

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



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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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Editor: Kelli Hicks

Cover and page design by Nicola Stratford, 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

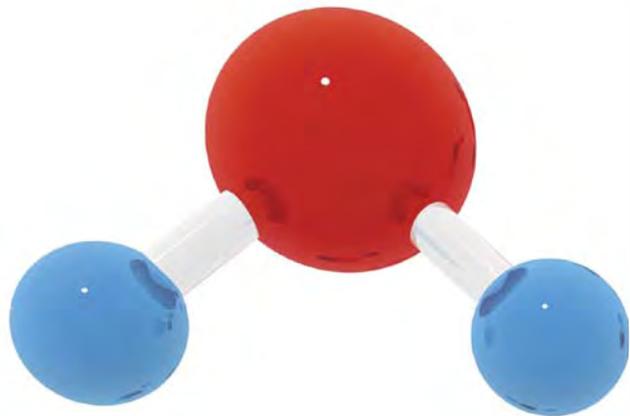
Rourke Publishing
Printed in China,
Power Printing Company Ltd
Guangdong Province
042011
042011LP



www.rourkeclassroom.com - rourke@rourkepublishing.com
Post Office Box 643328 Vero Beach, Florida 32964

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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!

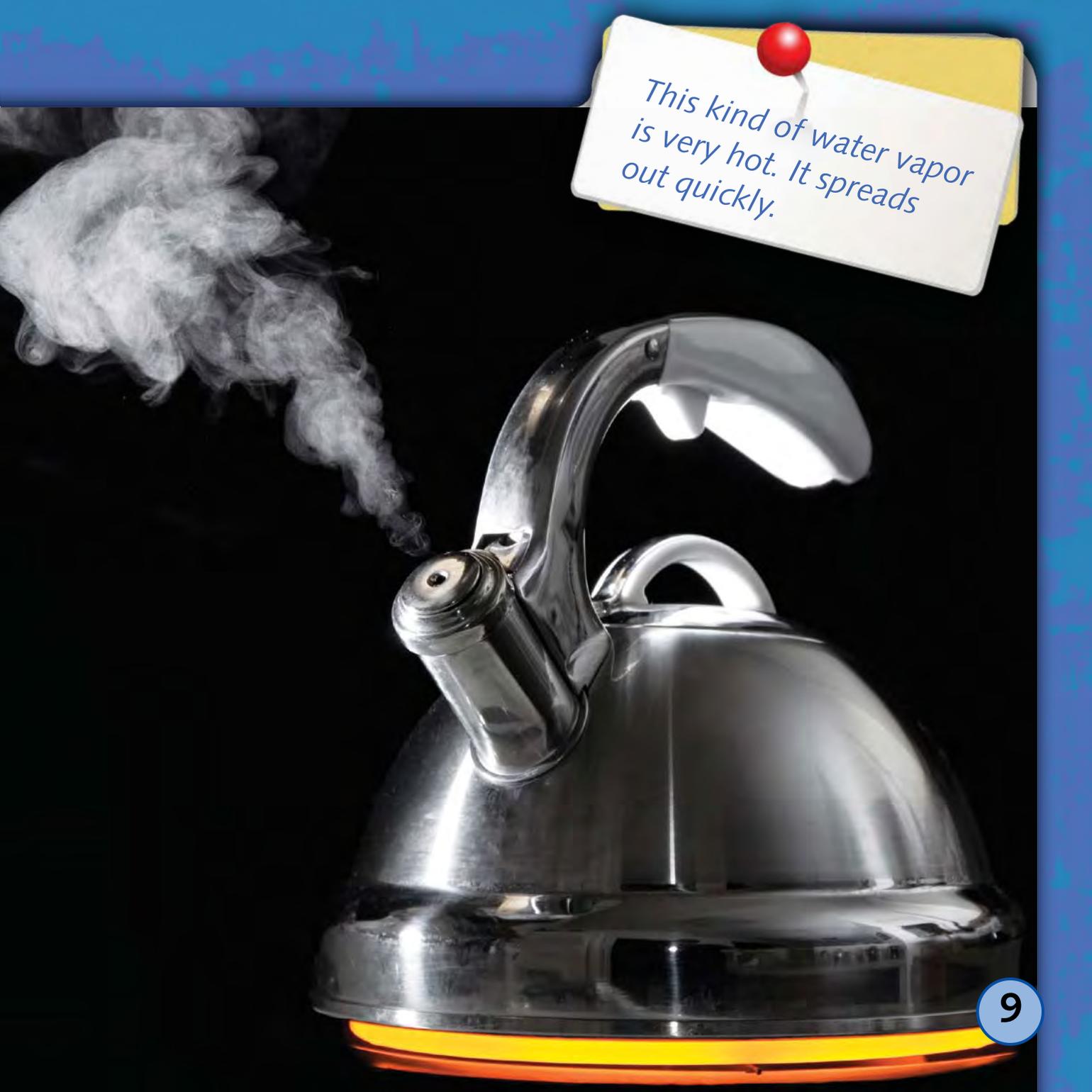
You've just seen the three forms of water. First it was a **solid**. Then it melted to the **liquid** form of water. And finally, it became a **gas** called **water vapor**.

