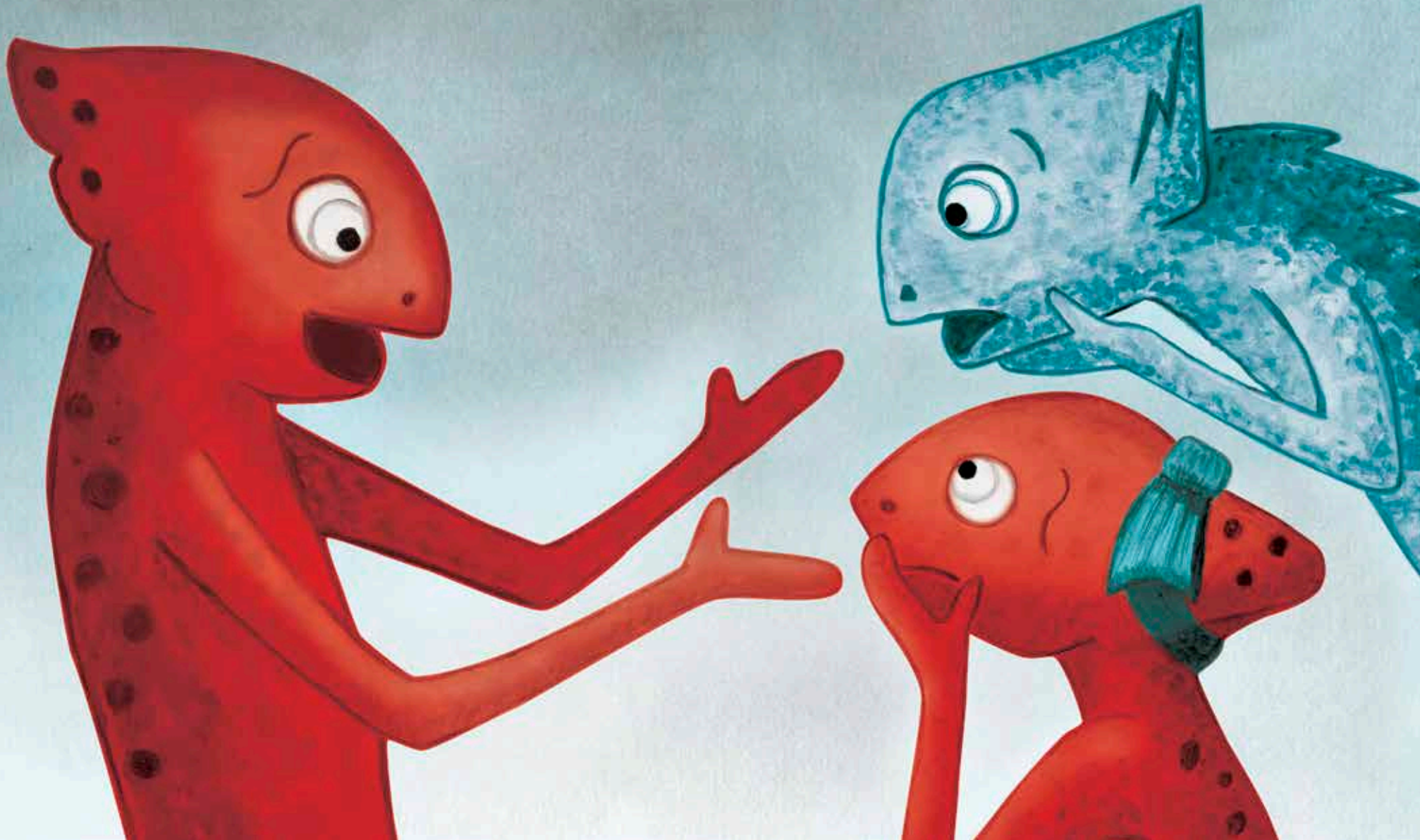


# Why Is Coco Red?

Coco and his friends solve this mystery as they learn about air quality.





## Why Is Coco Red?

Coco and his friends learn about wildfire smoke and air quality.

