



# Tools of Timekeeping

A Kid's Guide to the History & Science of Telling Time

*Explore*

the history of timekeeping from ancient calendars to atomic clocks

15

*Hands-On  
Activities*

*Meet*

the people whose inventions literally changed time

*Build*

your own working water clocks, sundials, pendulum clocks, and more

Linda Formichelli & W. Eric Martin

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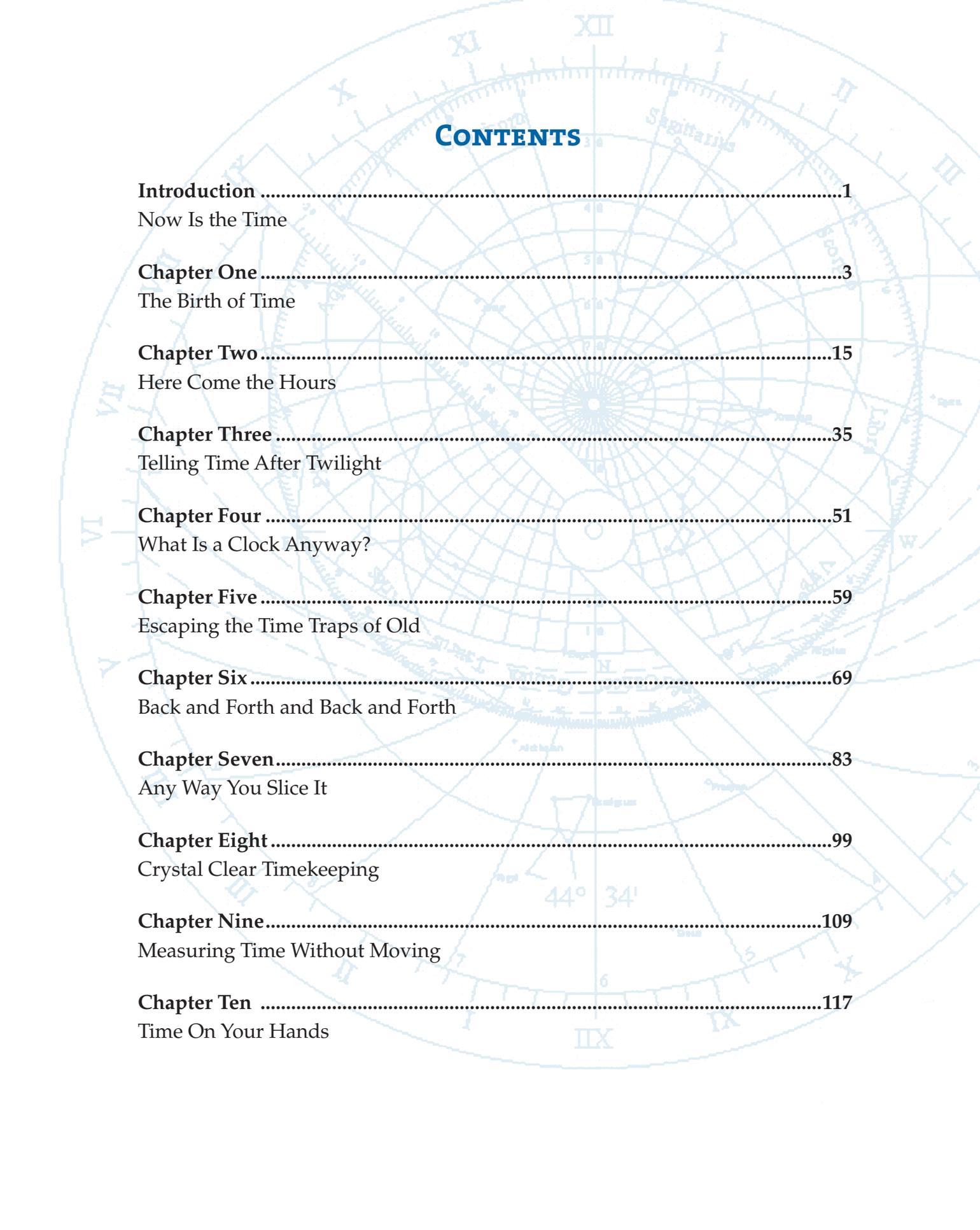
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# Now Is THE TIME

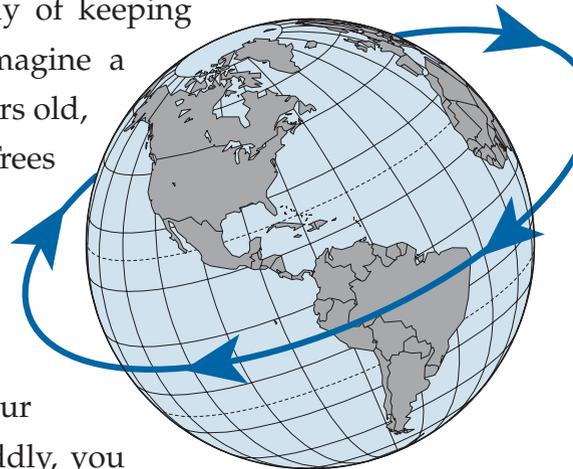
**T**ime is a funny thing. We keep time, we save time, we lose time, we buy time, we make time when we're running late. People ask if we have the time, and we answer them as if we do. We talk about time as if it were an object that we can touch and feel, but of course time isn't like that at all.

Time is, as the joke goes, the universe's way of keeping everything from happening all at once. Try to imagine a world without time; you'd be ten years old, forty years old, forty-one years old, and not even born all at once. Trees in a forest would be saplings and towering giants

simultaneously. Night and day, winter and summer—everything would happen at once, and you would get very, very confused. Your

teacher might accuse you of not handing in your homework, while you swear that you did. Oddly, you would both be correct!

Even though we can't point to time or put time on a leash and take it for a walk, we can keep track of it by looking at the world around us: The earth spins, and the sun rises and falls. The seasons change, and your hair grows longer. Running water





erodes rock and creates canyons, and an egg in a pan cooks over heat.

Things change in the world, and we want to know how long it takes for them to change. When will the weather turn warm again? When will you arrive at school if you leave the house when the sun is on the horizon? How long do you have to wait before you can eat that egg?!?

*Tools of Timekeeping* explores how mankind has used the changing world to track time and explains how you can use tools and supplies found around the house to make clocks similar to those of your ancestors of long ago, and lots of other fun projects. Time can be a tricky topic, but by the end of this book, you should have a handle on time—if time could have a handle in the first place, that is.



# THE BIRTH OF TIME

**I**magine that on a school field trip your class becomes stranded in the woods, in a grassy field, or on an island in the Pacific Ocean.

You have nothing with you except the clothes on your back and the sandwiches in your knapsacks. You have no cell phones, no watches, no complex tools of any kind. What do you do?

This situation might seem scary, but the first humans lived like this for thousands of years. Without hotels, drive-through windows, and refrigerators, they lived in caves and hunted their own food. Eventually they learned to build their own shelter and grow their own crops. As the seasons changed they followed herds of animals that migrated across the land. To prepare for



**Track time by the sun and the moon**

**Explore different kinds of calendars**

**Learn how the months got their names**

**Read the seasons through shadows**