mystery science

Grades K-5
Mini-Lesson: “Why do we have daylight saving time?”

VIDEO TRANSCRIPT

VIDEO 1

Hi, it's Danni! Have you heard of daylight saving time? You might know it has something to do with clocks. In the United States, there's a night in the spring when many people change their clocks. They reset the time to go forward one hour. That's the start of daylight saving time. Then, in the fall, people change their clocks to go back one hour. That's the end of daylight saving time for the year. Someone named Julio is curious about all this clock-changing. Let's give Julio a call now.

[Video Call]

- Hi, Danni.
- Hi, Julio.
- I have a question for you. Why do we have daylight saving time?
- That's a great question.

Let's start with that first word: daylight. Now, you already know some things about daylight, like how we get light from the Sun. We see the Sun in the daytime, then it sets and it's dark out. There's a pattern of daylight and darkness that repeats. If you live somewhere with the seasons winter, spring, summer, and fall, you might know about another daylight pattern. Let me show you what I mean. Here's what the sky looks like when I have dinner in the winter. And this is what it looks like when I have dinner in the summer.

Now, I eat dinner around the same time every day, but you can probably spot some differences in these pictures. What do you notice about the sky in the winter compared to the summer?

VIDEO 2

Maybe you notice that it's darker outside in the winter. The Sun has already set when I eat dinner. But in the summer, it's still light. The Sun hasn't set yet. That's because in some places, the amount of daylight changes with the seasons. There's more daylight in the spring and summer and less in the fall and winter. It's a pattern that repeats each year. Now imagine you live someplace where the amount of daylight changes with the seasons. In summer, for instance, there's sunlight starting early in the morning. So early, you might still be asleep. In the past, that got some people thinking. They thought if everyone got up a little earlier, they could make use of that morning sunlight. And if we did our other activities a little earlier, like earlier lunch and earlier dinner, we could fit in our evening activities before the Sun sets too. Now, daylight after dinner might sound great. But imagine if you had to go around and convince everyone in your town to wake up early. That sounds nearly impossible. After all, everyone's got their own schedule.

But amazingly, that's what daylight saving time is. When people set their clocks forward for spring daylight saving time, it's like everyone is agreeing to wake up one hour earlier. Rather than change each person's schedule, people in the past realized we could all change our clocks instead, and governments passed laws so that all the clocks in a place would change. That way schools start earlier, businesses open earlier, buses arrive earlier, and so on. By changing the clocks, people can match their daily activities to when there's sunlight in spring and summer. And with that sunlight, we need fewer lights, so we can use less electricity too. But maybe you're curious why we change clocks again in the fall. Since fall and winter have less daylight,

there isn't lots of early morning sunshine to wake up early for. So, we change our clocks back for those seasons. At least, that's the *idea* behind daylight saving time. But here's the thing. The amount of sunlight changes slowly over the seasons. Changing our clocks by an hour doesn't always match up. It might still be dark when you wake up in spring or way too bright when you go to bed in summer. And with devices like air conditioners running longer on sunny summer evenings, research shows we may use more energy during daylight saving time instead of less. Changing clocks isn't helpful for everyone's schedule. Some people are up with the Sun in every season, while others work at night. And changing clocks isn't helpful in every place. In some places, daylight doesn't change much over the year. In fact, for a variety of reasons, many places around the world don't do daylight saving time. Some have passed laws to get rid of it, including the state governments of Hawaii and Arizona. Whenever we change our clocks in the spring, I feel so tired the next day. Maybe you do too. That's because if you wake up at your usual time, you're actually getting an hour less sleep that night. And in the fall, when we change our clocks back, it's like we get to sleep in an extra hour. That, I don't mind so much. But doctors point out that changing our clocks twice a year throws off our sleep schedule. It's confusing for our bodies. That can lead to worse health and more accidents. It's hard to focus when you're tired. That's one reason laws have been proposed that could change daylight saving time in the United States. We might even stop doing it. So, in summary, daylight saving time was invented to help us match our daily activities to when there's sunlight in different seasons. By changing our clocks one hour forward, we start our days earlier in spring and summer so there will be sunlight for our evening activities too. Still, people debate how well that actually works. It's helpful to remember that daylight and darkness follow their own patterns that we can't change. Changing clocks doesn't change the sun or make daylight. It just changes when people are awake to experience that light. That's all for this week's question. Thanks, Julio, for asking it.