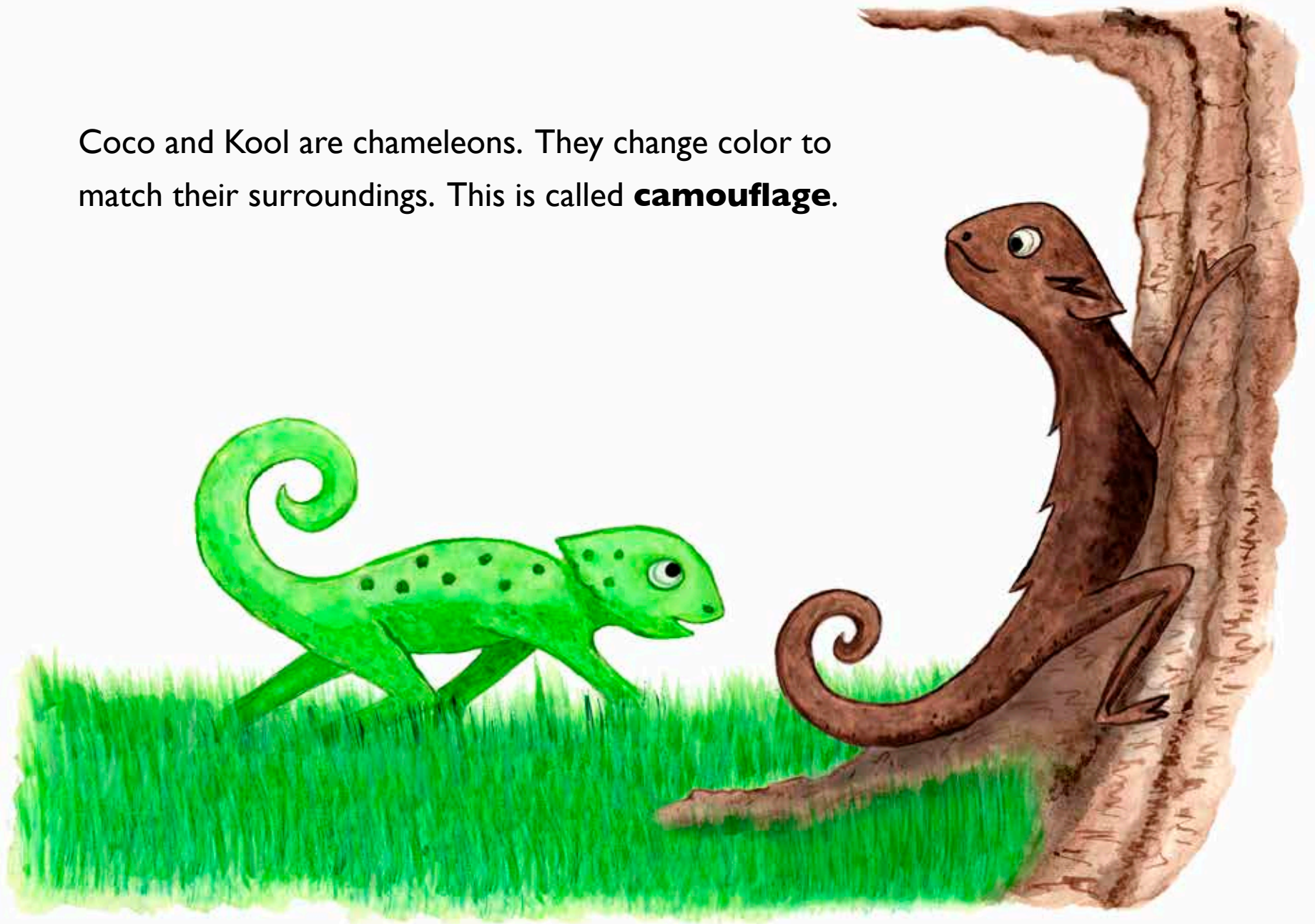
by

The United States Environmental Protection Agency

EPA Regions 8, 9, and 10 and  
the Office of Air Quality Planning and Standards

Follow Coco and his friends on a new adventure as they learn about wildfire smoke and how it can affect air quality and health. This book is for all children, especially those with asthma, and their caretakers.

Coco and Kool are chameleons. They change color to match their surroundings. This is called **camouflage**.







Coco and Kool like to play outdoors.  
If the air is clean, Coco is green.





But Coco is special. He changes color to match the air quality around him. So does his little sister, Cece.

“Coco, why am I turning yellow?”





Coco tells her, “You match the air quality chart! It tells us how clean or dirty the air is. When the number is more than 100, the air can be bad to breathe. We need to take it easier.”



“Yowza,” says Cece.



“I can keep track of the air quality too!” says Kool.



Their friend KC just moved  
to the coast with his family.

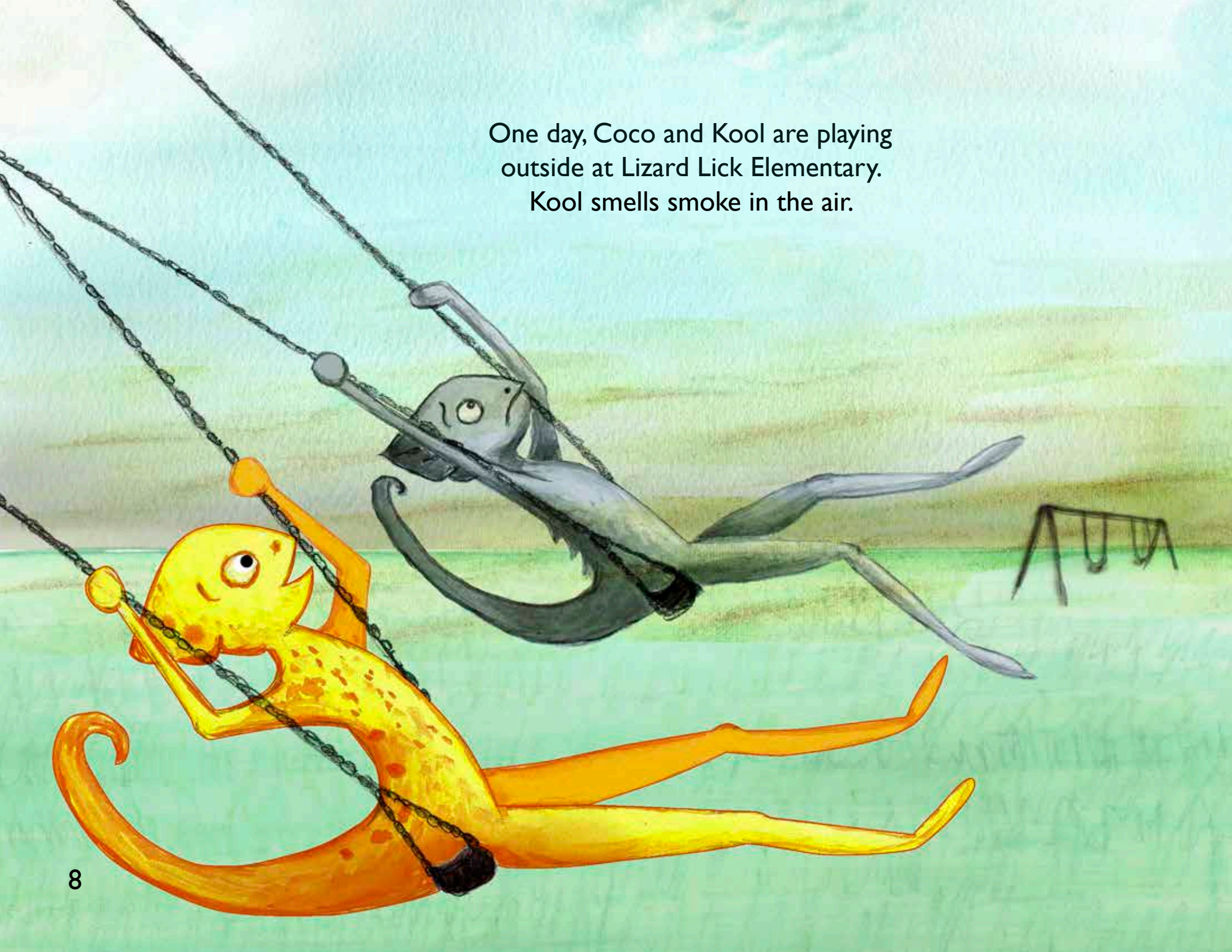


They miss him but talk  
with him all the time.

