

WHERE DID THE

WATER GO?



Level: **M** Word Count: **330**

100th Word: **gas (page 10)**

## Teaching Focus:

Vocabulary: Antonyms

What is the opposite of the word hot? What is the opposite of dry?

## 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.



# Where Did the Water Go?

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.

© 2012 Rourke Publishing LLC

All rights reserved. No part of this book may be reproduced or utilized in any form or by any means, electronic or mechanical including photocopying, recording, or by any information storage and retrieval system without permission in writing from the publisher.

[www.rourkeclassroom.com](http://www.rourkeclassroom.com)

Photo credits: Cover © CAN BALCIOGLU; Cover logo frog © Eric Pohl, test tube © Sergey Lazarev; Table Of Contents © Burnedflowers; Page 5 © Ben Heys; Page 7 © Ruslan Nabiyev; Page 9 © CAN BALCIOGLU; Page 11 © Oskar Orsag; Page 12/13 © Burnedflowers; Page 14 © Monika Hunácková, Christian Lopetz; Page 15 © Peter Hulla Page 16 © Monika Hunácková, Christian Lopetz; Page 17 © Aaron Amat; Page 18 © Christian Lopetz; Page 19 © Fedor Kondratenko; Page 20 © dinadesign; Page 21 © Monika Hunácková;

Editor: Kelli Hicks

Cover and page design by Nicola Stratford, [bdpublishing.com](http://bdpublishing.com)

Library of Congress Cataloging-in-Publication Data

Hansen, Amy.

My science library / Amy S. Hansen.

p. cm. -- (Where did the water go?)

Includes bibliographical references and index.

ISBN 978-1-61741-751-1 (Hard cover) (alk. paper)

ISBN 978-1-61741-953-9 (Soft cover)

1. Water--Juvenile literature. 2. Water-supply--Juvenile literature. I. Title.

GB662.3.H37 2012

553.7--dc22

2011004763

Rourke Publishing

Printed in China,

Power Printing Company Ltd

Guangdong Province

042011

042011LP

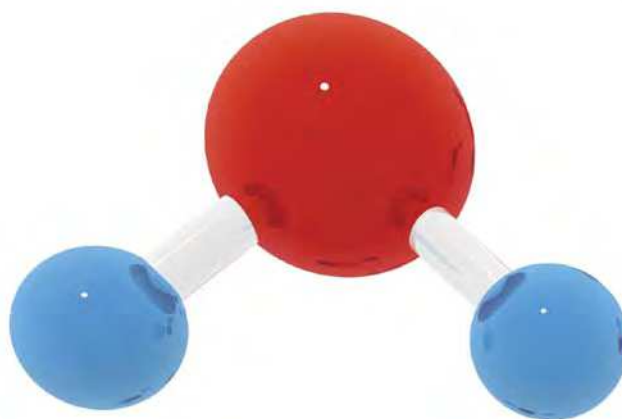


[www.rourkeclassroom.com](http://www.rourkeclassroom.com) - [rourke@rourkepublishing.com](mailto:rourke@rourkepublishing.com)

Post Office Box 643328 Vero Beach, Florida 32964

# Table of Contents

Three Forms of Water	4
Why Does Water Change?	8
How Do Water Molecules Change?	12
Show What You Know	22
Glossary	23
Index	24



# Three Forms of Water

Have you ever spilled ice and not cleaned it up right away? What happens to the ice? The ice **melts** and you're left with a puddle of water.





*Ice melts as it warms up.*



If you don't clean up the puddle, what happens? You guessed it. The puddle dries up. No more spill!

