mystery science

Grades K-5
Mini-Lesson: “How do they turn wood into paper?”

VIDEO TRANSCRIPT

Hi, it's Doug! I'm surrounded today by paper—paper is an amazing material! You can make almost anything out of paper. You can make a paper bird. You can make a paper airplane. You can make a paper hat.

Someone named Malikai has a question about where paper comes from. Let's give him a call now.

[Video Call]
- Hi, Doug!
- Hi, Malikai!
- I have a question for you. How do they turn wood into paper?
- That's a great question.

You may or may not have heard this before—the idea that paper comes from wood. It's true. But that seems crazy. How would that even be possible? What do you think? How do you think wood gets turned into paper?

Now would be a good time to pause the video and discuss.

Okay. You ready?

I don't know what ideas you had, but when I first heard that paper comes from wood, I thought, well, maybe they cut a piece of wood really thin or something? So maybe paper is like a really thin slice of wood? But it's not. Think about it. Paper is so flexible that you can fold it. You can crumple it even. Wood isn't very flexible at all. You definitely can't fold it or crumple it. So how is it that paper comes from wood?

Well, making paper does involve cutting up wood. It turns out if you chop up any kind of woody plant into small bits—like these wooden chips here—and you mash it up really well, then boil it in water, you'll make this soupy stuff that you see here—called pulp.

Now, it's not a soup that tastes any good. You wouldn't want to eat it. But if you pour it out over a flat surface and then wait a few days, it dries out and all sticks together to become this. Now you can recognize it? It's a sheet of paper.

Whoa! So that's how paper is made.

It kind of makes you wonder: Who came up with this idea to chop up wood and boil it? How do they figure this out?

Well, it turns out it was discovered so long ago that we don't know exactly who discovered it or how. But we do know that it was discovered in China in ancient times, thousands of years ago. The Chinese became the world's first makers of paper, and they started trading it with people all over the world.

People love paper because it has all kinds of great uses. The use of paper that you're probably most familiar with is using it to write on or draw on. But don't forget one of the most important

uses of all. Without paper, we wouldn't have these—books. The invention of paper made it possible for there to be books. So that's hugely important.

But even that's not all. People experimented with different ways of making paper. And they discovered that they could make different kinds of paper, depending on how thick or thin they spread the soupy pulp out to dry. If you spread it really thin, it will make a kind of paper that looks like this. It's so thin and flexible that you could use it to, you know, blow your nose. Sometimes we call it tissue paper. And you can probably think of other ways paper is used. We use paper to play games, like these playing cards. We even use paper to do, you know, other things.

So in summary, paper is made from wood by chopping wood up into bits, boiling it, and turning it into soupy stuff called pulp. When the pulp gets spread thin and dries, it sticks together to form a sheet.

That's all for this week's question. Thanks, Malikai, for asking it!