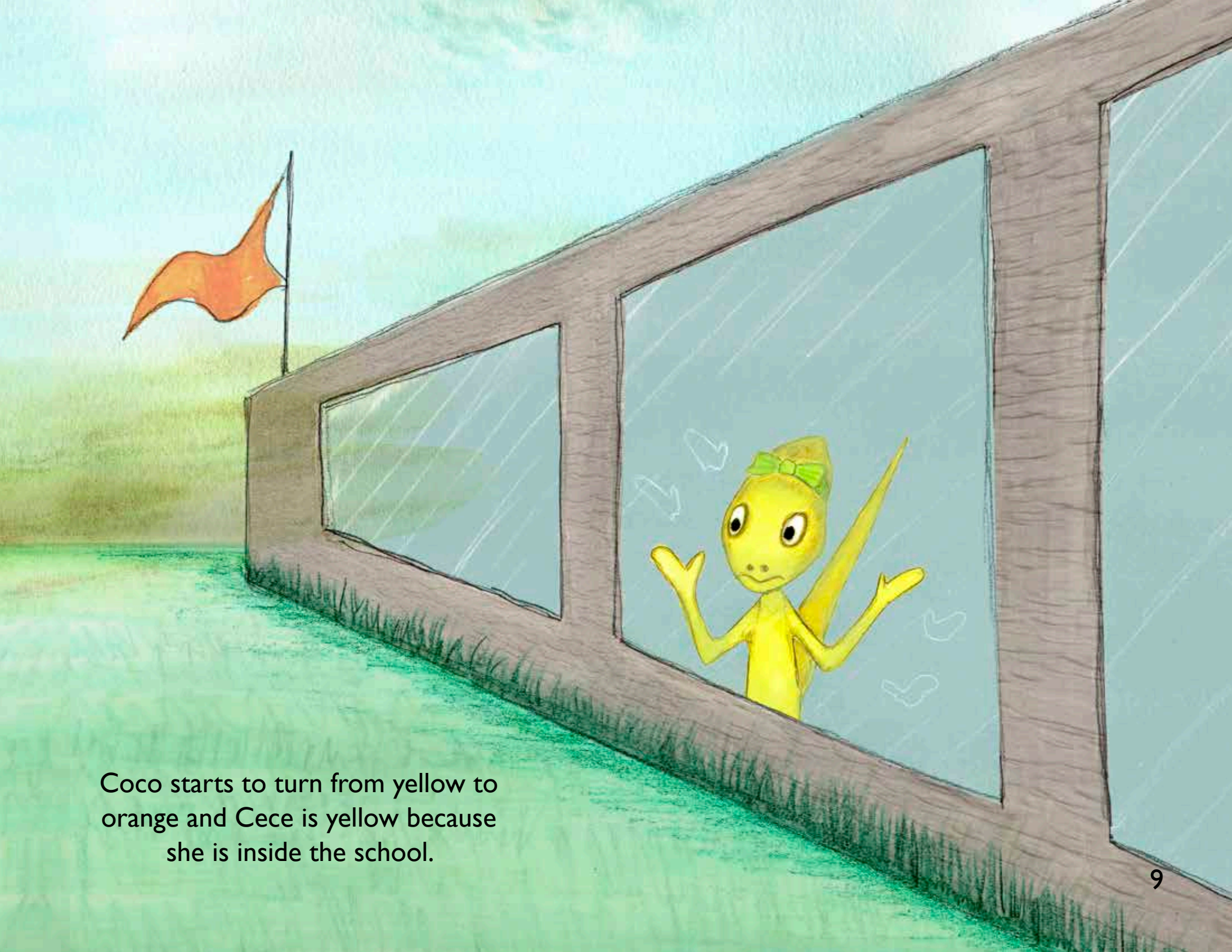




One day, Coco and Kool are playing  
outside at Lizard Lick Elementary.  
Kool smells smoke in the air.







Coco starts to turn from yellow to orange and Cece is yellow because she is inside the school.





Soon Coco turns orange. “Coco, you’re not looking so great. Let’s slow down,” says Kool.





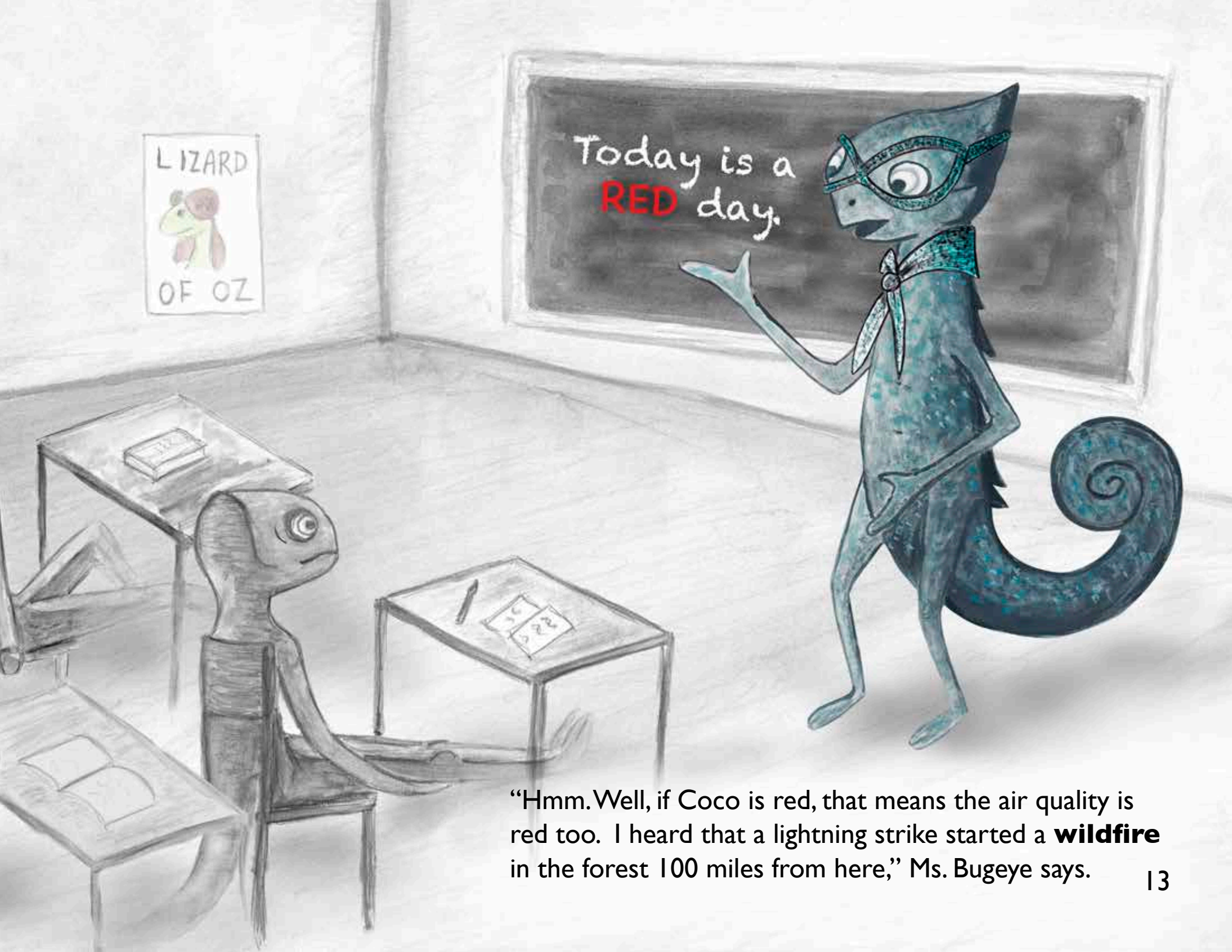
The next day, Coco is red.

In the classroom, the other chameleons turn gray when they sit at their desks. Except for Coco.

“Why is Coco red, Ms. Bugeye?” Kool asks their teacher.







"Hmm. Well, if Coco is red, that means the air quality is red too. I heard that a lightning strike started a **wildfire** in the forest 100 miles from here," Ms. Bugeye says.

On the way home, Coco says, “Kool, my chest feels tight. I think my **asthma** is acting up.”



