Teacher's Notes: Gas

The students will be able to identify balloons, boiling water, person smelling a flower.
The students will be able to demonstrate inhaling and exhaling.
The students will be able to describe the following gases:

- Oxygen for inhaling or breathing in
- Carbon dioxide is what we exhale or breathe out
- Helium to make balloons float
- Steam when water boils

Activities

1. Students do image searches. Have the students save pictures of their favorite ones. Those are then inserted onto a Word document or a PowerPoint. Students write a sentence about each picture. **See Technology printable in the materials.**
2. Boil water with students. Have them watch the steam.
3. Bake cookies with students. Have them smell the cookies.
4. Give the students some helium balloons.

General Tips: The goal is to build background knowledge while leading an engaging discussion on any and all information that can be talked about on a given page. The items that you choose to bring up or focus on can be modified for the students you are working with. For example, if you have a student who can point to something in the picture, answer yes/no questions be sure to incorporate a lot more of that as you go through the book. On the same token, be sure to ask a lot of comprehension questions and critical thinking questions at the level appropriate for students. There is something for everyone.

Page 1: Everything in the world is matter. Matter takes up space. Everything that we see is matter. We are made up of matter. Look around the room. What do you see? All those things are made up of matter. Matter comes in three types. The first type are solids. A chair is a solid. Pizza is a solid. We are solid. Ice cubes are solid. The second type of matter are liquids. Liquids are wet. Anything that we drink is a liquid. Today we are going to talk about the third type of matter. It is called gas. Have students view the following vides song about matter.
https://www.youtube.com/watch?v=C33WdI64FiY
Point: solid ice cube, liquid water.
WH Questions: What is everything in the world made up of? How many types of matter are there?
Yes/No: Is everything you see made up of matter? Are you made up of matter? Is a chair made up of matter?
Opinions/Experiences: Look around the room. What do you see? Those things are all made up of matter.
Peer to Peer Interaction: After you read Page 1, ask students, "What is everything in the world made up of?" The answer is the main idea card "matter." Students will find the main idea card and read it to

their partner. Teacher will prompt them to talk to each other about things that they see that are made up of matter.

Page 2: Gases are one type of matter. Gases are in the air. You cannot see gases, but they are there. You can smell a lot of gases. Have students view the following video about gases. Pause periodically to point and discuss. Have students view the following video about gas. Pause periodically to point and discuss. [(4) What is a Gas? - YouTube]

Point: air

WH Questions: Where are gases? What state of matter is in the air?

Yes/No: Can you see gases? Are gases in the air? Can you smell some gases?

Opinions/Experiences:

Peer to Peer Interaction: After you read Page 1, ask students, "Where are gases?" The answer is the main idea card "air." Students will find the main idea card and read it to their partner. Teacher will prompt them to talk to each other about the questions above.

Page 3: A lot of smells are gases. Baked cookies out of the oven make a nice smelling gas. When you smell baked cookies, you are smelling the gas that they make.

Point: boy, girl, cookies

WH Questions: What can you bake that smells good?

Yes/No: Can you eat some liquids? Is an apple a liquid? Is an apple a solid?

Opinion/Experiences: Have you ever baked cookies? Do you like the smell of cookies when they come out of the oven?

Peer to Peer Interaction: After you read Page 3, ask students, "What can you bake that smells good?" Students will find the main idea card and read it to their partner. Teacher will prompt them to talk about baking cookies.

Page 4: Flowers make a nice smelling gas. Different flowers make different gas smells.

Point: girl, hand, nose, flower

Questions: What makes a nice smelling gas?

Yes/No: Is pizza a liquid? Is pizza a solid?

Sharing Opinion/Experiences: Have you ever smelled a flower? Do you like the smell of flowers?

Peer to Peer Interaction: After you read Page 4, ask students, "What makes a nice smelling gas?" The answer is the main idea card "flowers." Students will find the main idea card and read it to their partner. Teacher will prompt them to talk to each other about flowers.

Page 5: We breathe in a gas called oxygen. Oxygen is an important gas. We cannot see oxygen, but it is there. Our bodies need oxygen. We inhale oxygen. Inhale means breathing in. We breathe oxygen into our bodies.

Point: boy, plants, air, boy inhaling.

WH Questions: What gas do we breathe into our bodies. Does inhale mean "breathe in or breathe out?"