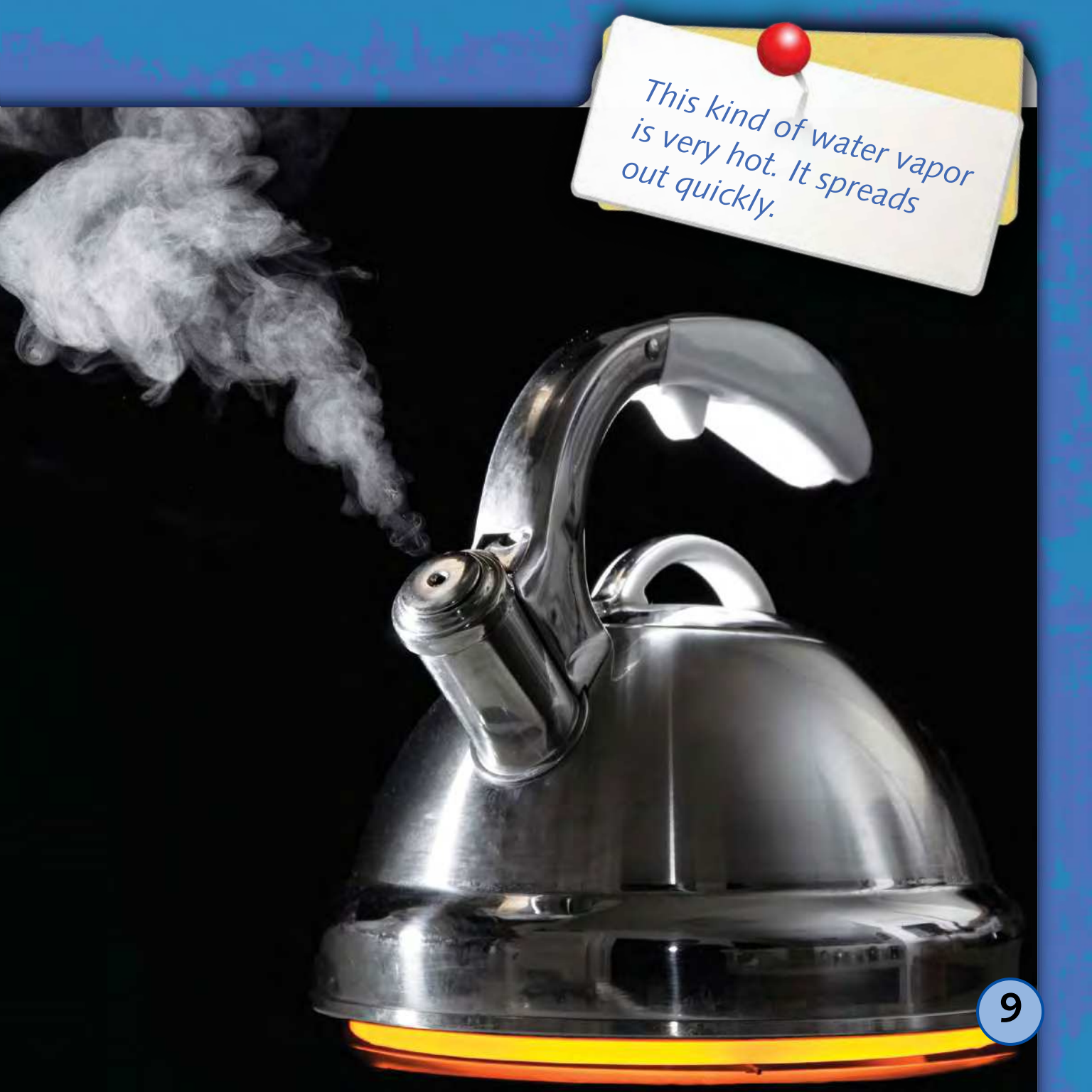
You've just seen the three forms of water. First it was a **solid**. Then it melted to the **liquid** form of water. And finally, it became a **gas** called **water vapor**.

Have you ever wondered why you have to keep adding water to a fish tank or swimming pool? Where is the water going? The answer is it's in the air and you're seeing evaporation at work.



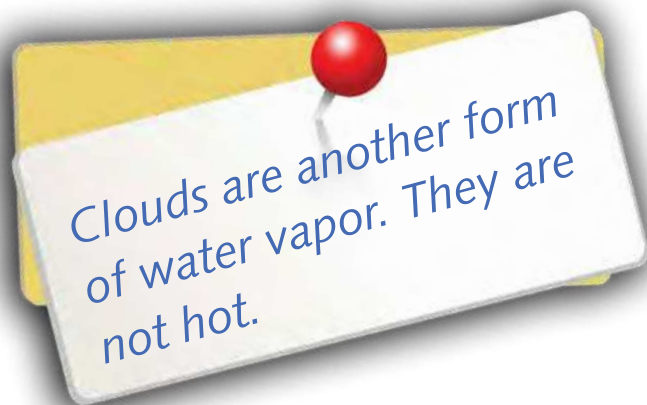
# Why Does Water Change?