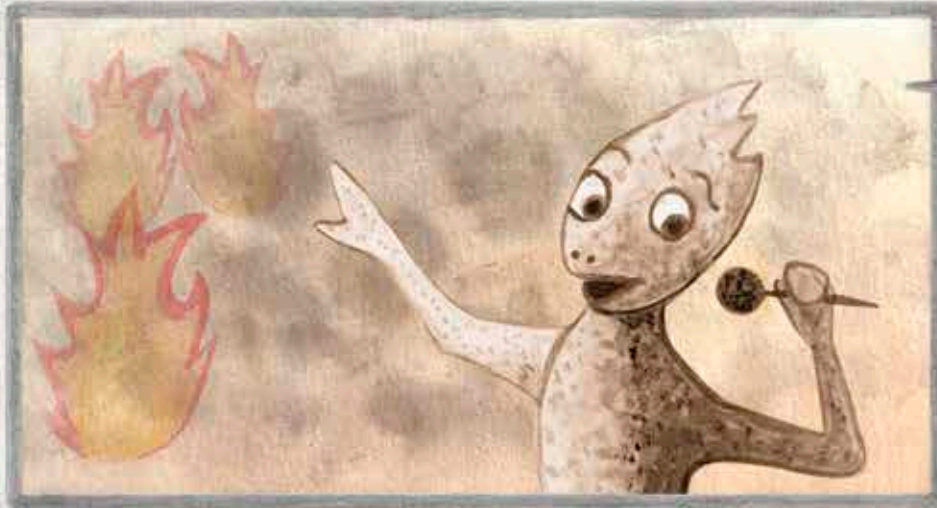
**Asthma** is a disease that can cause trouble breathing. Many children, teens and adults have **asthma**. An **asthma** attack is when your lungs aren't getting enough air. It can make you cough or wheeze, or make your chest hurt or feel tight. Smoke can trigger **asthma** attacks.





They decide to play inside,  
where the air is cleaner.





Firefighters are working hard to control the fire.

The **air cleaners** in the house help with Coco's breathing. "I feel a little better now," he says.





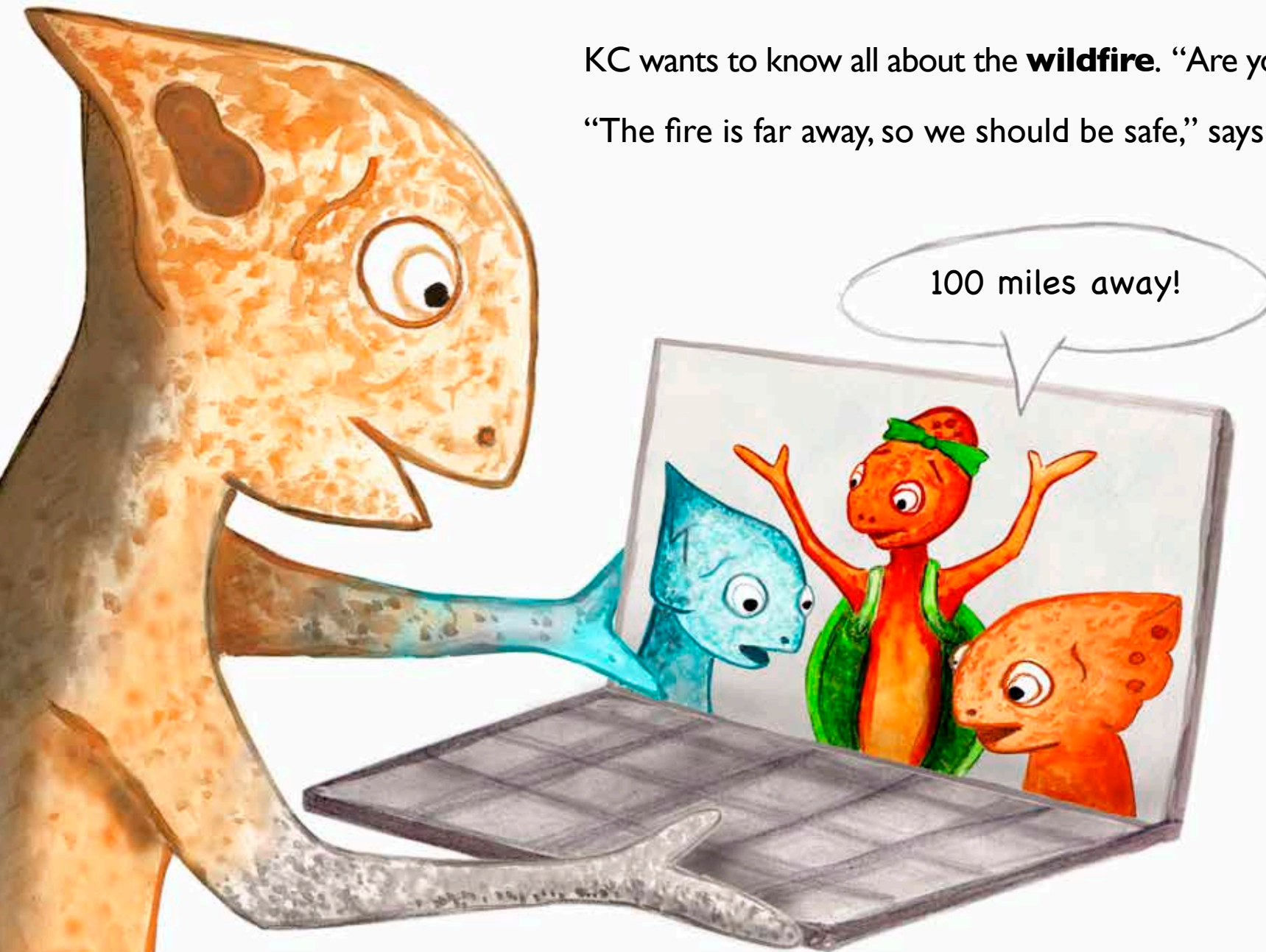


“But you’re still orange, so the air is not clean yet, even inside!” says Kool.

“Do you think KC is breathing bad air too?” asks Coco. They call KC for a video chat.

KC wants to know all about the **wildfire**. “Are you guys scared?”

“The fire is far away, so we should be safe,” says Coco.



“But the wind is blowing the smoke all the way here, and it’s making the air dirty,” adds Kool.