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.



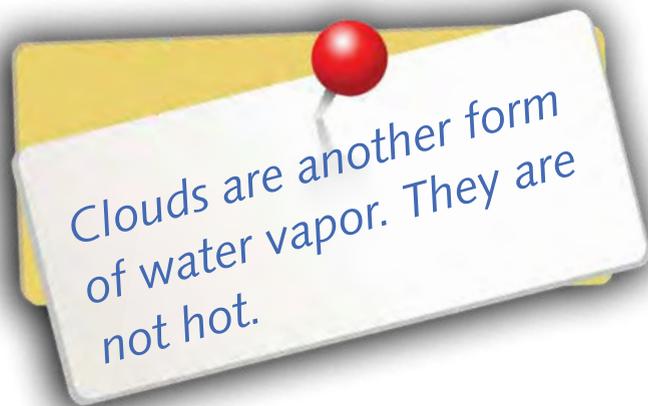
Why Does Water Change?

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.*

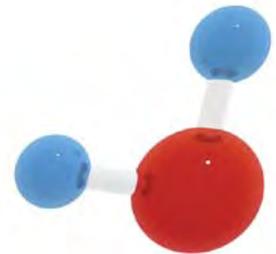
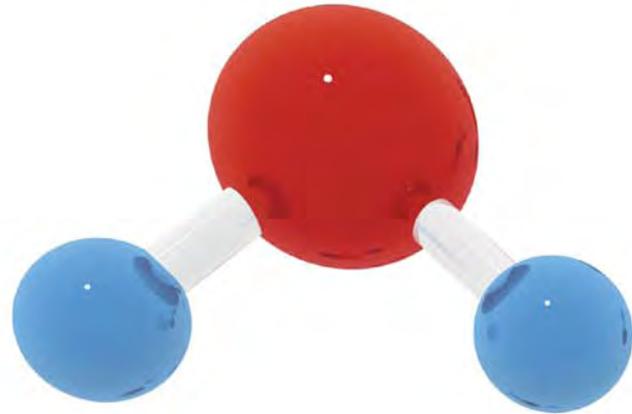
Water can also become a gas when it isn't hot or boiling. If the air is dry, water will become a gas at lower temperatures. This is what happened to the water in your puddle.



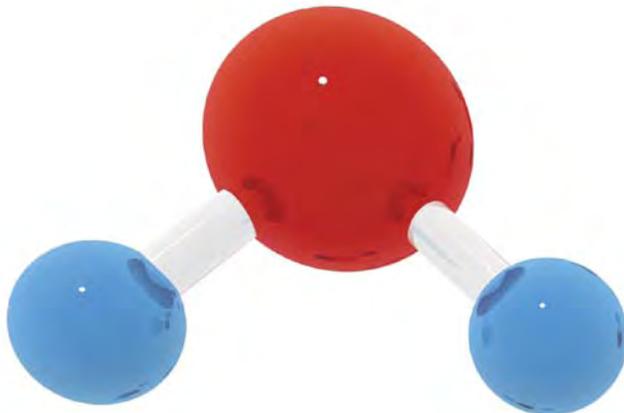


How Do Water Molecules Change?

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.