Water changes its form when the **temperature** changes. When water is very cold, water is a solid. When it is warm, water is a liquid. When it is hot, water boils and part of it becomes a gas.



*This kind of water vapor  
is very hot. It spreads  
out quickly.*

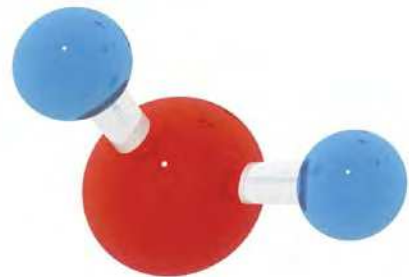
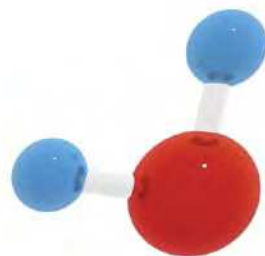
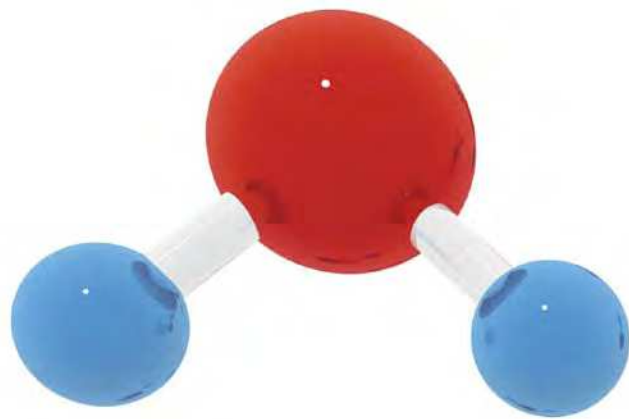
Water can also become a gas when it isn't hot or boiling. If the air is dry, water will become a gas at lower temperatures. This is what happened to the water in your puddle.



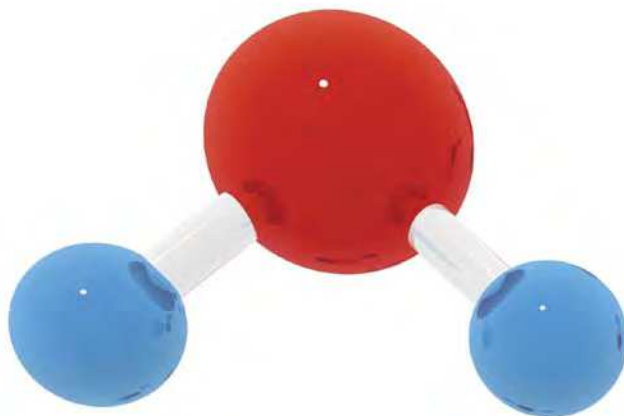


# How Do Water Molecules Change?

Water is made of tiny units called **molecules**. Molecules are so small you would need a super-strong microscope to see them. The molecules are the same in each form of water, but they are arranged differently.



