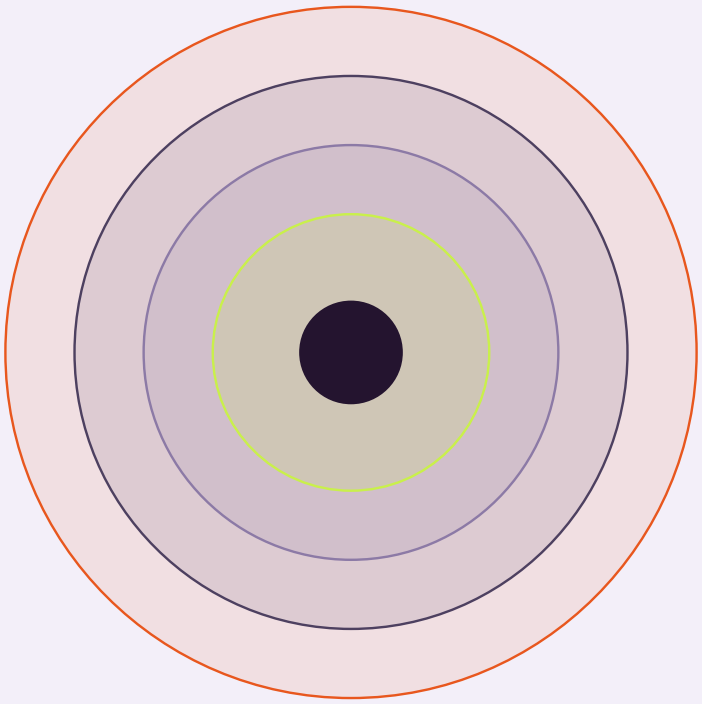


Cosmos

A reading of the book by Carl Sagan (1980)

1. ACTION BOOK

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ABOUT THIS EDITION

This is HourLife's reading of Cosmos, in our own words. It is not a substitute for the book.

BEFORE YOU START 01

The book in a minute

Carl Sagan was an American astronomer at Cornell who worked on NASA's missions to the planets, including Viking on Mars and Voyager. Cosmos is the book written alongside his thirteen-part television series Cosmos: A Personal Voyage, and each of its thirteen chapters follows one episode. It argues that science is a way of thinking open to anyone, and that the story of the universe is also our own story, from the first stars to living cells to people who can ask where they came from. Sagan tells it through the people who found things out: Eratosthenes measuring the Earth with shadows, Kepler struggling with Tycho Brahe's observations, the scholars of the Library of Alexandria. He moves between planets, evolution, the lives of stars and the search for life elsewhere, and ends with a plea to treat the Earth and the species as one, and to step back from nuclear war.

Below are the 9 ideas HourLife readers vote up most, each in our words with a note on what it asks of you, and then the steps that put them to work.

WHAT READERS KEEP

The takeaways

1 HOURLIFE TAKEAWAY

Science is a way of thinking that anyone can use, not a pile of facts owned by experts.

Sagan's favourite example is Eratosthenes, a librarian in Alexandria. He heard that at noon on the longest day a stick at Syene cast no shadow, while one at Alexandria did. From that difference and the distance between the two cities he worked out the size of the whole Earth, with nothing more than shadows, a known distance and careful reasoning.

2 HOURLIFE TAKEAWAY

The atoms in your body were made inside stars that lived and died before the Sun was born.

In the chapter on the lives of stars, Sagan traces the carbon, nitrogen, oxygen and iron in us back to nuclear fires inside earlier stars and the explosions that scattered them. It is his best-known idea: we are made of the same stuff as the cosmos, and so we belong to it.

3 HOURLIFE TAKEAWAY

When the evidence says your most beautiful idea is wrong, choose the evidence.

Kepler believed the planets moved on perfect circles set inside nested solid shapes. Tycho Brahe's careful records of Mars would not fit, and Kepler gave up years of work rather than fudge the numbers. What came out were his laws of planetary motion, with orbits as ellipses.

4 HOURLIFE TAKEAWAY

A civilisation can forget what it once knew.

Sagan walks the reader through the Library of Alexandria, where scholars gathered the books of the known world and did real science. He tells how it declined and was lost, and how Hypatia, a mathematician and astronomer who taught there, was killed by a mob. Knowledge survives only if people value it and keep it.

5 HOURLIFE TAKEAWAY

Given enough time, small differences in who survives can shape living things that look designed.

To show selection at work, Sagan tells the story of the Heike crab of Japan, whose shell looks like a samurai's face. His suggestion was that fishermen threw such crabs back for generations. Biologists have since questioned that example, but the logic he used it for, selection plus deep time, is the core of evolution.

6 HOURLIFE TAKEAWAY

Other planets are a warning and a mirror for our own.

Venus, once imagined as a swampy paradise, turned out to have a crushing carbon dioxide atmosphere and surface heat that would melt lead. Sagan uses it to explain the greenhouse effect, and argues that studying other worlds is one of the best ways to understand, and protect, this one.

7 HOURLIFE TAKEAWAY

Wanting something to be true is the easiest way to fool yourself.

Percival Lowell spent years drawing canals on Mars that he believed were built by a dying civilisation. Better telescopes and spacecraft showed no canals at all. Sagan treats it as a lesson in how a careful observer can see what he hopes to see, and why we check each other's work.

8 HOURLIFE TAKEAWAY

Whether we are alone breaks into smaller questions, and the hardest one is how long a civilisation lasts.

Sagan works through the Drake equation, which multiplies out how many stars have planets, how many of those could host life, how often life becomes intelligent and technical. The last factor is how long such a civilisation survives. Every other number is a guess, and that one depends partly on us.

