

TWENTY-NINE

Butternut looked across the classroom as the morning session of cousin/smart squirrels gathered cushions and sat down. They were joined by eight citizen students from the nearby village, two beavers, two rabbits, a woodchuck, a skunk, and two squirrels. They were well behaved and knew to quickly quiet down once they took their seats. They also knew if they didn't follow the rules, they'd go back to learning strictly by video. None of them wanted that. All eight of them were quickly doing better in the in-person environment. Butternut nodded in satisfaction and glanced at Hidget who also nodded slightly. Elder Teacher arrived and wigwagged his tail in apology for being slightly late as he grabbed a cushion and sat down among the students.

"Thank you for arriving on time," Butternut began, causing Teacher to droop his tail slightly.

A tail shot-up. Butternut paused and looked at the student. "What is it, Tansy?"

The female squirrel quickly typed away on her flatpanel and it spoke her words in Common, as it was required that only Common be used in the classroom. "Ms. Butternut, this may not be the best time to ask about time. But that's what I'd like to know. We smart squirrels measure time in pawspans. Citizens, including our friends from Snow Valley," she nodded to the students from the neighboring village, "measure time in clicks. Why is it called a klik?" She curled her tail briefly as the device finished her question.

Butternut smiled as she again glanced at Hidget. "That might make for a good warm-up lesson for today. Tansy, would you explain why smart squirrels call it a pawspan?"

Tansy typed away again as her panel spoke for her. "If you hold your forepaw sideways out in front of you as far as you can with your fingers stretched-out," she demonstrated, "the sun covers that distance of your four outstretched fingers in the sky in the time Citizens call a klik."

"Excellent," Butternut responded. She turned to the eight biggens/citizen students. "Do any of you know why it's called a klik?" They all looked at each other and shrugged. One of the rabbits raised his right paw. Butternut pointed to him. "Go ahead, Tupper."

"I don't know," Tupper looked at the others from the village as he drooped his ears slightly. "It's never occurred to any of us to ask. We just accept it's called a klik."

Butternut nodded. "That's a reasonable answer." She looked toward Hidget. "Mentor Hidget, do you know why we call our basic unit of time measurement, a klik?"

"I'm embarrassed to admit I don't. Like Tupper and the others from the village, it never occurred to me to ask when I was growing up."

Butternut gigglechattered for a moment. "Me neither." The confession caused a small gasp among the smart squirrel students. "So, let's find out together! That's one of the great things about having the world network at our clawtips through our flatpanels." She pulled hers off her fur where it was hanging and quickly tapped away.

Soon, the larger panel on the wall lit up. The lights dimmed a bit in the room. Text appeared on the screen and was also read aloud. “This video lesson is approved by the World Education Board for all age levels.”

A group of citizen children of mixed species appear on screen at the edge of a playground with one adult fox among them. “Now remember, have fun playing, but you need to return in one klick.” The children cheer and run off. The fox turns to the camera. “OH! Hello there!” He waves. “Today, we’re going to learn about time. What exactly is a klick and why do we call our basic measurement of time that? A klick is how we measure time.” The fox fades from the screen and continues to narrate the lesson as a space view of the Earth fills the screen. “Our planet, Earth, orbits around the sun. As it does so, it rotates creating day and night. One full day and night is twenty-five klicks in length. The Earth takes three-hundred and fifty point four days to orbit the sun, which is what we call a year. That extra zero-point-four days? That’s why we add an additional day to the year every few years to keep our year on track.”

A clock dial appears on the screen with one through twenty-five on it. “A klick, itself, is divided into one hundred segments called ceklicks.” The screen zooms in on the segment between 1 and 2 with a hundred tickmarks in between with each tenth mark a little darker. And ceklicks are again divided into one hundred segments called miclicks.” The image is replaced by the fox again. “Why ce and mi?” The fox shrugs a little. “Ce and mi are derived from a now long-dead language and stand for one hundredth, that’s zero point zero one and a thousandth, that’s zero point zero zero one respectively.” 0.01 and 0.001 appear as text below the fox’s muzzle. The fox blinked his eyes. “That eye blink? That’s roughly 1 miklick.”