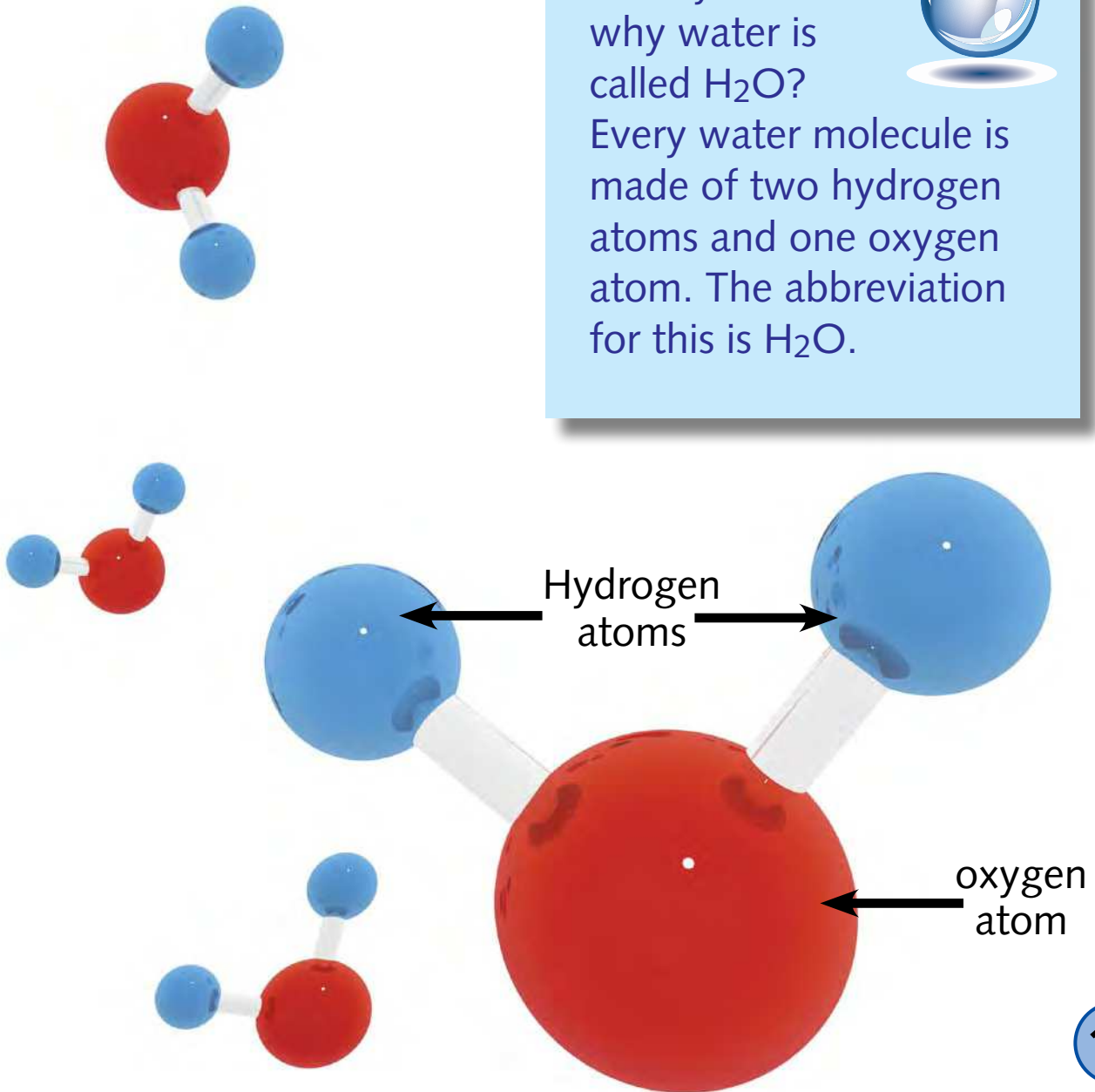
water  
molecules

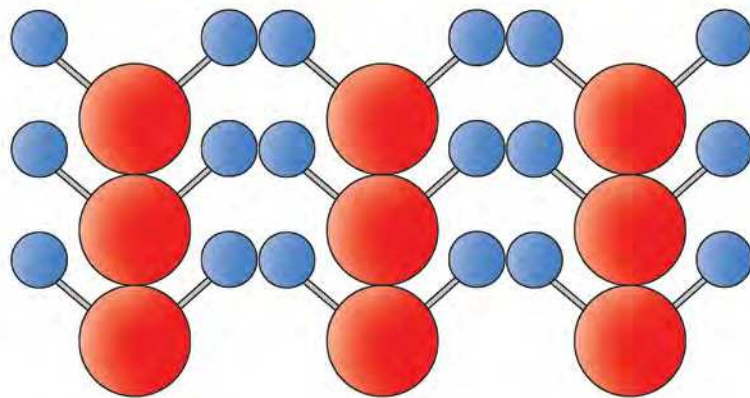
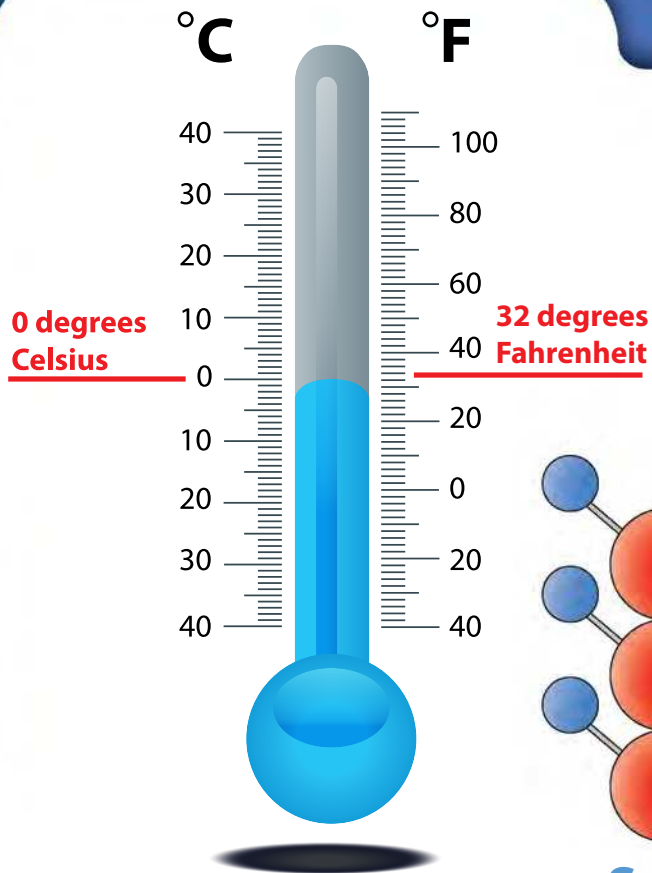