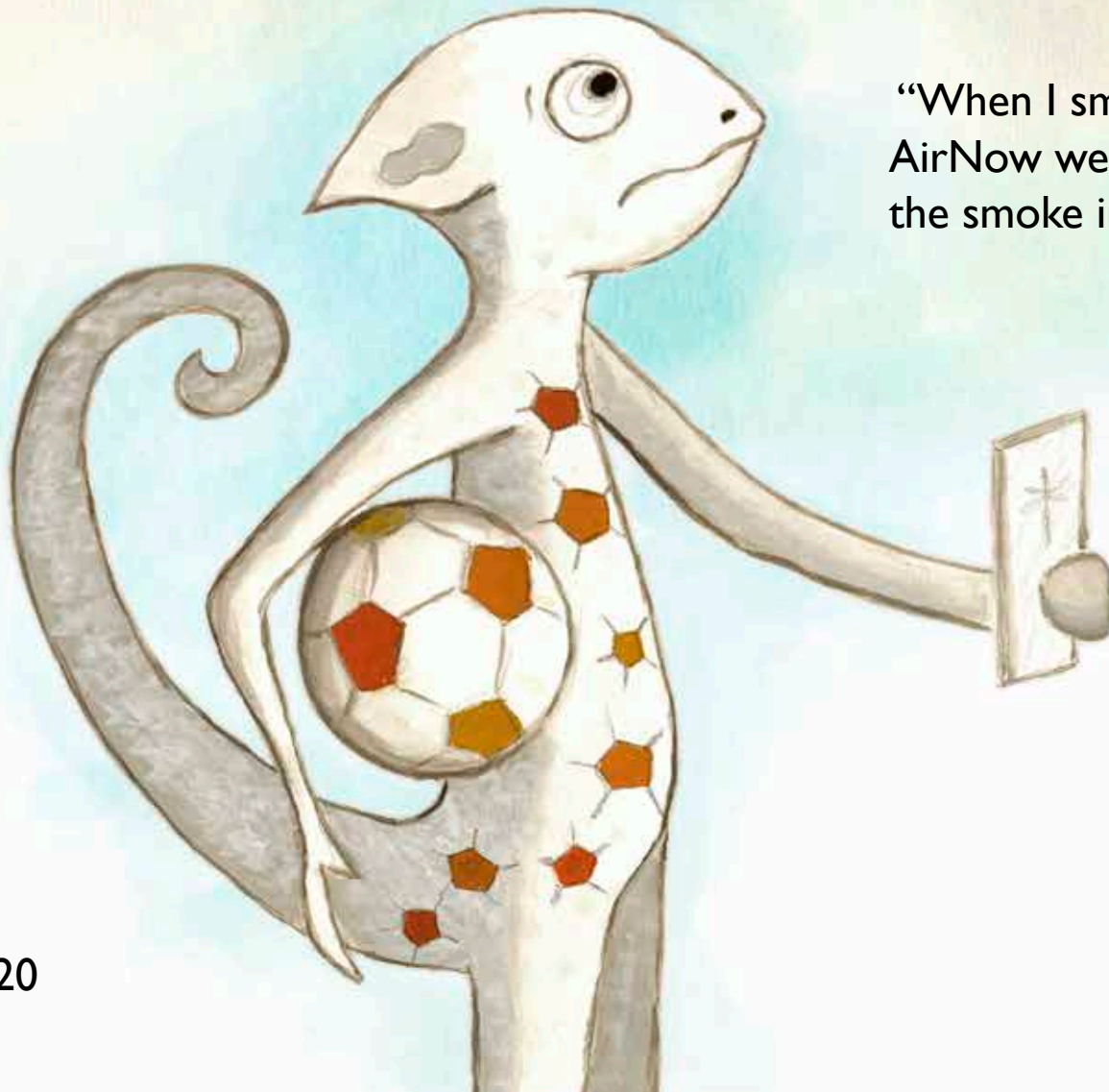




“Yikes, can you breathe okay?” asks KC.

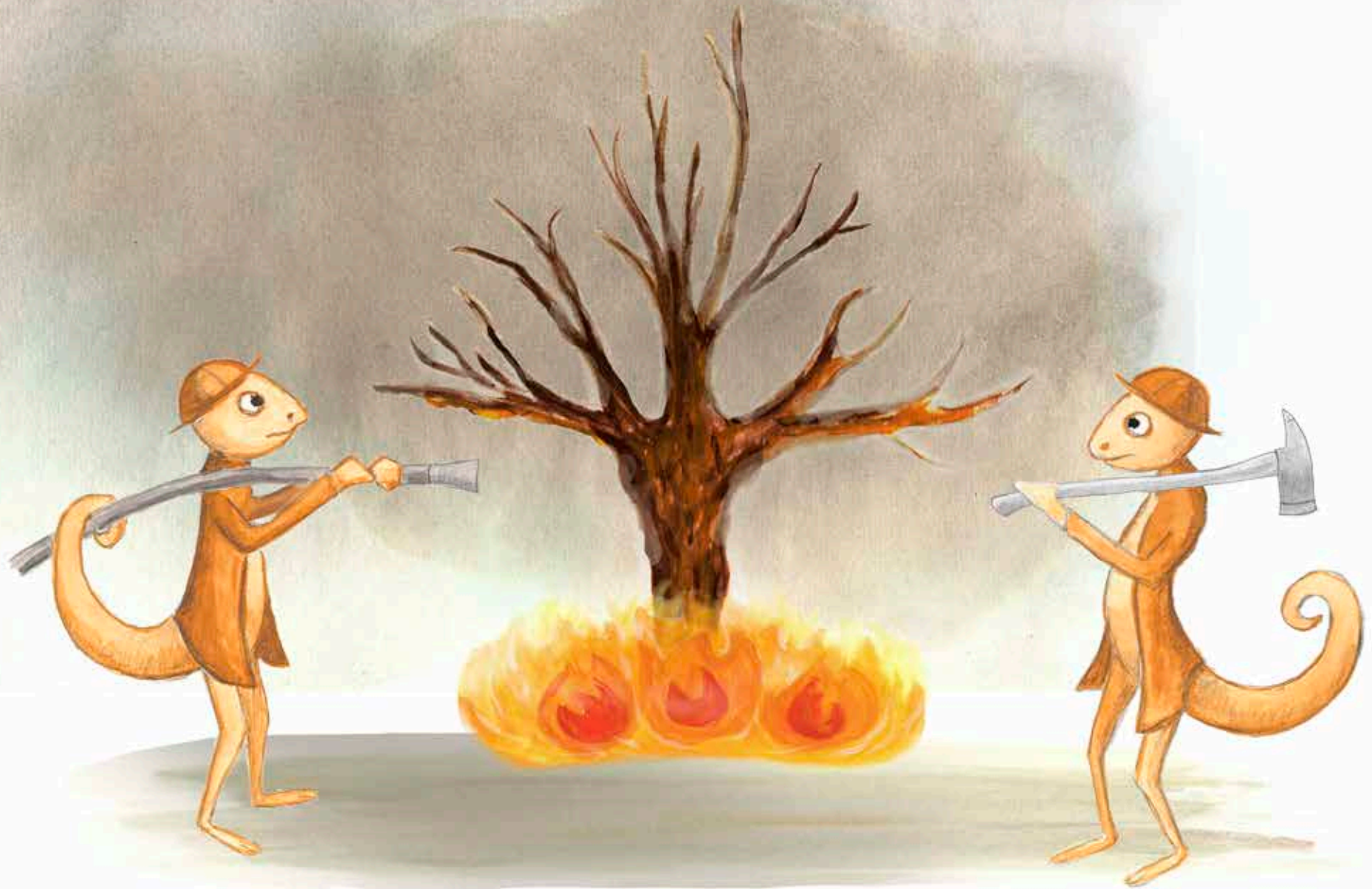
Coco says, “We still play outside, but just not as hard or for as long. Inside we keep the doors and windows closed to keep out the smoke.”