9 HOURLIFE TAKEAWAY

Our loyalty belongs to the species and the planet, not only to a nation.

The final chapter asks who speaks for Earth. Sagan sets the huge nuclear arsenals of his day beside the long story of how we came to be, and argues that a species able to understand the cosmos should not destroy itself. The plea is to see humanity as one family on one small world.

PUT IT TO WORK

Your action book

Do the setup steps once, then keep the habits going. The setup changes your week; the habits keep it changed after the first good one.

The download puts this whole reading and a printable action book in one PDF: the setup checklist, then a page of real calendar days for each habit, starting on the day you choose.

SET UP ONCE

- [ ] Measure the Earth with a stick
- [ ] Watch the first episode with someone
- [ ] Get a library card and use it
- [ ] Find one planet in the night sky
- [ ] List three beliefs and how you know them

KEEP UP DAILY

- ◯ Ask how we know
- ◯ Look up once a week
- ◯ Explain one idea in plain words

30 days · Nov 6 - Dec 5, 2026

Part two, after the reading, prints each of these as a page to fill in by hand.

THE LAST WORD

Before you go

Pick one step from the action book and do it today. An idea from a book starts to count once it changes what one ordinary day looks like.

PART TWO

The action book

Change the setup once, then keep it up. 5 setup actions to do once, and 3 habits to mark each day for 30 days.

Nov 6 - Dec 5, 2026

Print it, or write on it in any PDF app.

SET UP ONCE

The setup checklist

Each of these is done once. Do one a day, and check it off when it is done.

- [ ] SETUP 1

Measure the Earth with a stick

Stand a straight stick upright on level ground and measure its shadow at local noon, when the shadow is shortest.

Enter the numbers in the calculator on this page. With a friend far to the north or south doing the same, you can repeat Eratosthenes' result.

MY VERSION

DONE ON

- [ ] SETUP 2

Watch the first episode with someone

Find the first episode of the 1980 series and watch it with a friend or a child.

Pause once or twice to say what surprised you.

MY VERSION

DONE ON

- [ ] SETUP 3

Get a library card and use it

The Library of Alexandria is gone, but your local library is open.

Join this week and borrow one book on a subject you know nothing about.

MY VERSION

DONE ON

- [ ] SETUP 4

Find one planet in the night sky

Use a free sky chart or app to see which planets are up this week.

Go outside after dark and find one with your own eyes, then look at it through binoculars if you have them.

MY VERSION

DONE ON

- [ ] SETUP 5

List three beliefs and how you know them

Write down three things you are sure of.

Next to each, write how you came to believe it: evidence you saw, someone you trust, or a feeling. Pick the weakest and look it up properly.

MY VERSION

DONE ON

DAILY HABIT 1 OF 3

Ask how we know

When you hear a confident claim this week, at work or in the news, ask one question before you repeat it: how do we know that?

Nov 6 - Dec 5, 2026 · 30 days · circle each day you do it

SMALLEST VERSION

CUE

WHERE

November 2026

MON	TUE	WED	THU	FRI	SAT	SUN
						1
2	3	4	5	6 ○	7 ○	8 ○
9 ○	10 ○	11 ○	12 ○	13 ○	14 ○	15 ○
16 ○	17 ○	18 ○	19 ○	20 ○	21 ○	22 ○
23 ○	24 ○	25 ○	26 ○	27 ○	28 ○	29 ○
30 ○						

December 2026

MON	TUE	WED	THU	FRI	SAT	SUN
	1 ○	2 ○	3 ○	4 ○	5 ○	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

EACH FRIDAY

WHAT HELPED

WHAT GOT IN THE WAY

ONE CHANGE TO THE SETUP

DAILY HABIT 2 OF 3

Look up once a week

Pick one evening a week to step outside for five minutes and look at the sky.

Nov 6 - Dec 5, 2026 · 30 days · circle each day you do it

SMALLEST VERSION

CUE

WHERE

November 2026

MON	TUE	WED	THU	FRI	SAT	SUN
						1
2	3	4	5	6 ○	7 ○	8 ○
9 ○	10 ○	11 ○	12 ○	13 ○	14 ○	15 ○
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28	29	30	31			

EACH FRIDAY

WHAT HELPED

WHAT GOT IN THE WAY

ONE CHANGE TO THE SETUP

DAILY HABIT 3 OF 3

Explain one idea in plain words

Once a week, explain something you learned to a friend or a child without jargon, as Sagan did on television.

Nov 6 - Dec 5, 2026 · 30 days · circle each day you do it

SMALLEST VERSION

CUE

WHERE

November 2026

MON	TUE	WED	THU	FRI	SAT	SUN
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30 ○						

December 2026

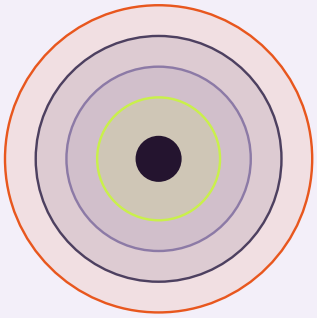
MON	TUE	WED	THU	FRI	SAT	SUN
	1 ○	2 ○	3 ○	4 ○	5 ○	6
7	8	9	10	11	12	13
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21	22	23	24	25	26	27
28	29	30	31			

EACH FRIDAY

WHAT HELPED

WHAT GOT IN THE WAY

ONE CHANGE TO THE SETUP



A stick, a shadow and a careful mind once measured the whole Earth. Look closely, check what you find, and take care of the only home we have.

HOURLIFE NOTE AFTER CARL SAGAN