

MELTING

MATTER



Level: **N** Word Count: **305**

100th Word: **you (page 8)**

## Teaching Focus:

Vocabulary:  
Contractions

Look at the words don't and doesn't. How are the words alike? What letters are replaced by the apostrophes?

## Tips on Reading This Book with Children:

**1.** Read the title.

*Predictions – after reading the title have children make predictions about the book.*

**2.** Take a book walk.

*Talk about the pictures in the book. Use the content words from the book as you take the picture walk.*

*Have children find one or two words they know as they do a picture walk.*

**3.** Have children find words they recognize in the text.

**4.** Have children read the remaining text aloud.

**5.** Strategy Talk – use to assist children while reading.

- Get your mouth ready
- Look at the picture
- Think...does it make sense
- Think...does it look right
- Think...does it sound right
- Chunk it – by looking for a part you know

**6.** Read it again.

**7.** Complete the activities at the end of the book.



# Melting Matter

by Amy S. Hansen

Science Content Editor:  
Kristi Lew



**Science content editor: Kristi Lew**

A former high school teacher with a background in biochemistry and more than 10 years of experience in cytogenetic laboratories, Kristi Lew specializes in taking complex scientific information and making it fun and interesting for scientists and non-scientists alike. She is the author of more than 20 science books for children and teachers.

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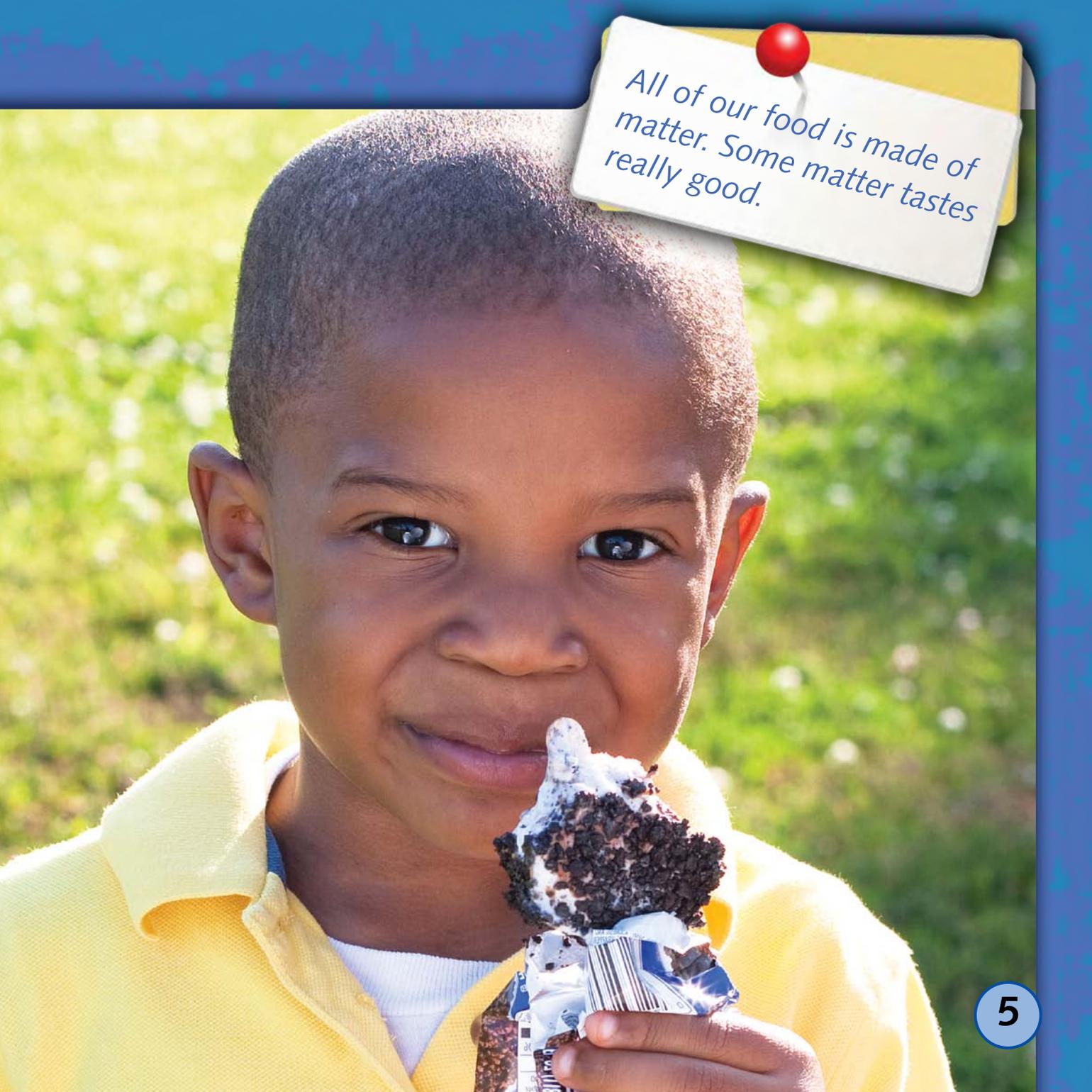
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# Melted Treats Are Still Matter