“We have a fire here, too!” KC tells them. “But it’s not a **wildfire**. Sometimes firefighters start small forest fires on purpose. They’re called **planned burns**. They clear out areas with lots of dead trees and brush. It helps keep **wildfires** from being as bad.”



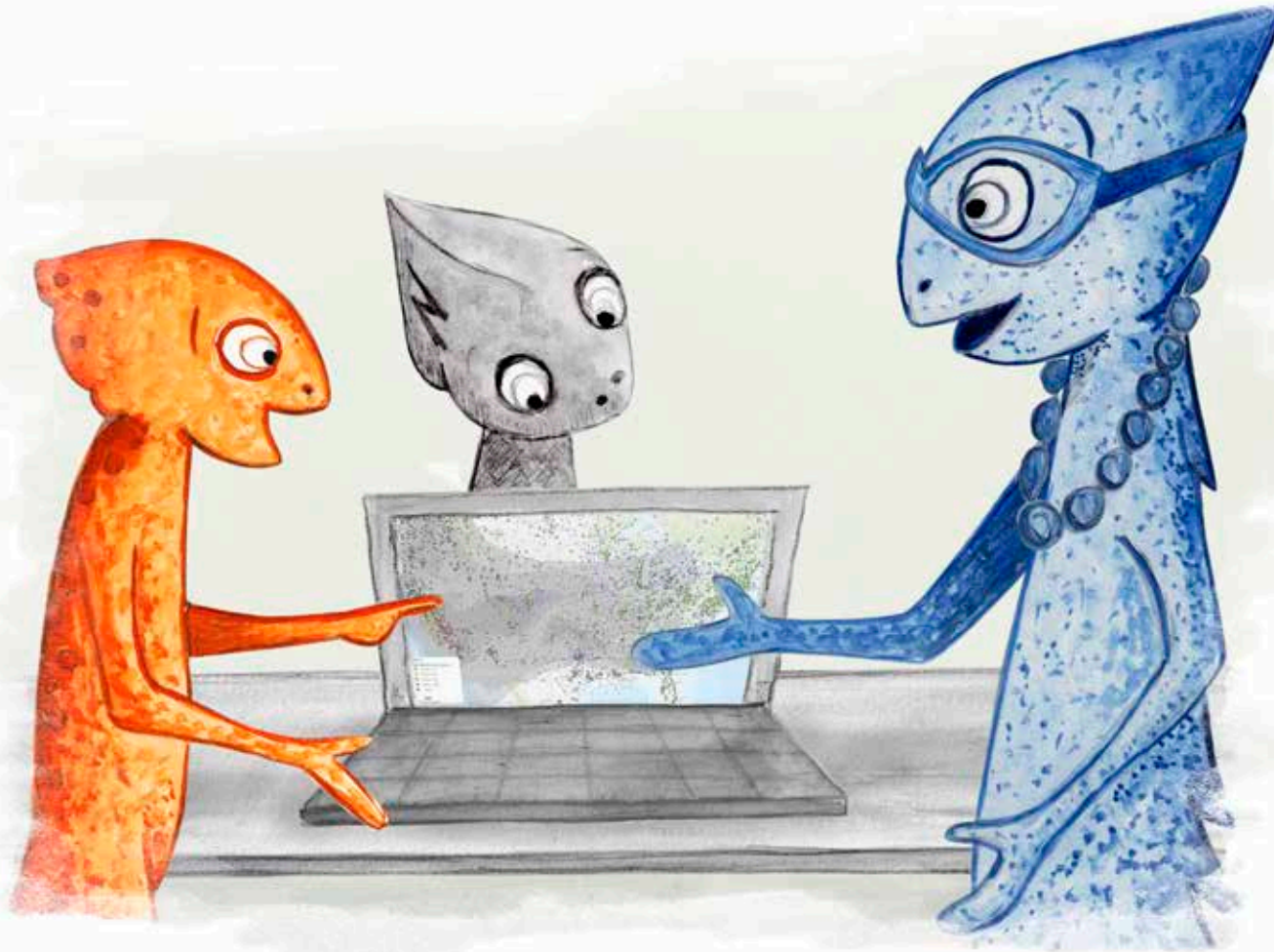
“When I smelled the smoke, I checked the AirNow website and I found maps that showed the smoke in my neighborhood,” said KC.





**Planned Burns** are also called prescribed burns or controlled burns. They are the controlled use of fire by a team of fire experts under certain weather conditions to keep the forest healthy.

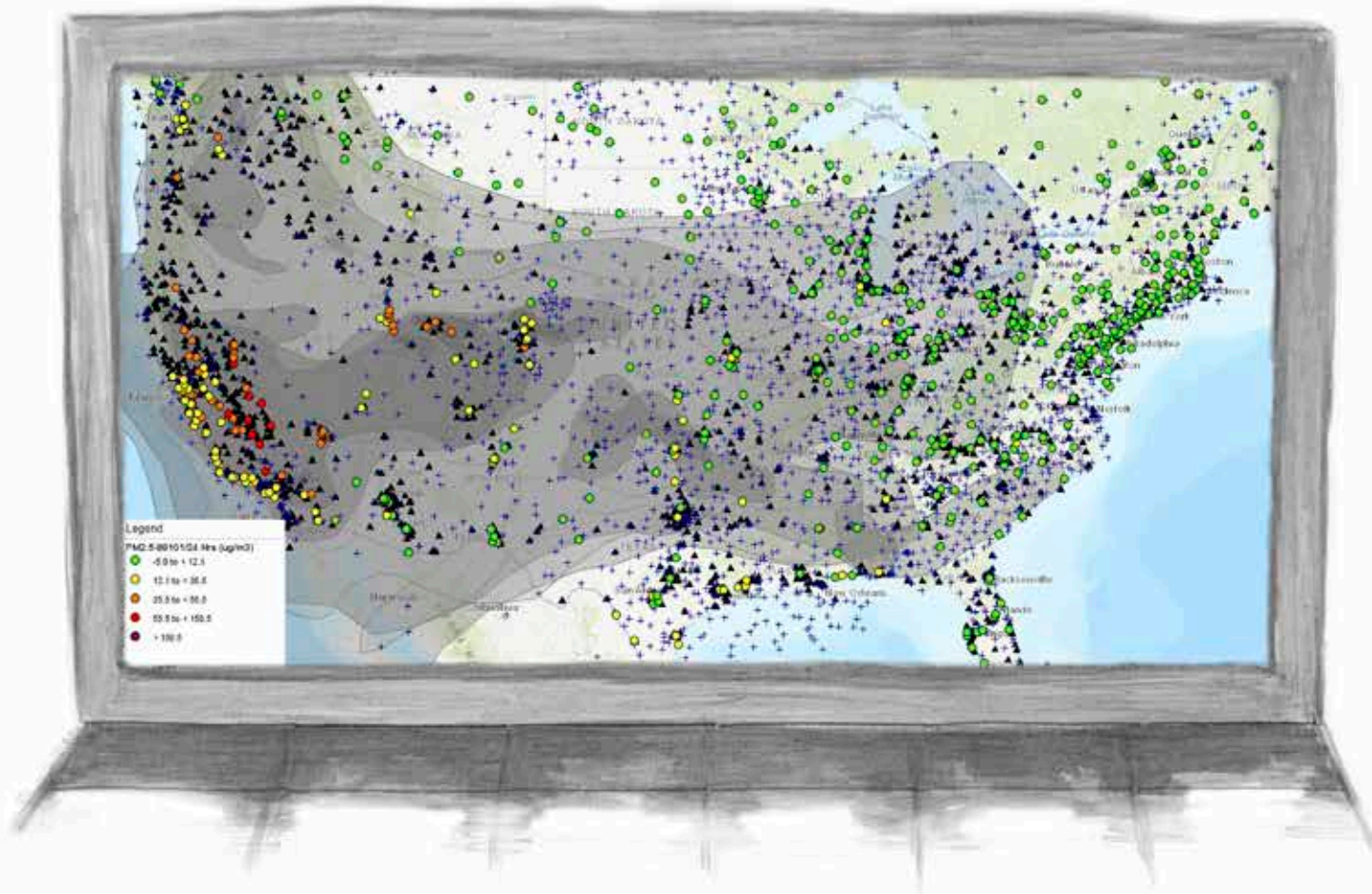
The next day, Coco and Kool tell Ms. Bugeye what they learned about **planned burns** and the smoke maps.