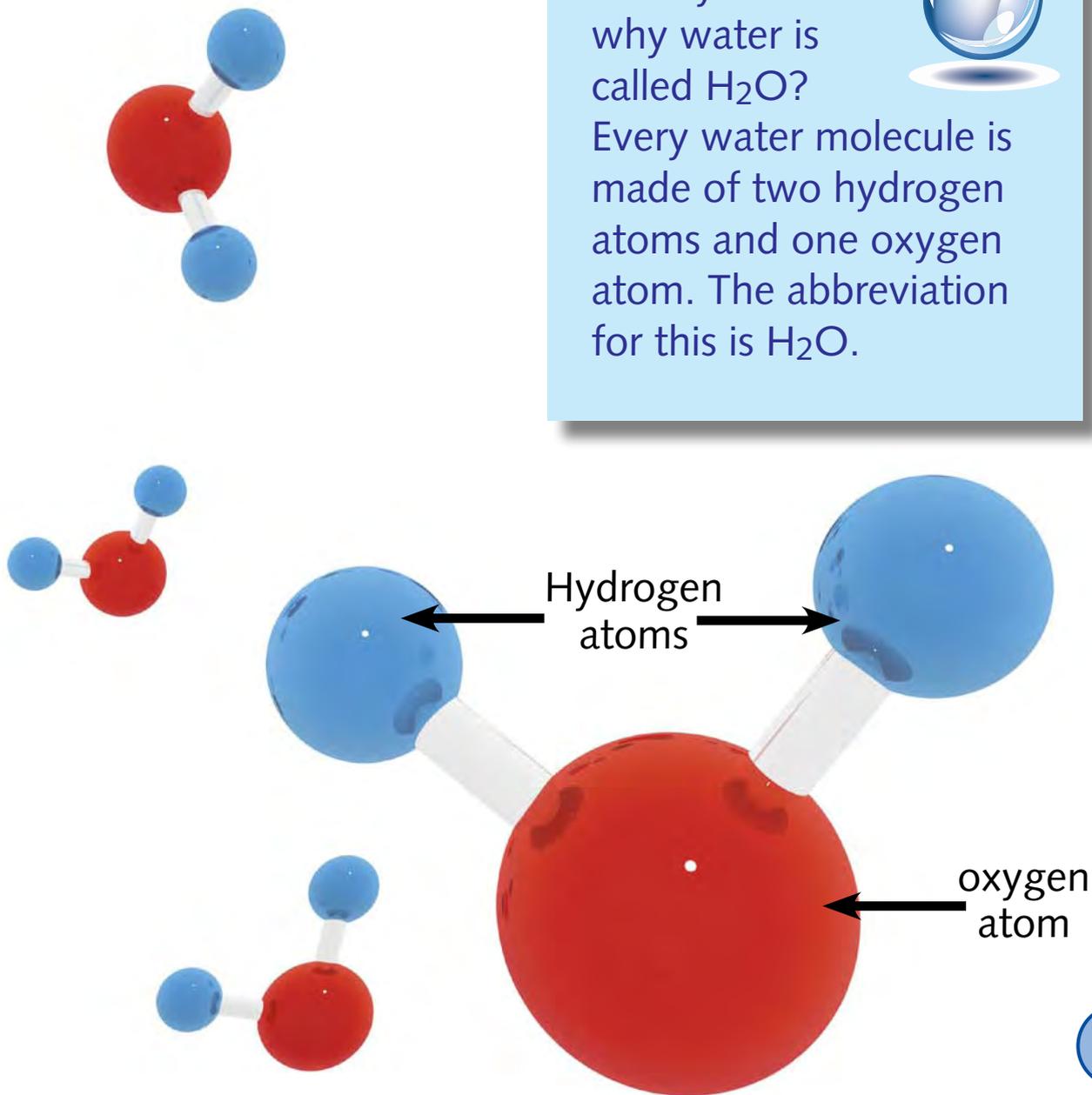
water molecules

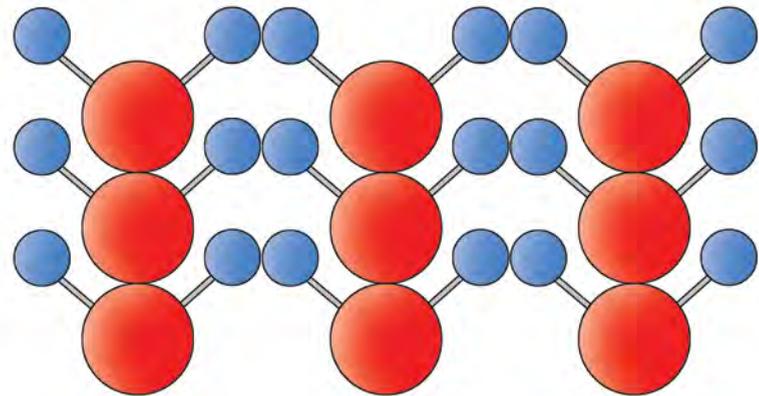
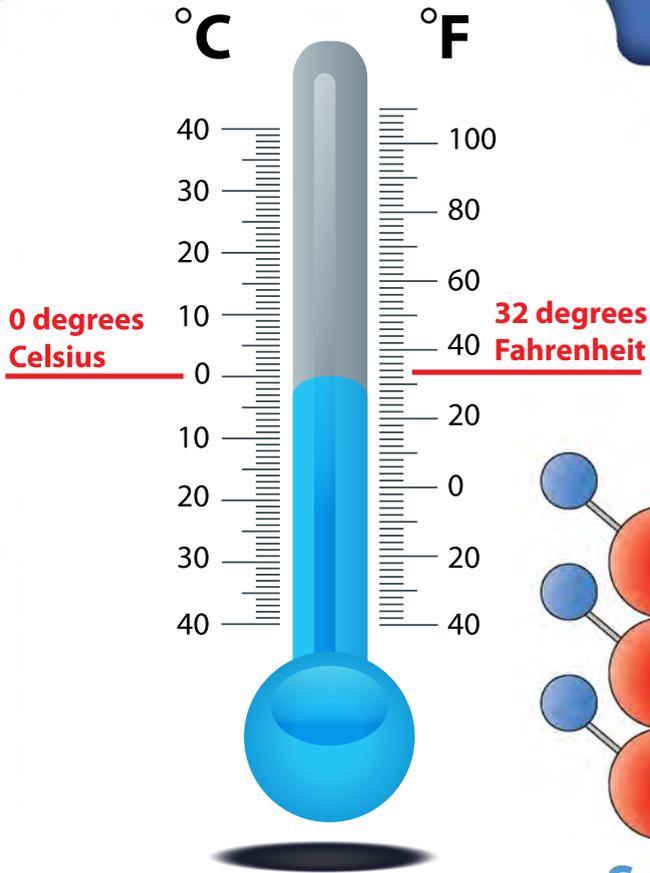


