LISTEN & DISCUSS • TEACHER GUIDE

Why Do We Burp and Fart?

Burps and farts are just gas leaving the body. But where does all that gas come from?



GRADES	TIME	FORMAT	STANDARDS
K–4	**~40 min**	**Listen + do**	**NGSS**
Ages 5–10	incl. 5-min episode	Talk · activity · exit ticket	1-PS4-1, 4-LS1-1

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Scan to listen
Free transcript on the episode page

BEFORE YOU TEACH

Lesson overview

Learning objectives

Students will be able to…

1. Trace the path of food and swallowed air: mouth → esophagus → stomach → intestines.
2. Explain the two sources of gas: swallowed air (burps) and gas made by helpful bacteria (farts).
3. Explain that the sound comes from moving gas making soft body parts vibrate.

The science in 60 seconds

Background for the teacher, drawn from the episode.

- Breathing and swallowing use different routes. Breathed air goes to the lungs; food, drinks, and swallowed air go down the **esophagus** to the stomach.
- We swallow air when we eat and drink, especially fizzy drinks. When a muscle at the top of the stomach relaxes, gas makes a U-turn back up and out of the mouth: a burp.
- In the **large intestine**, helpful bacteria break down food that wasn't fully digested earlier. As they work, they make gas. Muscles move it along until it exits: a fart.
- The sound comes from moving gas making soft tissues **vibrate**, like air squeaking out of a stretched balloon neck.
- Much of the gas has no smell; small amounts of sulfur gases cause the smell, so loud doesn't mean smelly. Gas is normal and doesn't mean a food is unhealthy. Eating slowly can cut burps, but bacteria still make gas.

BEFORE CLASS: PREP CHECKLIST

- ☐ Test the episode audio (QR code on the cover).
- ☐ Gather the activity materials (page 3).
- ☐ Print the student page (page 4), one per student.

THE BIG IDEA

Burps are mostly swallowed air and fizzy-drink gas coming back up. Farts are mostly gas made by helpful bacteria in the large intestine. Both are normal.

Key vocabulary

Gas
Air-like stuff with no fixed shape, like the bubbles in fizzy water.

Esophagus
The food tube from your mouth to your stomach.

Stomach
The stretchy holding room where food and swallowed air collect.

Bacteria
Tiny living things. Helpful ones live in the large intestine.

Vibrate
To shake back and forth very fast. Vibrations make sound.

WATCH FOR THIS MISCONCEPTION

Students may think: "Gas means you are sick or ate something bad."

Actually: Everyone makes gas. Much of it comes from helpful bacteria doing their normal job.

NGSS CONNECTIONS (PERFORMANCE EXPECTATIONS)

1-PS4-1 — **Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.** How this lesson connects: The stretched balloon neck vibrates and squeaks, just like soft tissues when gas moves past.

4-LS1-1 — **Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.** How this lesson connects: The stomach and intestines are internal structures that help the body use food.

This short lesson builds toward these expectations; it does not fully assess them on its own.

STEP BY STEP • ABOUT 40 MINUTES

Lesson plan

ENGAGE
5 min

Spark curiosity

Set a "scientists' talk" norm: we use science words, giggles are OK, and nobody gets teased. Then hold up a cup of water: "When you drink, where does it go? What about air you swallow?"

LISTEN
5 min

Play the episode

Play the episode from the QR code on the cover or the episode page. Give students two things to listen for:

- Where does burp gas come from?
- Who makes most of the gas in a fart?

DISCUSS
8 min

Talk about it

Use think-pair-share: 30 seconds to think, a minute with a partner, then share. Model answers are on page 5.

1. When you gulp a fizzy drink, the gas in your tummy can take a "U-turn" back up and out. Why does that make a sound, and how is it like the neck of a stretched balloon?
2. Tiny helpful bacteria live in the large intestine. What do they do with food that was not fully digested earlier, and what do they make?
3. Why could eating slowly cut down on some burps but not stop every fart?

EXPLORE
15 min

Hands-on: Squeaky balloon & fizzy bottle

1. Adult slowly opens the fizzy water. Listen to the hiss and watch bubbles rise in a clear cup. Gas takes up space and wants to get out, like gas in the stomach.
2. Blow up a balloon. Pinch and stretch the neck to let air out slowly. Listen!
3. Stretch the neck tighter, then looser. How does the sound change? Gently touch the neck: can you feel it vibrate?
4. Connect it: moving gas + vibrating soft parts = sound. Then sketch the gas path: mouth → stomach (burp U-turn) → intestines.

MATERIALS

- Balloons (latex-free if anyone has an allergy)
- A bottle of fizzy water and a clear cup
- Paper towels for spills
- Paper and pencils for a gut-path sketch

Safety: Check for latex allergies. One balloon per child, no sharing. Pick up broken balloon pieces right away (choking hazard). An adult opens the bottle.

WRAP UP
5 min

Exit ticket

Hand out the student page (page 4). For K–1, read each item aloud and let students circle, point, or draw. Return to the guesses from the start: what changed?

Name _____ Date _____

Why Do We Burp and Fart?

Show what you learned! Circle, write, or draw.

1 **Most burp gas comes from…** Circle one.

- **a)** air and fizzy-drink gas we swallowed
- **b)** our lungs
- **c)** bacteria in our mouth

2 **True or false? Circle T or F.**

A loud fart is always a smelly one. **T** **F**

Helpful bacteria live in the large intestine. **T** **F**

3 **Fill in the blanks. Use the word bank.**

Word bank: **air** **bacteria** **vibrate**

We swallow _____ when we eat and drink. Helpful _____ make gas in the large intestine. Moving gas makes soft parts _____, and that makes sound.

4 **Draw the path: mouth → stomach → intestines. Add a "U-turn" arrow for a burp.**

Label your drawing!

FOR THE TEACHER

Answer key & extensions

Talk about it: model answers

1. When you gulp a fizzy drink, the gas in your tummy can take a "U-turn" back up and out. Why does that make a sound, and how is it like the neck of a stretched balloon?

> The moving gas makes soft tissues in the throat vibrate, and vibrations make sound, just like air fluttering out of a stretched balloon neck.

2. Tiny helpful bacteria live in the large intestine. What do they do with food that was not fully digested earlier, and what do they make?

> They break down the leftover food, and as they do, they make gas.

3. Why could eating slowly cut down on some burps but not stop every fart?

> Eating slowly means swallowing less air, so fewer burps. But bacteria in the large intestine still make gas, so farts still happen.

Exit ticket answers

1. a) air and fizzy-drink gas we swallowed

2. F: A loud fart is always a smelly one. · T: Helpful bacteria live in the large intestine.

3. air, bacteria, vibrate

4. Look for: a path from mouth to stomach to intestines, with a U-turn arrow going back up.

Differentiation

Grades K–1: Focus on "two exits, two sources." Use a long paper tube as a body map and move a cotton ball "gas bubble" along it.

Grades 2–4: Label a simple digestive diagram, then make a T-chart comparing burps and farts (where the gas comes from, how it leaves).

Keep wondering

- Cows burp a lot! Tiny microbes in their stomachs break down grass and make gas.
- Do big and small balloons squeak differently? Test it and explain why.

Quick-check rubric

Got it	Getting there	Not yet
Explains the big idea in their own words and uses 2+ vocabulary words correctly.	Explains part of the idea, or needs a prompt or the word bank.	Can't yet explain it. Revisit the activity, then retry the exit ticket orally.



TRY IT AT HOME

Slow sips at dinner

Try eating slowly and taking small sips. Do you notice fewer burps? Talk about how every body makes gas, and that "excuse me" is a kind thing to say.

Listen together