“Why don’t you look on the AirNow website to find out more about what is happening here?” she says.



“Cool,” says Kool, “you can see where the smoke from different fires is moving. It can go really far!”



“**Air monitors** around us and all over the country measure how clean or dirty the air is. This helps scientists learn about **wildfire** smoke and air quality.”



One day Coco wakes up and doesn't smell smoke anymore. "I'm green again!"





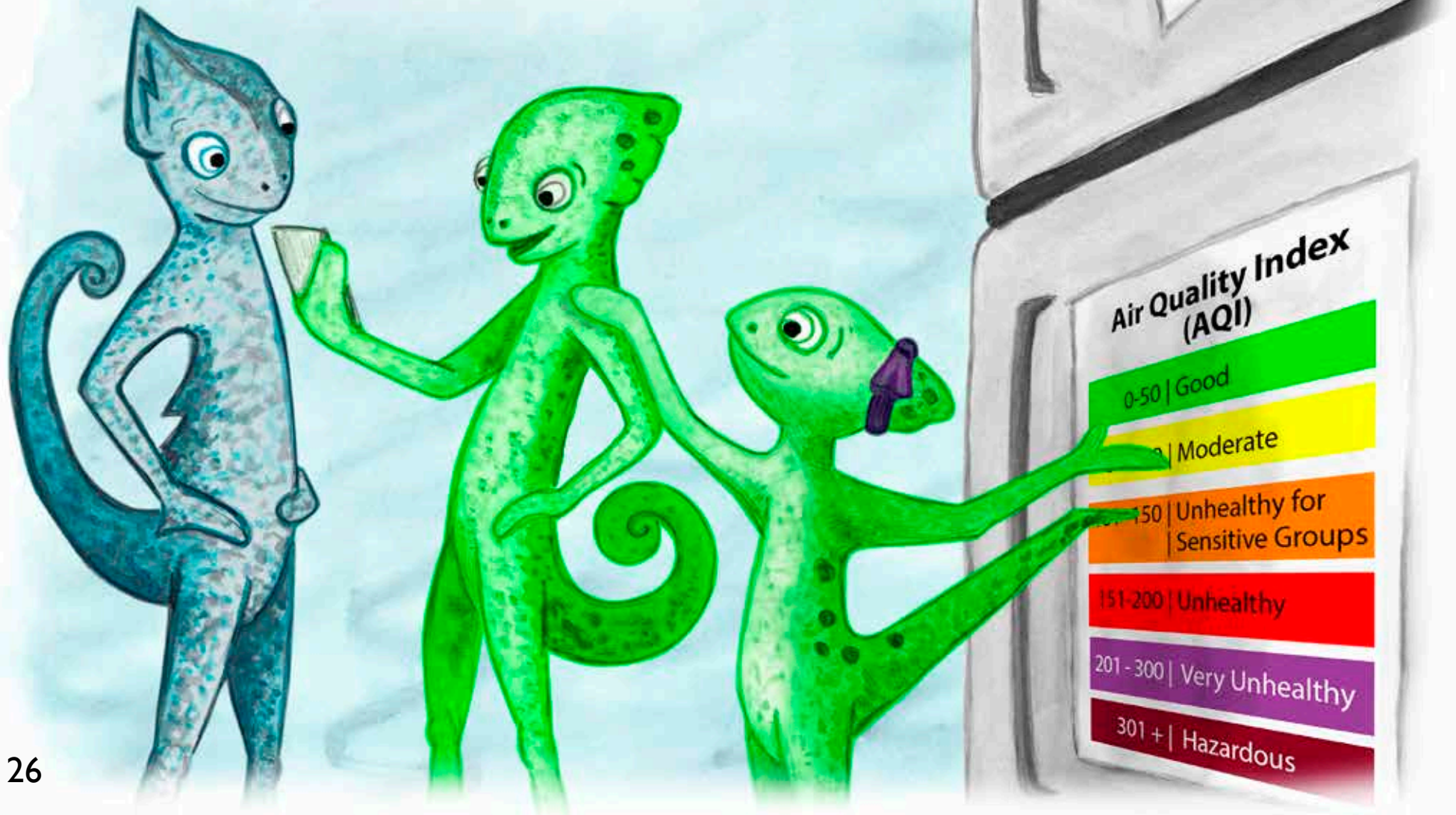


I'm a green machine!

Firefighters stopped the **wildfire** from spreading, and both the fire and the smoke are now gone.



Coco, Kool and KC now know where to find information about **wildfire** smoke. And they know how to protect themselves when the air quality is bad...





And Cece wants to be a firefighter when she grows up! Coco wants to be a weather forecaster.

Learn more about **wildfire** smoke and the **Air Quality Index** at [www.AirNow.gov](http://www.AirNow.gov).



# Glossary

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**Air Cleaner** – Device used to remove pollutants, such as smoke, from the air.

**Air Quality Index (AQI)** – Think of the AQI as a yardstick that runs from 0 to 500. The higher the AQI value, the greater the amount of pollution in the air. The AQI has 6 colors to communicate how clean or dirty the air is in your community. When you know the AQI color in your area, you can take steps to protect your health.

**Air Monitor** – Equipment that measures levels of air pollution in the surrounding air. It can be used both indoors and outdoors.

