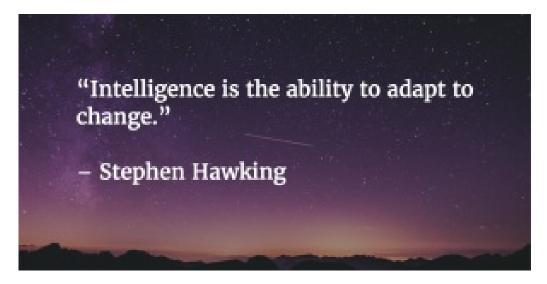
fourminutebooks.com/a-brief-history-of-time-summary

1-Sentence-Summary: <u>A Brief History Of Time</u> is Stephen Hawking's way of explaining the most complex concepts and ideas of physics, such as space, time, black holes, planets, stars and gravity to the average Joe, so that even you and I can better understand how our planet was created, where it came from, and where it's going.

Read in: 4 minutes

Favorite quote from the author:



I've only heard <u>some of the ideas from the book quoted by Tai Lopez</u> so far and haven't seen the <u>new movie</u> either. The blinks have been sitting in my library for a while, so it was about time to let one of the most brilliant minds in the history of the world, <u>Mr. Hawking</u>, speak.

First published in 1988 <u>A Brief History of Time</u> resembled Stephen Hawking's wish to make the most important theories, discoveries and phenomena from the world of physics accessible to everyone with a basic 8th-grade knowledge of math and physics.

Here are the 3 things I'm personally taking away from it:

- 1. Theories can never be proven.
- 2. Time is not fixed, due to the speed of light.
- 3. There are 3 reasons why time can likely only move forward.

Ready for some physics? Let's go!

Lesson 1: Theories can never be fully proven.

As children we're all scientists. We constantly come up with theories, and then test them. For example as a toddler you might have had the theory that a glass will easily survive its fall from the kitchen table

A theory, which you probably quickly went on to disprove, much to the frustration of your Mum and Dad.

Nowadays, since we're grown up, we don't see theories as what they are any more: **educated guesses.**

If you come up with the theory that your software startup needs 1,000 clients to thrive and start turning a profit, you almost instantly accept it as true, which leads to lots of disappointment, should you fail in spite of reaching that goal.

Hawking says a theory is nothing more than a model, which correctly explains a big number of observations.

This has 2 great benefits:

- 1. You can make definite predictions about the future.
- 2. The theory can always be disproven, if evidence against it comes up.

For example, a commonly accepted theory until 1903 was that nothing heavier than air could fly. That's what kept 99% of people from driving their carriages over cliffs and jumping out of windows with wings attached to their back.

According to the theory, they wouldn't be able to fly, and some of the people who tried added credibility to that theory.

However, on December 17th that year, <u>Orville Wright stayed in the air for 12 seconds in the gasoline aircraft he and his brother had built</u>. When he half crashed half landed after 120 feet in the air, the theory was disproven.

Hawking loves the fact that theories can always be proven wrong in the future, and so should you. Stop assuming so much, and start finding evidence!

Lesson 2: Due to the constant speed of light, time is not fixed.

If you've ever wondered what <u>Einstein's theory of relativity</u> was all about, you've come to the right place.

The general statement of this theory is that **the laws of physics are the same for all freely moving observers and objects**.

Because the speed of light constantly being 186,000 miles per second is one such law, it means that no matter where you are or where you're going, the speed with which light reaches you is the same.

However, time is always determined by dividing the distance something has traveled by its speed, right? For example if you take your car and drive for 100 miles at 100 mph, it will take you exactly an hour to get to your destination.

But if one person travels 186,000 miles towards a ray of light and another travels 186,000 miles away from it, but the speed of light is constant, the light would reach the first person 2 seconds faster – that is **at a different point in time.**

That's the reason why **time is relative** and why Mr. Einstein has become so famous.

Lesson 3: Time can most likely only move forward, for 3 reasons.

Different times for different people is one thing, but how about time travel? Can time move backwards?

Hawking says it's not impossible, but unlikely, for 3 reasons.

1. Time only moves forward thermodynamically.

<u>Entropy</u> is the tendency to increase disorder wherever possible.

For example your coffee mug only stays in mug form, because force is holding it together. As soon as you drop it, it'll be happy to increase its entropy in the form of a whole bunch of shards. However, it would never spontaneously reassemble itself on its own (and thus decrease entropy), so thermodynamically, time only moves forward.

2. Time only moves forward psychologically.

You can never "remember" the future. For example after your mug breaks you can remember what it looked like before, but you can never know the exact position of the shards on the floor before you break it.

3. Time only moves forward cosmologically.

As the universe expands, its entropy increases. Since entropy constantly increasing also means that time moves forward, due to reason number 1, this adds to the point.

However, the universe could start contracting again, after reaching its maximum extension, thus reversing entropy and also time.

But Hawking says that we wouldn't know: our bodies rely on entropy to break the food we eat down into its particles, which give us energy.

So if time were to ever start reversing, we'd have to die first.

But then again, who knows if that'll ever happen, right?

After all, it's just a theory.

A Brief History of Time Review

Holy cow. If you want a book to wonder, marvel, think and scratch your head at, <u>A Brief History of Time</u> is the one for you. I'm really glad I read this in blink-form first, because my theory (hehe) is that the blinks make it even easier to understand.

Book, movie, articles, videos, I can already picture today turning into a full-blown Stephen Hawking research day.

But I can't. At least not right now. Time only moves forward, after all (or does it?).

If you're curious about the universe we live in, go read the blinks and then make up your mind about the book. I feel like an entire world of amazing things to learned has just been opened up to me, and I can't wait to jump in.

What else can you learn from the blinks?

- How Isaac Newton revolutionized the way we think about moving objects
- What Newton's three laws are
- Where Newton's theory had a crack, and how Einstein built upon that
- Why quantum physics are necessary and how the uncertainty principle is the foundation of it
- Where gravity comes from and what the fourth dimension is
- How black holes are created, and how we can detect them
- Why even black holes don't last forever
- Which 3 other forces exist next to gravity in the universe
- The 2 stories of the big bang, and why we can't be so sure about either one of them
- What the major conflict of modern physics is

Who would I recommend the A Brief History Of Time summary to?

The 15 year old high schooler, whose favorite subject is physics, the 34 year old, who was always curious about space, but eventually gave up on physics, and anyone who wonders when looking at the stars.

Learn more about the author

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