The fox turns and walks towards a table on the edge of the playground. “Now how was it we came-up with the word klick for measuring time?” He chuckles briefly. “Well, to get there, we need to look back a very long time ago to the edge of recorded history, roughly ten thousand years ago, when citizen species first tried to measure time using some means other than holding ones’ paw straight out sideways.” The fox demonstrated the very same thing Tansy had at the start of class. “It turns out that the speed the Earth rotates can be measured doing that. It takes one klick for the sun to travel the distance of your fingers on one paw held sideways as far out from your body as you can reach.”

The camera pans out slightly to show some devices on the table. The fox points to a circle with numbers on it with a thin tall cylinder in the center. “At first there was the sun dial. Useful during the day, as long as it wasn’t a cloudy day. Early citizens noted how shadows change throughout the day and marked up that progress on the sundial.” The camera pans to the next instrument, a standard hourglass. “Then, once the art of glassblowing was perfected, someone created a sand timer out of glass. As you can see it’s large at both ends and turns into a funnel in between. Thanks to gravity, sand passes through the funnel at a set rate. With some tweaking, they created one that would pour all the sand from one end to the other in one klick of time. If you flip it at the end of that klick and again and again, you’ll find you flip it twenty-five times in a day.”

“Now, early citizens had an accurate way to measure time!” The fox gestured with his arms excitedly and ‘accidentally’ knocks the hourglass on its side. “Oops. Well, at least if you don’t knock it over.” The camera pans a little further over the table to another sandglass. This one is mounted in a secure frame. “And accidents like mine just now led to the invention of a secure chamber for the sandglass.” He tugs at the chamber that is securely bolted to the table. No matter how hard he tries, it doesn’t budge. “Good, this time, I can’t knock it over and that’s the point. In this case when it’s time to turn it over you need to pull a spring-loaded pin to release the secured glass so it can be flipped,” the fox demonstrated, pulling on a pin, turning the glass over and releasing the pin, which made an audible click as it snaps back into place. The foxes ears twitch. “Did you hear that? No? Listen carefully as I turn it again.” He again pulls the pin, flips the glass and releases the pin, which makes an audible click as it snaps back in place. “Yes, there it is! A clicking sound!” He looks straight at the camera as he again pulls the pin and releases it several times resulting in the clicking sound over and over. “And that may seem silly to you, but that is how our basic unit of time measurement became known as a klick. It’s due to the sound made when turning over a secured sandglass.”

The camera pans over to a wind-up clock. “People got so use to that clicking sound that when the first mechanical clocks were created, they were designed to make that same sound at the top of every klick.” The mechanical time piece clicks loudly on cue. “The invention of the mechanical clock was an advantage over the sandglass, as you only needed to wind the main spring once per day on the clock versus needing to flip a sandglass every klick.”

The camera pans back to the fox. “Everyone had their own local time zone up until after the last war,” the fox visibly shudders, “some four hundred years ago. This caused confusion as people tried to coordinate between all these different time zones for various things. As the world grew more united after the last war, it was decided to have a single, universal time. Now, everyone’s clocks, usually in the corner of their flatpanel read the same worldwide. Of course, that is if you use your flatpanel as your time piece and not an antique mechanical clock and have forgotten to wind it up.” The fox grinned.

The screen begins to fade. “I hope you found this lesson useful. Have a wonderful day!” The fox waves as he fades out and credits appear on the screen. The large panel darkens as the lights brighten in the room.

Butternut looked around the room. “Thank you for that question, Tansy. We all learned something new.” Butternut bowed slightly in the smart squirrel way for thanks. “Now back to our plans of study for today...”