**Asthma** – A disease that can cause trouble breathing. Many children, teens and adults have asthma. An asthma attack is when your lungs aren't getting enough air. It can make you cough or wheeze, or make your chest hurt or feel tight. Smoke can trigger asthma attacks.

**Camouflage** – Colors that allow an animal to blend in with its surroundings.

**Planned Burns** – Also known as prescribed burns or controlled burns. They are the controlled use of fire by a team of fire experts under certain weather conditions to keep the forest healthy.

**Sensitive Groups** – Sensitive groups are more likely to have health effects such as an asthma attack at lower levels of air pollution, such as when the AQI is orange. Groups that are considered sensitive to air pollution include children, people with asthma or heart disease, and older adults. See the complete list at <https://www.airnow.gov/publications/activity-guides-publications/>.

**Wildfire** – An unplanned fire in an area of plants and trees.

**Wildfire Smoke** – A mix of gases and fine particles from burning trees and plants, buildings, and other materials that can cause health problems like coughing, sore throats, and asthma attacks.



# Teacher and Parent Reference (Answers at the end)

.....

**1. No one should play outside when the air quality color is:**

*a) Orange b) Purple c) Angry*

**2. If the air quality color is orange or red, do you have to stay inside all day?**

*a) No, but take more breaks b) Yes c) No*

**3. If the air quality word for the day is “good,” what is the air quality color?**

*a) Green b) Orange c) Purple*

**4. The air quality color red means the air outside is:**

*a) Beautiful b) Red c) Dirty*

**5. Asthma makes it hard to:**

*a) Breathe b) Fight Crime c) Read*

**6. True or False: sometimes fires are planned.**

*a) True b) False*

**7. How far can wildfire smoke travel?**

*a) A few feet b) Thousands of miles c) Both a and b*

**8. If you’re playing outside and you see or smell smoke you should:**

*a) Ride your bike b) Keep playing outside c) Stop and tell your parents or teachers*

**9. Can you see dirty air?**

*a) Yes b) No c) Sometimes, but not always.*

**10. Why is it more of a problem for children to breathe dirty air?**

*a) You need more sleep b) Your bodies and lungs are still growing c) You eat more cookies*

# Resources

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## **Wildfire Resources**

**Prepare for or respond to a wildfire** - [www.epa.gov/natural-disasters/wildfires](http://www.epa.gov/natural-disasters/wildfires)

**Preparing for Wildfires (CDC)** - [www.cdc.gov/disasters/wildfires/beforefire.html](http://www.cdc.gov/disasters/wildfires/beforefire.html)

**Wildfire Ready (Ready.gov)**- [www.ready.gov/wildfires](http://www.ready.gov/wildfires)

**Fire and Smoke Map**- [fire.airnow.gov/](http://fire.airnow.gov/)

**Smoke-Ready Toolbox for Wildfires** - [www.epa.gov/smoke-ready-toolbox-wildfires](http://www.epa.gov/smoke-ready-toolbox-wildfires)

**Create a Clean Room to Protect Indoor Air Quality During a Wildfire** -  
[www.epa.gov/indoor-air-quality-iaq/create-clean-room-protect-indoor-air-quality-during-wildfire](http://www.epa.gov/indoor-air-quality-iaq/create-clean-room-protect-indoor-air-quality-during-wildfire)

## **Air Quality Resources**

**What color is your air today?** - [www.airnow.gov](http://www.airnow.gov)

**AIRNow for Students Page** - <https://www.airnow.gov/education/students>

**AirNow Air Quality Videos** - <https://www.airnow.gov/air-quality-videos/>

**Creating Healthy Indoor Air Quality in Schools** - <https://www.epa.gov/iaq-schools>.

**Pediatric Environmental Health Specialty Units (PEHSU)**

The PEHSU were created to ensure that children and communities have access to, usually at no cost, special medical knowledge and resources for children faced with a health risk due to a natural or human-made environmental hazard.

Visit [www.pehsu.net](http://www.pehsu.net).

## **Air Quality Flag Program**

The Air Quality Flag Program helps children, parents, others in the community be aware of daily air quality conditions using colored flags. Each day, a flag that signals the level of air pollution for that day is raised in front of participating organizations. By checking local flagpoles and comparing the colored flags to the Air Quality Index (AQI), members of the community can tell what the daily air quality is and adjust their activities to reduce their exposure to air pollution.

[www.airnow.gov/flag](http://www.airnow.gov/flag).



## **Asthma Resources**

### **Parent Information - Help Your Child Have Fewer Asthma Episodes:**

- Work with your child's doctor to identify your child's asthma triggers.
- Take steps to reduce your child's exposure to asthma triggers.
- Work with your child's doctor to come up with a written action plan for managing your child's asthma.
- Follow the asthma action plan. Keep a quick relief inhaler close by...at home, at school, everywhere.
- Share copies of your child's asthma action plan with your child's school, teachers, babysitters, and family members.
- Talk about your child's asthma action plan with people in your child's life so that, in case of an asthma episode, they will know what to do.
- Notice how often your child has asthma symptoms like coughing, chest tightness, wheezing and trouble breathing. Ask for reports of asthma symptoms at school or child care.
- Remind your children to wash their hands to reduce the spread of colds.
- Contact your child's doctor if your child has asthma symptoms or uses a quick relief inhaler more than once or twice a week. You and your child's doctor may need to adjust the asthma action plan.

For more information on managing your child's asthma, visit [www.epa.gov/asthma](http://www.epa.gov/asthma) or [www.noattacks.org](http://www.noattacks.org).

**Asthma Resources for Schools:** - [www.epa.gov/iaq-schools/managing-asthma-school-environment](http://www.epa.gov/iaq-schools/managing-asthma-school-environment) or [www.nhlbi.nih.gov/health-topics/publications-and-resources](http://www.nhlbi.nih.gov/health-topics/publications-and-resources)

# Teacher and Parent Reference (Answers)

.....

**1. No one should play outside when the air quality color is:**

*b) Purple*

**2. If the air quality color is orange, red, or worse, do you have to stay inside all day?**

*a) No, but take more breaks. Exercise is good, but take it a little easier when the air is dirty. The longer you play outside, the more you need to take breaks, and play games that do not involve as much running.*

**3. If the air quality word for the day is “good,” what is the air quality color?**

*a) Green*

**4. The air quality color red means the air outside is:**

*c) Dirty*

**5. Asthma makes it hard to:**

*a) Breathe*

**6. True or False: sometimes fires are planned?**

*a) True*

**7. How far can wildfire smoke travel?**

*c) Both a and b*

**8. If you’re playing outside and you see or smell smoke you should:**

*c) Stop and tell your parents or teachers*

**9. Can you see dirty air?**

*c) Sometimes, but not always. Air can be dirty even when it looks clean. For example, you cannot see ozone.*

**10. Why is it more of a problem for children to breathe dirty air?**

*b) Your bodies and lungs are still growing*