Yes/No: Do we breathe in oxygen? Is oxygen a gas? Can you smell oxygen? Can you see oxygen?

Sharing Opinion/Experiences: Take a deep breath in. You are breathing in a gas called oxygen.

Peer to Peer Interaction: After you read Page 5, ask students, "What gas do we breathe in?" The answer is the main idea card "oxygen." Students will find the main idea card and read it to their partner. Teacher will prompt them to ask their partner about some of the questions above.

Page 6: We inhale or breathe in a gas called oxygen. When we exhale or breathe out, we are breathing out carbon dioxide. Carbon dioxide is a gas. We cannot see carbon dioxide, but it is there. Tree and plants are happy that there is carbon dioxide in the air. Plants use carbon dioxide to grow. Have students practice the following rainbow breathing meditation. [(4) Rainbow Breath - Flow | GoNoodle - YouTube]

Point: book, girl, hair

WH Questions: What gas do we breathe out? Does exhale mean breath in or breathe out?

Yes/No: Does exhale mean breathe out? Do we exhale oxygen? Do we exhale carbon dioxide? Can you see carbon dioxide?

Opinion/Experiences: Put one hand on your heart and another hand on your stomach. Feel yourself inhaling and exhaling. You are inhaling oxygen and exhaling carbon dioxide.

Peer to Peer Interaction: After you read Page 7, ask students, "What gas do we breathe out?" The answer is the main idea card "carbon dioxide." Students will find the main idea card and read it to their partner. Teacher will prompt them to answer some of the questions above.

Page 7: Very hot water can turn into a gas. When water gets very hot, it boils. You can see the water bubbling when it is boiling. We can see steam in the air when water is boiling. Steam almost looks like smoke. Have students view the following video showing steam from boiling water. [(4) A Pot Of Boiling Water On The Stove (Rapid Boil With Steam). Stock Footage - YouTube]

Point: pot, steam

WH Questions: What do you see when water boils?

Yes/No: Does cold water make steam? Does hot water make steam? Is steam a gas?

Opinion/Experiences: People boil water when they are cooking. We need to boil water when we make pasta/macaroni. Have you watched anyone in your family boil water? Have you ever seen the steam? The steam is a gas.

Peer to Peer Interaction: After you read Page 6, ask students, "What do you see when water boils?" The answer is the main idea card "steam." Students will find the main idea card and read it to their partner. Teacher will prompt them to talk boiling water.

Page 8: Balloons that can float up into the air have helium in them. Helium is a gas that makes balloons float up in the air. You cannot see helium, but it is there. Helium is stored in a metal tank called a helium tank. Have students view the following videos. Pause periodically to point and discuss. [(4) Why do helium balloons float? - Balloon Facts for Kids - YouTube] and [(4) How To Fill A Helium Balloon - YouTube]

Point: sky, clouds, balloons, red balloon, helium tank

WH Questions: What gas makes balloons float up into the air?

Yes/No: Is helium a gas? Can you see helium? Can you put helium in balloons? Does helium make balloons float up into the air?

Opinion/Experiences: Do you like balloons? Have you ever held onto a balloon? Have you ever let go of a balloon and had it float up into the air?
Peer to Peer Interaction: After you read Page 8, ask students, "What gas makes balloons float up into the air?" The answer is the main idea card "helium" Students will find the main idea card and read it to their partner. Teacher will prompt them to ask their partner some of the questions talked about above.

Page 9: Water from lakes and rivers can turn into a gas called water vapor. The water vapor goes up into the sky. When the water vapor gets cold, it turns into ice or water again and makes clouds. When a cloud gets full of water, it starts to rain. Have students view the following video. Pause periodically to point and discuss. [(4) What Are Clouds Made Of? - YouTube]
Point: sky, clouds rain
WH Questions: What gas goes up into the sky to make clouds? Where does water vapor go? What does water vapor make?
Yes/No: Is water vapor a gas? Can you see water vapor? Can water vapor make clouds?
Opinion/Experiences: Do you like to look at clouds in the sky?
Peer to Peer Interaction: After you read Page 9, ask students, "What gas makes clouds?" The answer is the main idea card "water vapor." Students will find the main idea card and read it to their partner. Teacher will prompt them to ask their partner about how clouds are formed.