Want some ice cream? Don't get it until you're ready to eat because ice cream **melts**.





All of our food is made of  
matter. Some matter tastes  
really good.

Ice cream is made of **matter**. Matter is anything that has **mass**, or weight, and takes up space. Matter can be a solid, a liquid, or a gas.



Ice cream is a solid when it is cold.

Matter can also change forms. Ice cream melts when it gets warm. It changes from a solid to a liquid.

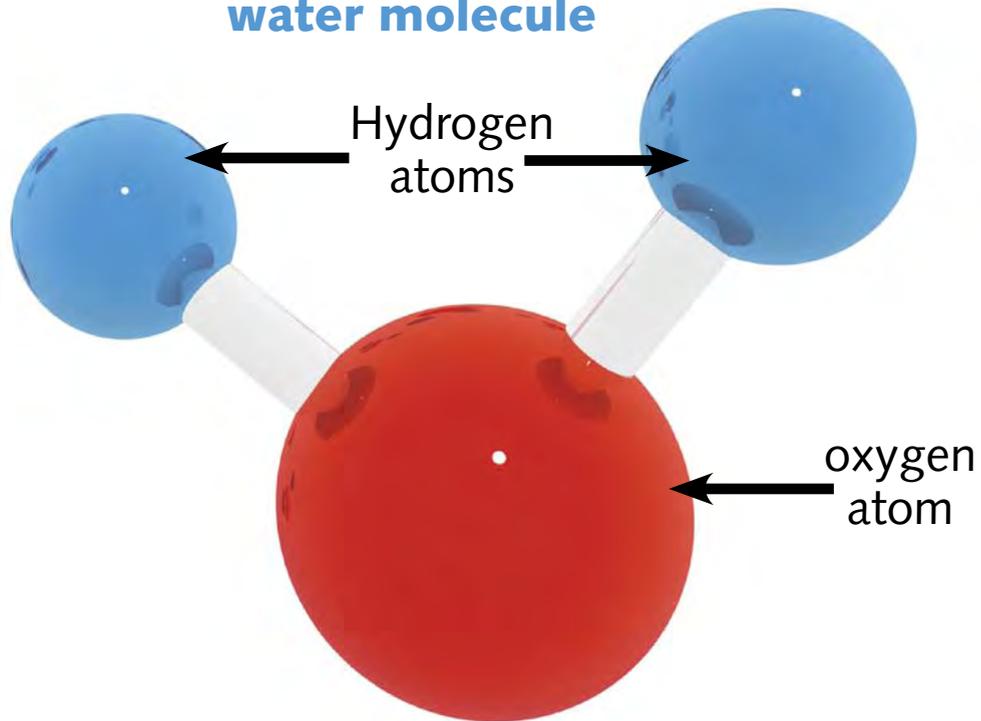


Melted ice cream may still feel cool.

Ice cream is made of cream and sugar. But at a more basic level, the ice cream is made of **molecules**.

Molecules are super-small units. You can only see them with a powerful microscope. When the molecules in ice cream are frozen, they do not move very much. A solid holds its shape.

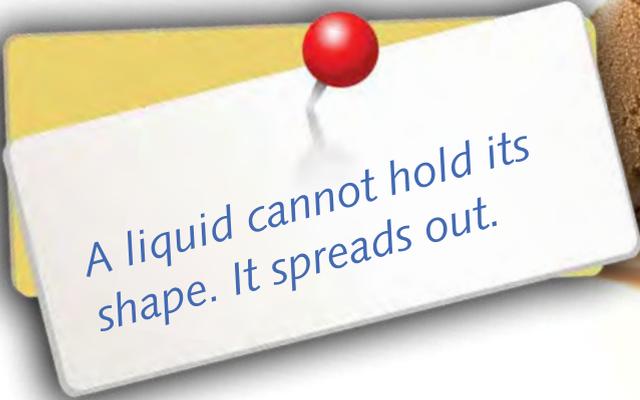
## water molecule



Atoms are tiny pieces of matter. They combine to form molecules. For example, every water molecule is made of two hydrogen atoms and one oxygen atom.