Do you know
why water is
called H₂O?



Every water molecule is
made of two hydrogen
atoms and one oxygen
atom. The abbreviation
for this is H₂O.



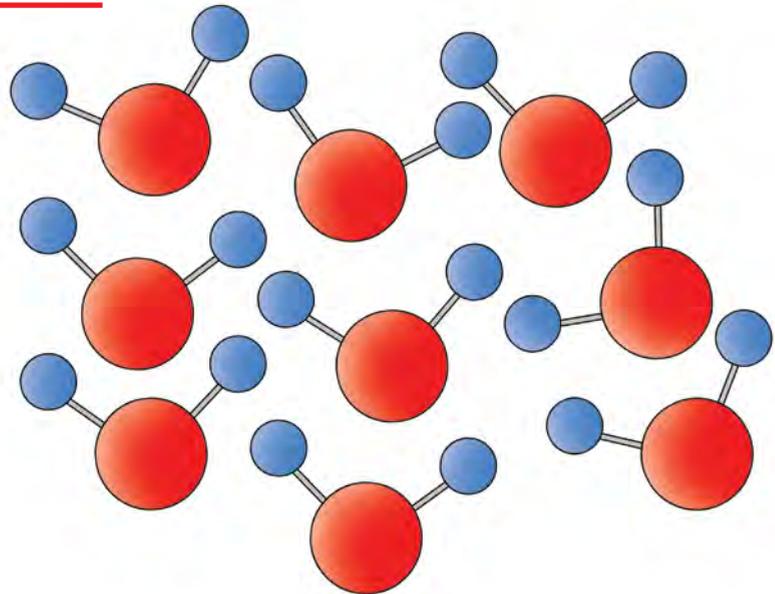
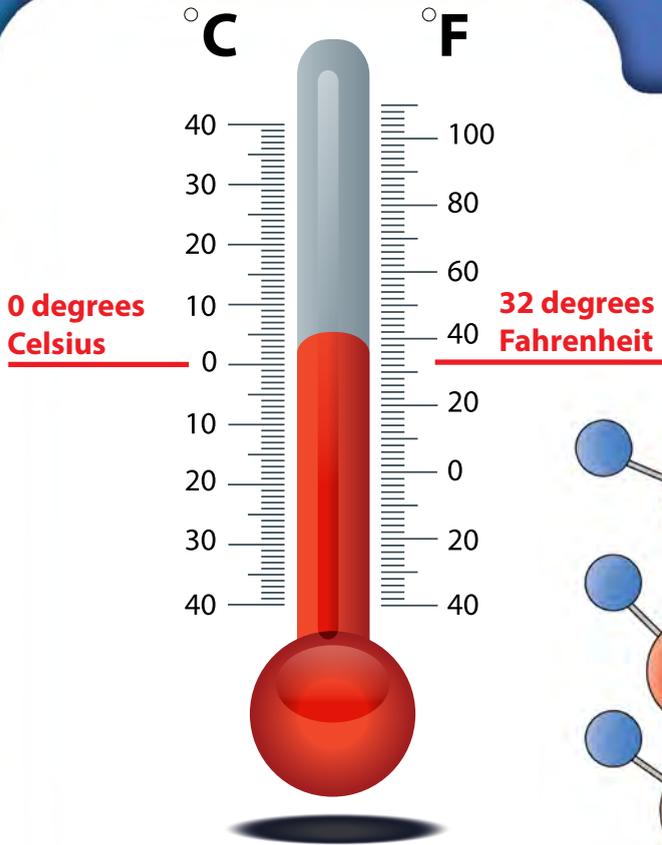


Solid Water Molecules

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.



