: In addition to being found in raw milk and meat, this organism has been found in the fecal matter of dogs, cats, rodents, cattle, sheep, swine, and poultry.
- Staphylococcus aureus: Enters the milk supply from sores on teats of cows or from hands and nasal discharge of dairy workers.
- Escherichia coli 0157: H7: Young dairy cattle carry this organism with them, usually due to fecal contamination.

Q: What contributes to the contamination of our milk supply?

A: Temperature abuses, poor sanitation, soil contamination, overcrowding of cows etc.

Q: Besides pasteurization, what are some ways to cut down on contamination of our milk supply?

A: Safe handling of milk products and equipment, proper cleaning, uncontaminated water supply, better hygiene of people and animals.

Q: Once milk has been pasteurized can it become contaminated again?

A: Yes. Pasteurization alone will not solve the problem if sanitary conditions are not kept up after the initial pasteurization process.

Sources: <a href="http://www.geocities.com/perkinshome/pasteurization.html">http://www.fda.gov/fdac/features/2004/504\_milk.html</a>
<a href="http://www.foodsci.uoguelph.ca/dairyedu/pasteurization.html">http://www.foodsci.uoguelph.ca/dairyedu/pasteurization.html</a>

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MILK: FROM PASTURE TO PASTEUR	

List four different organisms that can be found in raw milk:
that can be found in faw fillik.
1
2
3
4

·· F ·	1500 0111	zation	'	
 				_

Who invented it?
Does pasteurization change the taste of milk?

Can milk become contaminated after pasteurization? Explain.	Name three other ways to cut down on contamination in our milk supply.
	1 2
	3

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Print all pages on paper. Cut on solid lines. Fold all pages on the dotted lines with print to the outside. Place pages between cover and staple booklet.

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#### AIR:

#### What does it do?

Glue this section into lapbook.



1

It is a really hot day and you have decided you want to test the recipe for Vanilla Ice Cream Thomas Jefferson brought to the US from France in 1780. You open the refrigerator and reach for the cream and eggs. You already have the sugar waiting in a saucepan.

After you carefully separate the egg yolks from the whites, you add the yolks and the cream to the sauce pan. You have an

adult help you to carefully heat the mixture on the stove to kill the bacteria from the raw egg yolk.

When you have finished heating the mixture, you add the vanilla, pour it in a bowl, and allow it to cool. Once it is cool, you place it in the freezer and prepare to wait a few hours for your homemade ice cream treat!

Five hours later you run back to the freezer, throw open the door, and grab the bowl. You are so excited you can

2

6

5

hardly stand it!

It has been hard work waiting patiently all those hours! You have a newfound respect for Thomas Jefferson! After all, he had to wait for his ice cream, too.

You place the bowl on the counter and grab a spoon. As you try to dive into your homemade treat you quickly realize that instead of smooth, creamy ice cream you have a yellowish-bowl-shaped-vanilla-flavored-milky-ice-mold...

What happened? What went wrong?

Let's start at the beginning. When you began to mix all the ingredients together you were on the right track. And when you put the mixture in the freezer, you had the right idea, too.

In fact, if you would have checked on it earlier it would have been slushy. But why didn't it ever get creamy?

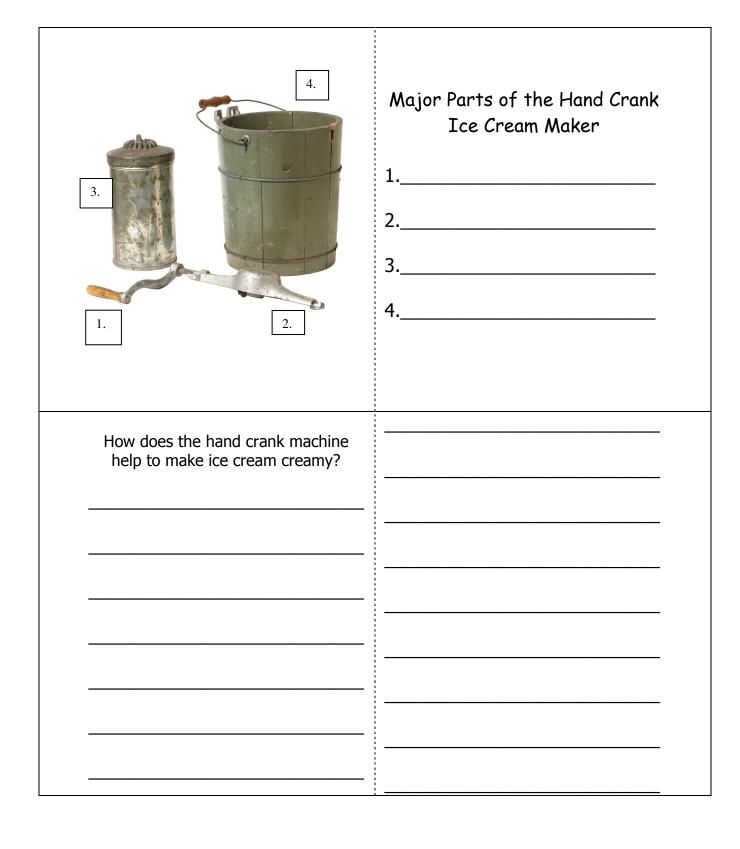
To answer that question you need to know two important secrets to making creamy ice

cream. One is constant mixing and the other is air. Put the two together and your ice cream will have less ice and more cream! Here is why:

The mixing process breaks the ice into millions of tiny crystals as it begins to freeze. This makes sure our mixture freezes into ice cream and not a yellowish-bowl-shaped-vanilla-flavored-milky-ice-mold.

The air also helps to make our ice cream smooth and creamy by stirring tiny air bubbles into the mixture.

We mostly see this with commercial ice cream made in large factories. As the ice cream mixture freezes the mixing paddles trap bubbles. These bubbles add air, called the overrun, which doubles the volume of the ice cream mix. So two cups of ice cream mix would make four cups of creamy ice cream!



How does the factory ice cream machine help to make ice cream creamy?	

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### From Cow to Cone



The cow is milked.

The milk is transported to the factory.

The milk is pasteurized and processed.

The mixture is flavored.	The ice cream is frozen.
	Directions: Ask your student to draw illustrations to match the sentences. Cut apart the pages. Stack together, in order, with cover on top. Staple at the top of the book.
The ice cream is transported to the store.	

Cut out as one piece on solid lines. Fold on dotted lines so leg is on cover. Cut out flaps on solid lines. Under each flap, write the name of the frozen treat.

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- **a.** Ice cream "sandwiched" between two cookies.
- **b.** Ice cream scoop put into soda water.
- C. Scoops of ice cream and flavored syrup poured on top of a halved banana.
- **d.** Scoops of ice cream topped with chocolate syrup, caramel sauce, nuts and other toppings.
- **e.** A coated ice cream bar that sometimes comes with a wooden stick for a handle.
- **f.** A slice of pie with a scoop of ice cream on the top.
- **g.** Ice cream formed to look like a cake.

Different
Types
of
Ice Cream
Treats



#### Find These Words:

vanilla ice

cream milk

bar cow



waffle cone sundae salt treat ice

AMW R В Υ Α В G W X M E F S Α GT F CMKA R Α K OWXА E Α

### create an Ice cream carton Label

On page 23-24 of *Ice Cream* by Elisha Cooper, it describes how each ice cream company orders its own custom carton cartoon. Design your own custom ice cream carton cartoon or label in the box below.