Do you know  
why water is  
called  $H_2O$ ?



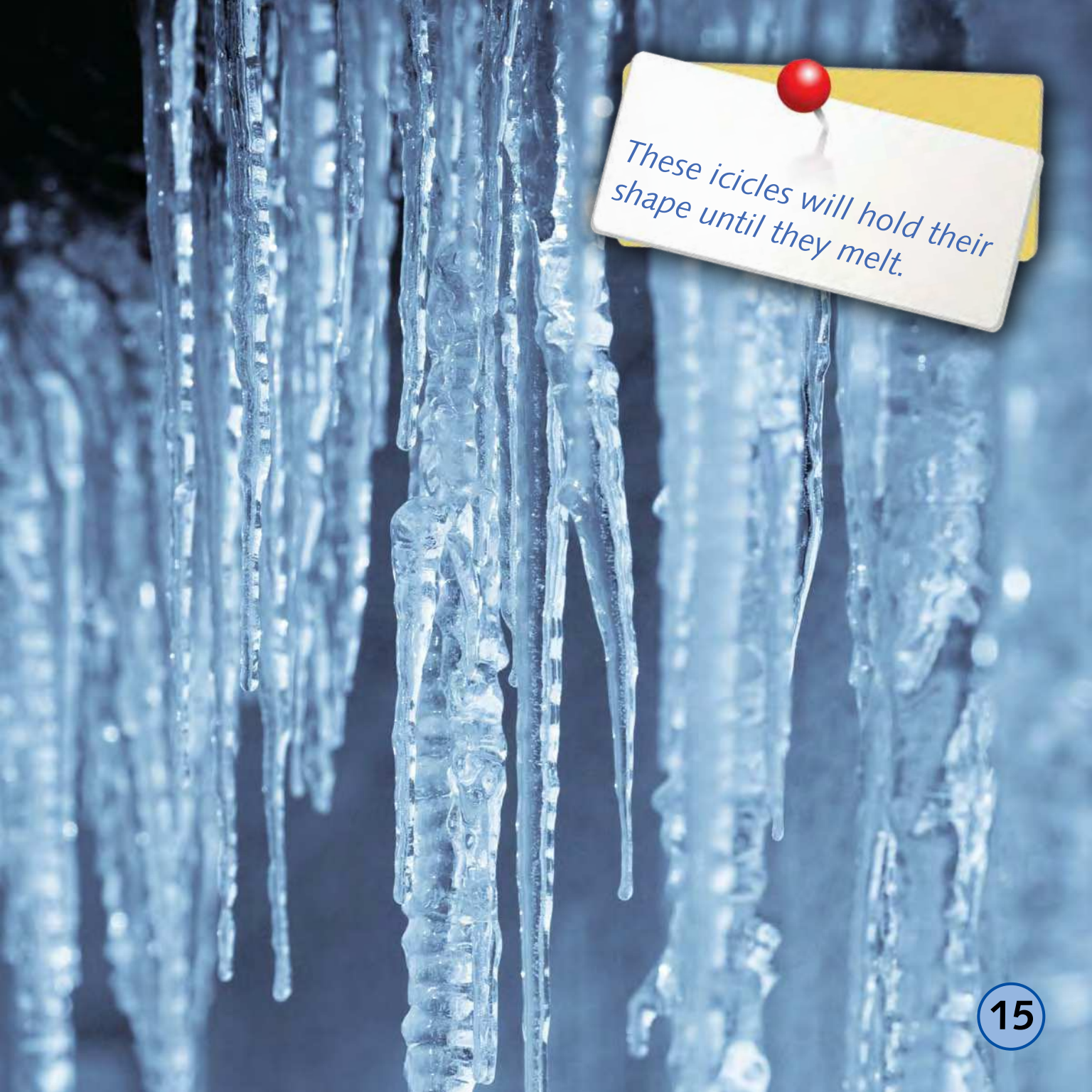
Every water molecule is  
made of two hydrogen  
atoms and one oxygen  
atom. The abbreviation  
for this is  $H_2O$ .



