DAD, HOW DOES IT WORK?
A science podcast for curious kids

EPISODE 42

LISTEN & DISCUSS • TEACHER GUIDE

How Does a Cut Heal?

You scrape your knee. A few days later, fresh skin appears. How does your body know how to fix it?



GRADES	TIME	FORMAT	STANDARDS
K–4	**~40 min**	**Listen + do**	**NGSS**
Ages 5–10	incl. 6-min episode	Talk · activity · exit ticket	4-LS1-1

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3 **Lesson plan** step-by-step timing · discussion · hands-on activity

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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. Describe skin as a protective wall that keeps water in and dirt and germs out.
2. Put the main healing steps in order: alarm, plug, scab, clean-up, rebuild.
3. Explain why we leave scabs alone and what a scar is.

The science in 60 seconds

Background for the teacher, drawn from the episode.

- Skin works like a city wall: it keeps useful things, like water, in and keeps dirt and germs out.
- When skin is hurt, damaged cells spill chemicals that nearby cells sense as an **alarm**. Pain is a protective warning: "Stop! The wall is broken."
- **Platelets**, tiny pieces in the blood, get sticky at the cut and clump together into a plug. It dries and hardens into a scab: a temporary roof, not new skin.
- **Immune cells** (the clean-up crew) clear away dirt, germs, and broken bits. Extra blood flow to the spot can make it a little red and warm.
- Builder cells lay down **collagen**, a strong, stretchy support. New skin slides across. Itching is common as skin pulls tight and small nerves wake up. A scar is the body's quick "tape" repair.

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

Skin is the body's protective wall. When it breaks, the body sounds an alarm, plugs the gap, cleans up, and rebuilds new skin under a scab.

Key vocabulary

Skin
The body's outer wall. It keeps germs out.

Platelets
Tiny pieces in the blood that get sticky and plug a cut.

Scab
A hard, temporary cover over a healing cut.

Germs
Tiny living things, too small to see, that can cause infections.

Scar
A mark where skin was repaired, like a taped line on a drawing.

WATCH FOR THIS MISCONCEPTION

Students may think: "The scab turns into new skin."

Actually: The scab is only a temporary roof. New skin grows underneath it, then the scab falls off by itself.

NGSS CONNECTIONS (PERFORMANCE EXPECTATIONS)

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: Skin (external) and platelets and immune cells (internal) are structures that protect and repair the body.

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

Show a bandage. Ask: "What does a bandage do? What does your body do all by itself, even without one?" List ideas on the board.

LISTEN 6 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:

- What do platelets do?
- What is really happening under a scab?

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. What do platelets do when you get a cut?
2. Why is it a bad idea to pick a scab?
3. Why does a healing cut sometimes feel itchy?

EXPLORE 15 min

Hands-on: Fix the city wall

1. Draw a brick "city wall" across the paper. This is the skin.
2. Tear a small gap in the middle: the scrape. Partners call out "Alarm! The wall is broken!"
3. Platelets: stick several tiny tape pieces over the gap so they overlap into a plug. Then add one bigger piece on top: the scab.
4. Wait. Then try gently peeling the tape off too soon. Does the paper tear more? That is why we don't pick scabs. Finally, look at a taped line that stays on: the wall is fixed, but you can still see where. That's a scar.

MATERIALS

- Paper (one sheet per pair)
- Crayons or markers
- Clear tape, cut into small pieces and one larger piece
- No scissors or real cuts needed

Safety: No real cuts, blood, or sharp tools. For any real injury, follow your school's first-aid steps.

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 _____

How Does a Cut Heal?

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

1 **What is a scab?** Circle one.

- **a)** new skin
- **b)** a temporary cover while skin is fixed underneath
- **c)** a germ

2 **Number the steps 1–4 in order.**

- ☐ A scab forms
- ☐ Skin gets scraped
- ☐ New skin grows underneath
- ☐ Platelets plug the hole

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

Word bank: **Platelets** **scab** **scar**

_____ get sticky and plug the cut. The _____ is a temporary cover. A _____ shows where skin was fixed.

4 **Draw a knee with a scab. Under it, draw the "workers" fixing the skin.**

Label your drawing!

FOR THE TEACHER

Answer key & extensions

Talk about it: model answers

1. What do platelets do when you get a cut?

> They rush to the cut, get sticky, and clump together to plug the hole. The plug dries into a scab.

2. Why is it a bad idea to pick a scab?

> The scab is a roof over the "construction site." Picking it rips the roof off before the repair is done, so the body has to start over.

3. Why does a healing cut sometimes feel itchy?

> New skin is pulling tight across the gap and little nerves are waking up. The brain reads that as an itch.

Exit ticket answers

1. b) a temporary cover while skin is fixed underneath

2. 1 = Skin gets scraped · 2 = Platelets plug the hole · 3 = A scab forms · 4 = New skin grows underneath

3. Platelets, scab, scar

4. Look for: a scab on top with "workers" (clean-up crew, builders, new skin) underneath.

Differentiation

Grades K–1: Act out the story with roles: alarm ringers, platelets (hold hands to make a plug), the clean-up crew, and builders.

Grades 2–4: Make a 4-panel comic strip showing the healing steps in order, with a label for each step.

Keep wondering

- Why do we wash our hands before touching a cut?
- Many animals heal small cuts too. Some lizards can even regrow a lost tail. What else would you like to know about how bodies repair?

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

The city wall at home

Next time someone gets a small scrape, talk about the "city wall." Basic care: rinse gently with clean water, cover it with a bandage, and tell a grown-up. Talk about why we leave scabs alone so the workers can finish.

Listen together