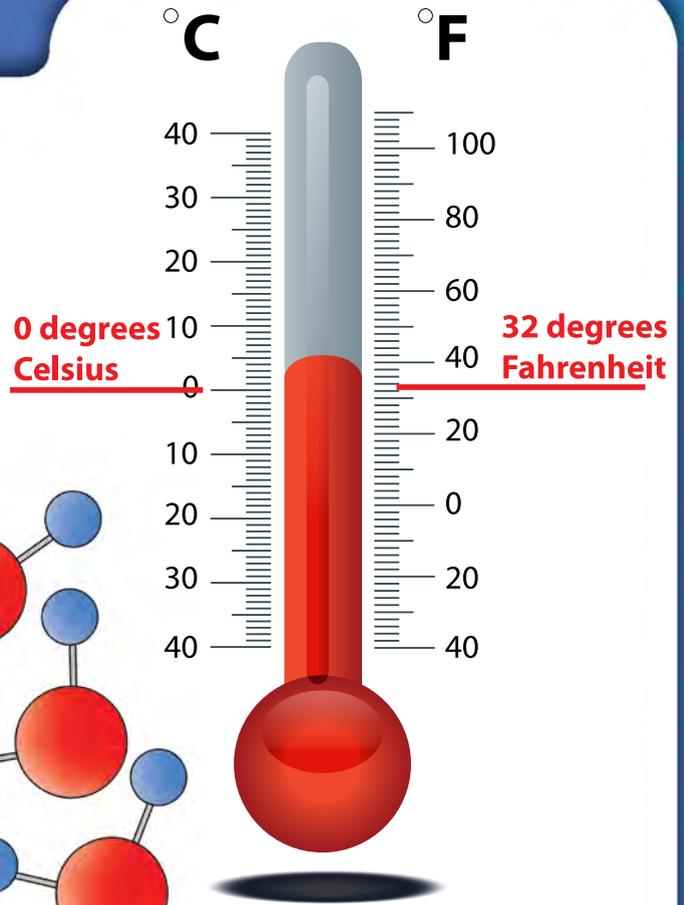
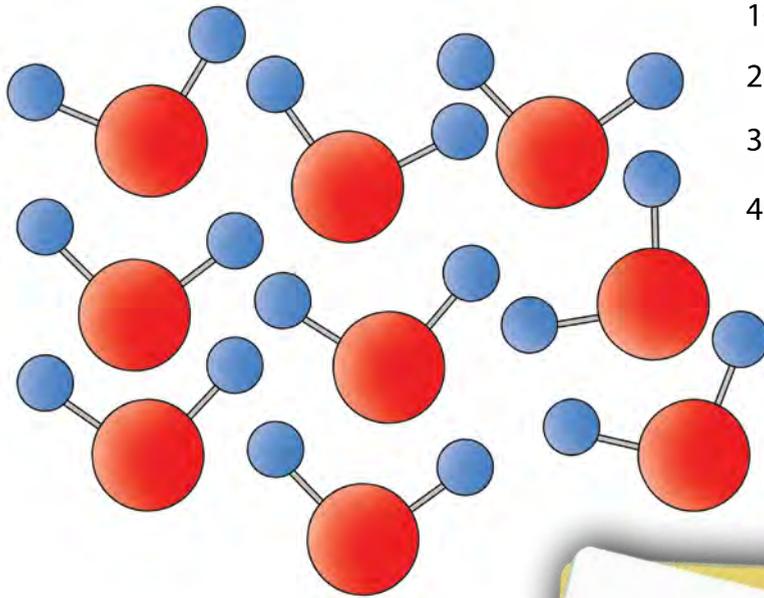
# What Happens When It Melts?

If ice cream gets warmer than 32 degrees Fahrenheit (0 degrees Celsius), it starts melting. That means the molecules move more. They cannot hold a shape. Ice cream becomes a liquid.



A liquid cannot hold its shape. It spreads out.