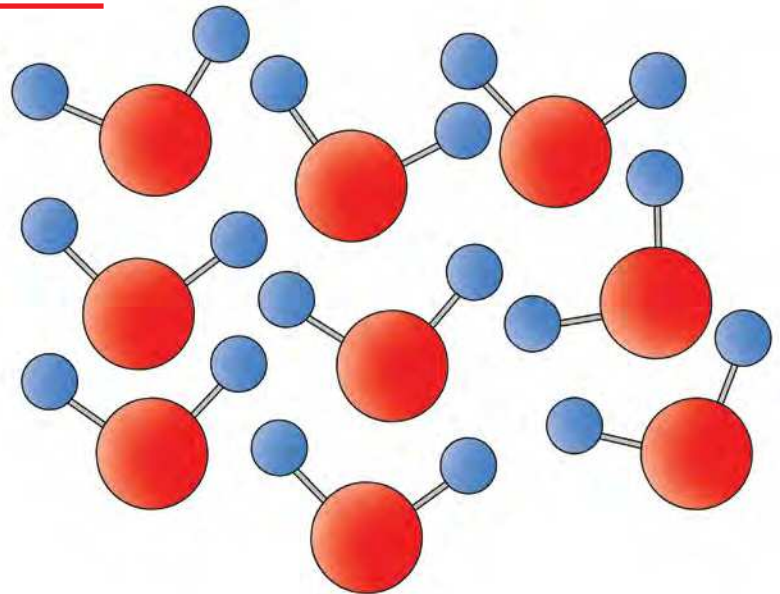
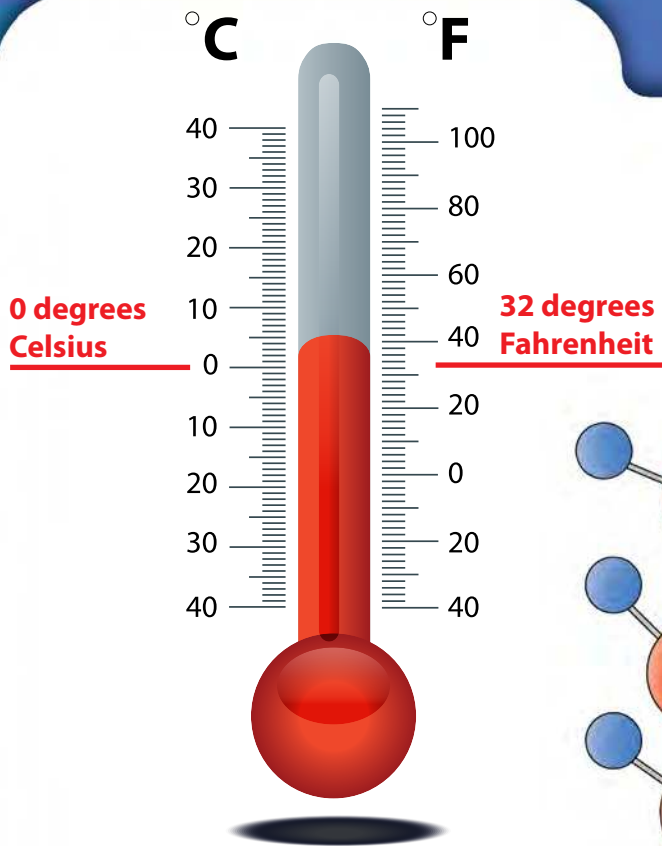


**Solid Water Molecules**

When water is cold, it is a solid called ice. The water molecules line up. They are cold so they hardly move. The solid holds its shape.