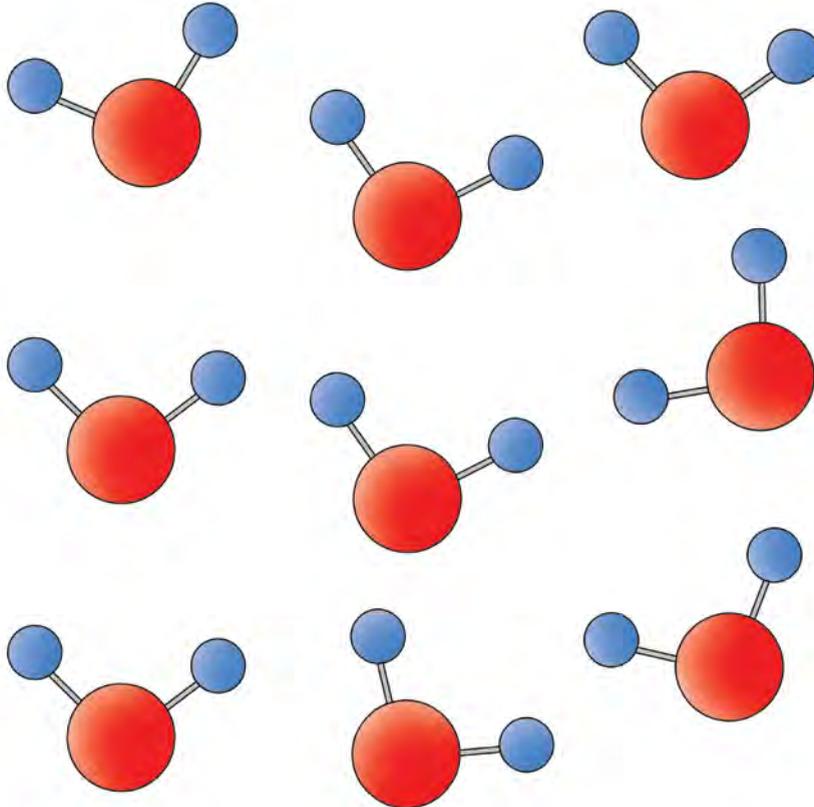
Liquid Water Molecules

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.

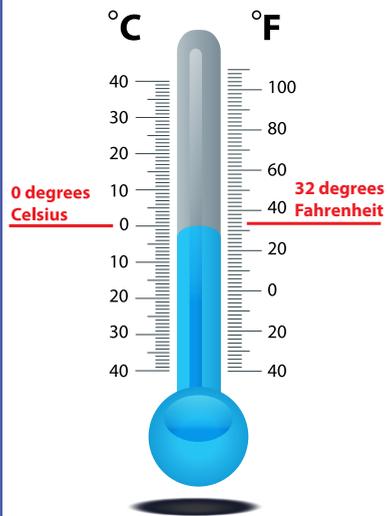
What happens when the gas cools down? The molecules slow down. The gas **condenses**. It becomes liquid water.

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?

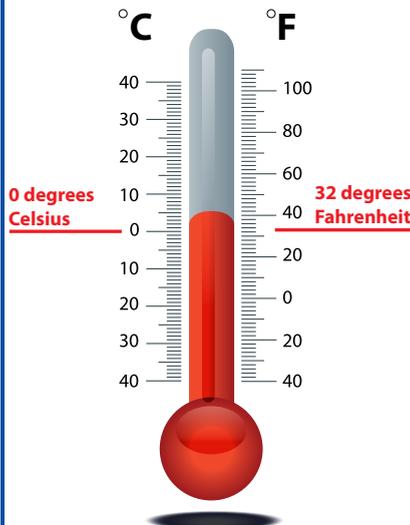
Solid: Ice

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.



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

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water vapor 6, 9, 10, 18, 21

Websites

www.kids-science-experiments.com/steamingup.html

ga.water.usgs.gov/edu/watercyclecondensation.html

www.kidzone.ws/water/

www.pbs.org/parents/catinthehat/activity_exploring_weather.html

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



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ISBN 978-1-61741-953-9



9 781617 419539

Printed in China

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