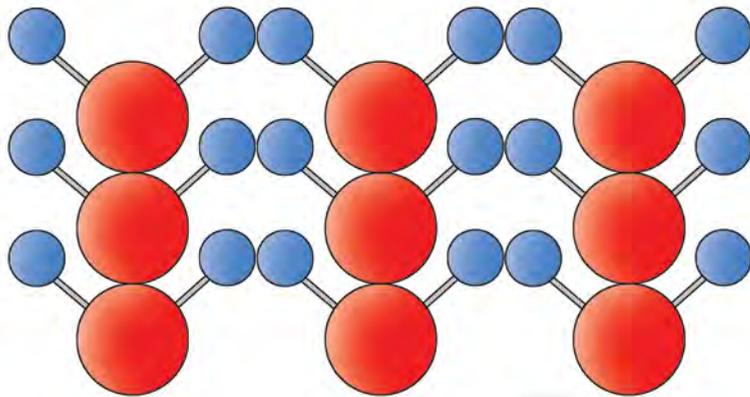


When molecules are in a liquid state, they have more energy and they move around.

Now **freeze** the melting ice cream. The molecules slow down. Ice cream becomes a solid again.



A solid holds its shape.



0 degrees  
Celsius

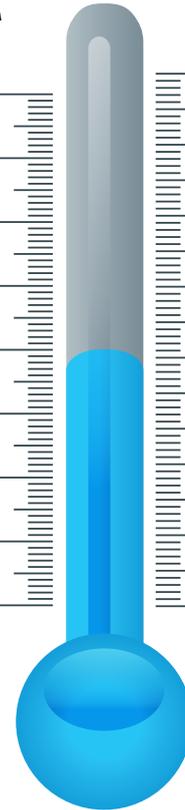
°C

40  
30  
20  
10  
0  
10  
20  
30  
40

°F

100  
80  
60  
40  
20  
0  
20  
40

32 degrees  
Fahrenheit



The molecules of solids do not have much energy, so they cannot move much.

## Is It Melting?

If you stir sugar into water, it looks like it melts into the water. But it doesn't melt, it **dissolves**.

Dissolving is different than melting. The sugar and water molecules move together to make sugar-water. If you could take out the water, the sugar would still be there.



*Sugar looks like it disappears in the water, but it is still there.*

Not everything melts easily. Look at the glass pan. Glass needs a high **temperature**, at least 1400 degrees Fahrenheit (760 degrees Celsius), before it melts.



Other matter doesn't melt. Wood doesn't melt. It **burns**. We sometimes use it for campfires.



## Make a Wish!

Candles melt and burn at the same time. Heat from the flame melts the wax. Then, the flame burns the gas that the melted wax gives off.



Melted wax runs down the candles, but it will be a solid again as soon as it cools.



If you want to keep a candle from melting, you don't treat it like ice cream. You don't freeze it. You blow it out.





## What You Know

1. Can you think of something else that melts, besides ice cream or candles?
2. A bar of soap disappears when it is in water. Is it melting or dissolving?
3. Wood doesn't melt, it burns. Can you think of something else that doesn't melt, but burns?

# Glossary

**burns** (BURNZ): set on fire in order to make heat or light

**dissolves** (di-ZAHLVZ): seems to disappear when combining with a liquid

**freeze** (FREEZ): to change from a liquid into a solid

**mass** (MASS): the amount of matter an object has, usually measured in grams or pounds

**matter** (MAT-ur): something that has mass and takes up space

**melts** (MELTZ): changes from a solid to a liquid

**molecules** (MAH-luh-kyools): two or more atoms chemically bonded together

**temperature** (TEM-pur-uh-chur): the measurement of how hot or cold something is, usually measured with a thermometer

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## Websites

[www.factmonster.com/dk/science/encyclopedia/changing-states.html](http://www.factmonster.com/dk/science/encyclopedia/changing-states.html)

[www.brainpopjr.com/science/matter/changingstatesofmatter/grownups.weml](http://www.brainpopjr.com/science/matter/changingstatesofmatter/grownups.weml)

[www.sciencekids.co.nz/gamesactivities/meltingpoints.html](http://www.sciencekids.co.nz/gamesactivities/meltingpoints.html)

## About the Author

Amy S. Hansen is a science writer who lives in the Washington, D.C. area with her husband and two sons. Her whole family loves studying the melting of matter under hot fudge.



## Comprehension & Extension:

- Summarize:

*What happens to molecules as the temperature changes? What is the difference between melting and dissolving?*

- Text to Self Connection:

*Have you ever tried to eat ice cream before it melted? What happened?*

- Extension: Two Word Strategy!

*After reading the book, write a two word reflection about the reading. Create a class collection of the reflections and discuss.*

## Sight Words I Used:

**from**  
**made**  
**that**  
**want**  
**when**

## Vocabulary Check:

***Use glossary words in a sentence.***

# Matter



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