*These icicles will hold their  
shape until they melt.*



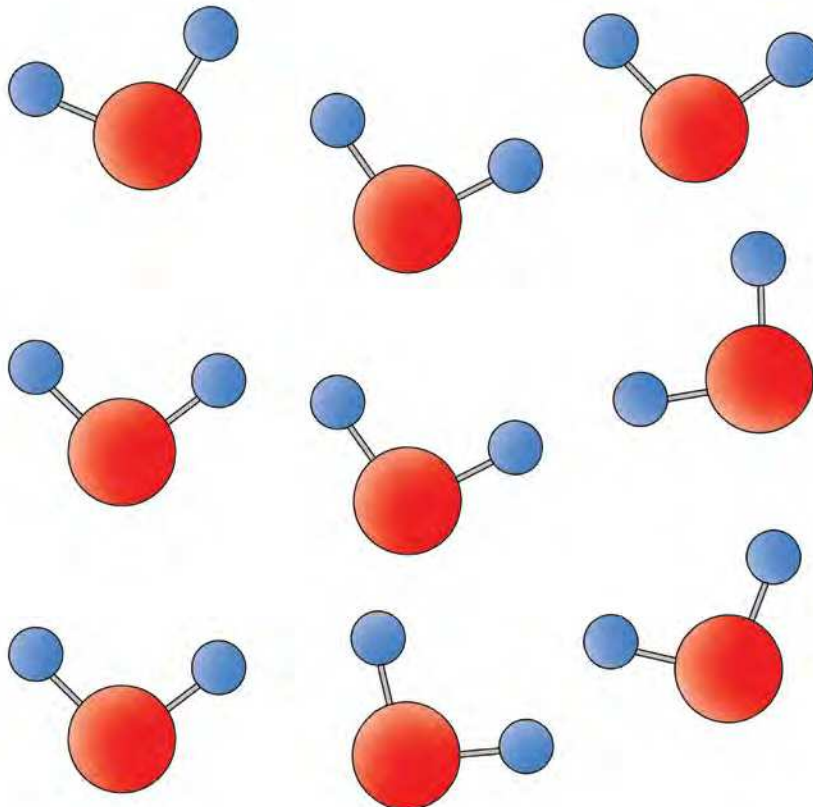
**Liquid Water Molecules**

When water is warm, it is a liquid. The water molecules do not line up. They have some energy from heat, so they move around. A liquid cannot hold its shape.

A clear glass is shown with water being poured into it from above. The water is splashing and creating bubbles. The background is white, and the glass is on a reflective surface.

*When water is a liquid, it  
needs a container to hold  
its shape.*

When water is hot it is a gas called water vapor. The molecules have a lot of energy from the heat. They zip around. The gas takes up all the space it can.



When water is a gas, the molecules move farther apart. Gas expands to fill the space.



Water also becomes a gas if the air is dry. This is why puddles dry out, and why your towel will dry if you spread it out.

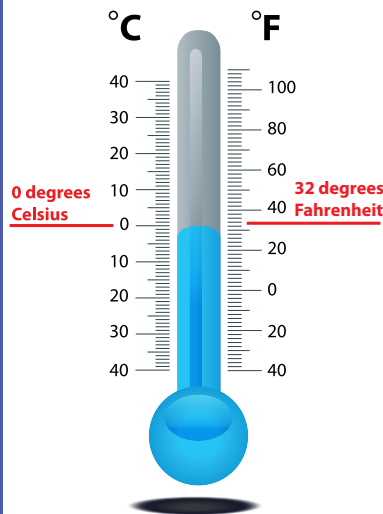
What happens when the gas cools down? The molecules slow down. The gas **condenses**. It becomes liquid water.

What happens if we put liquid water in the freezer? The water becomes cold. It **freezes**. The molecules stop moving around. The liquid water becomes ice. Now you know where the water goes.

## Which Type of Water?

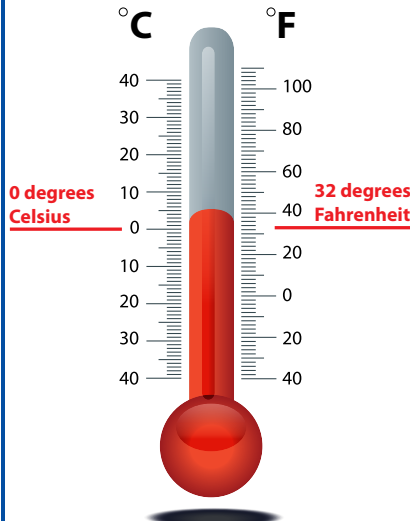
### **Solid: Ice**

Colder than  
32 degrees  
Fahrenheit  
(0 degrees Celsius)



### **Liquid: Water**

Warmer than 32  
degrees Fahrenheit  
(0 degrees Celsius)



### **Gas:**

### **Water Vapor**

Hotter than 212  
degrees Fahrenheit  
(100 degrees Celsius)

or

When the air is dry,  
liquid water becomes  
gas at a lower  
temperature.



## What You Know

1. Can you think of something that melts other than ice?
2. Where do the gas molecules get their energy to zip around?
3. What makes the molecules slow down?

# Glossary

**condenses** (kuhn-DENS-ez): when gas changes to a liquid, usually through cooling

**freezes** (FREEZ-ez): changes from a liquid into a solid

**gas** (GAS): a substance that spreads out to fill the space around it and is often invisible

**liquid** (LIK-wid): a substance that pours easily

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

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

**solid** (SAH-lid:): an object that is firm that is not a liquid or a gas

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

**water vapor** (WAW-tur VA-pur): a gas formed as liquid

## Index

energy 16, 18  
gas 18, 19, 20, 21  
liquid 6, 8, 16, 17, 20, 21  
molecule(s) 12, 13, 14, 16,  
18, 19, 20, 21  
solid 8, 14, 21  
temperature(s) 8, 10, 21  
water vapor 6, 9, 10, 18, 21

## Websites

[www.kids-science-experiments.com/steamingup.html](http://www.kids-science-experiments.com/steamingup.html)  
[ga.water.usgs.gov/edu/watercyclecondensation.html](http://ga.water.usgs.gov/edu/watercyclecondensation.html)  
[www.kidzone.ws/water/](http://www.kidzone.ws/water/)  
[www.pbs.org/parents/catinthehat/activity\\_exploring\\_weather.html](http://www.pbs.org/parents/catinthehat/activity_exploring_weather.html)  
[kids.earth.nasa.gov/droplet.html](http://kids.earth.nasa.gov/droplet.html)

## About the Author

Amy S. Hansen is a science writer who lives in a suburb of Washington, D.C. where the summer air is often filled with so much water vapor that it is muggy and difficult to move.



## Comprehension & Extension:

- Summarize:  
*What are molecules? How does water change?*
- Text to Self Connection:  
*Tell about a time when something melted.  
What happened?*
- Extension: *Just the Facts!*  
*After reading the book, make a list of 5 facts  
you learned.*

## Sight Words I Used:

have  
they  
what  
when  
why

## Vocabulary Check:

*Use glossary words in a  
sentence.*

# Matter



**Have you ever wondered about the science all around us? Plants grow and change, the Sun rises to warm the Earth, and matter changes from one form to another. Investigate Life, Physical, Earth, and Technology science topics with Rourke's *My Science Library*. This library explores NSTA science standards with engaging text and colorful images to support readers from kindergarten to third grade. Are you ready to investigate?**

## **Books in *My Science Library*:**

Earth is Tilting!

Gravity! Do You Feel It?

Let's Classify Animals!

Melting Matter

Natural or Man-Made?

Plants Make Their Own Food

Seeds, Bees, and Pollen

Studying Weather and Climates

What Do Critters Do in the Winter?

What's on the Food Chain Menu?

Where Did the Water Go?

Zap! It's Electricity!

ISBN 978-1-61741-953-9



9 0000

Printed in China



[www.rourkeclassroom.com](http://www.rourkeclassroom.com)