

# Richard P. Feynman

## Quotes

*Science, Thinking, People, Real, Physics, Law, Way, Ideas, Men, Learning,  
Doubt, Mean, Discovery, Imagination, Interesting, Nature, Understanding,  
Believe, Math, Simple*

I would rather have questions that can't be answered than answers that can't be questioned.

~Richard P. Feynman

Study hard what interests you the most in the most undisciplined, irreverent and original manner possible.

~Richard P. Feynman

You have no responsibility to live up to what other people think you ought to accomplish. I have no responsibility to be like they expect me to be. It's their mistake, not my failing.

~Richard P. Feynman

Physics is like sex: sure, it may give some practical results, but that's not why we do it.

~Richard P. Feynman

If you think you understand quantum mechanics, you don't understand quantum mechanics.

~Richard P. Feynman

I learned very early the difference between knowing the name of something and knowing something.

~Richard P. Feynman

Our responsibility is to do what we can, learn what we can, improve the solutions, and pass them on.

~Richard P. Feynman

Physics is to mathematics what sex is to masturbation.

~Richard P. Feynman

It doesn't matter how beautiful your theory is, it doesn't matter how smart you are. If it doesn't agree with experiment, it's wrong.

~Richard P. Feynman

If you thought that science was certain - well, that is just an error on your part.

~Richard P. Feynman

Science is the belief in the ignorance of experts.

~Richard P. Feynman

If you can't explain something to a first year student, then you haven't really understood .

~Richard P. Feynman

Philosophy of science is about as useful to scientists as ornithology is to birds.

~Richard P. Feynman

The first principle is that you must not fool yourself and you are the easiest person to fool.

~Richard P. Feynman

God was invented to explain mystery. God is always invented to explain those things that you do not understand.

~Richard P. Feynman

My rule is, when you are unhappy, think about it. But when you're happy, don't. Why spoil it? You're probably happy for some ridiculous reason and you'd just spoil it to know it.

~Richard P. Feynman

Religion is a culture of faith; science is a culture of doubt.

~Richard P. Feynman

Nature uses only the longest threads to weave her patterns, so that

each small piece of her fabric reveals the organization of the entire tapestry.

~Richard P. Feynman

The only way to deep happiness is to do something you love to the best of your ability

~Richard P. Feynman

Einstein was a giant. His head was in the clouds, but his feet were on the ground. But those of us who are not that tall have to choose!

~Richard P. Feynman

I, a universe of atoms, an atom in the universe.

~Richard P. Feynman

I'm smart enough to know that I'm dumb.

~Richard P. Feynman

Science is the organized skepticism in the reliability of expert opinion

~Richard P. Feynman

Scientists are explorers. Philosophers are tourists.

~Richard P. Feynman

There is no learning without having to pose a question. And a question requires doubt.

~Richard P. Feynman

The inside of a computer is as dumb as hell but it goes like mad!

~Richard P. Feynman

The "paradox" is only a conflict between reality and your feeling of what reality "ought to be."

~Richard P. Feynman

Poets say science takes away from the beauty of the stars - mere globs of gas atoms. I, too, can see the stars on a desert night, and feel them. But do I see less or more?

~Richard P. Feynman

The highest forms of understanding we can achieve are laughter and human compassion.

~Richard P. Feynman

We have this terrible struggle to try to explain things to people who have no reason to want to know.

~Richard P. Feynman

Don't pay attention to "authorities," think for yourself.

~Richard P. Feynman

We need to teach how doubt is not to be feared but welcomed. It's OK to say, "I don't know."

~Richard P. Feynman

What Do You Care What Other People Think?

~Richard P. Feynman

Physics is not the most important thing. Love is.

~Richard P. Feynman

Fall in love with some activity, and do it! Nobody ever figures out what life is all about, and it doesn't matter.

~Richard P. Feynman

Teach principles not formulas.

~Richard P. Feynman

The truth always turns out to be simpler than you thought.

~Richard P. Feynman

I think it's much more interesting to live not knowing than to have answers which might be wrong.

~Richard P. Feynman

Scientific knowledge is a body of statements of varying degrees of certainty -- some most unsure, some nearly sure, none absolutely certain.

~Richard P. Feynman

Work as hard and as much as you want to on the things you like to do the best.

~Richard P. Feynman

You can always recognize truth by its beauty and simplicity.

~Richard P. Feynman

Science is like sex: sometimes something useful comes out, but that is not the reason we are doing it

~Richard P. Feynman

The thing that doesn't fit is the thing that is most interesting.

~Richard P. Feynman

We never are definitely right, we can only be sure we are wrong.

~Richard P. Feynman

Observation, reason, and experiment make up what we call the scientific method.

~Richard P. Feynman

Nobody ever figures out what life is all about, and it doesn't matter. Explore the world. Nearly everything is really interesting if you go into it

deeply enough.

~Richard P. Feynman

Light is something like raindrops each little lump of light is called a photon and if the light is all one color, all the "raindrops" are the same.

~Richard P. Feynman

Of course, you only live one life, and you make all your mistakes, and learn what not to do, and that's the end of you.

~Richard P. Feynman

It's amazing how many people even today use a computer to do something you can do with a pencil and paper in less time.

~Richard P. Feynman

To not know math is a severe limitation to understanding the world.

~Richard P. Feynman

There is no harm in doubt and skepticism, for it is through these that new discoveries are made.

~Richard P. Feynman

We are trying to prove ourselves wrong as quickly as possible, because only in that way can we find progress.

~Richard P. Feynman

What did you ASK at school today?

~Richard P. Feynman

The test of all knowledge is experiment. Experiment is the sole judge of scientific truth.

~Richard P. Feynman

Winning a Nobel Prize is no big deal, but winning it with an IQ of 124 is

really something.

~Richard P. Feynman

Know how to solve every problem that has been solved.

~Richard P. Feynman

If I could explain it to the average person, I wouldn't have been worth the Nobel Prize.

~Richard P. Feynman

I have a limited intelligence and I've used it in a particular direction.

~Richard P. Feynman

What I cannot create, I do not understand.

~Richard P. Feynman

Do not read so much, look about you and think of what you see there.

~Richard P. Feynman

I wonder why. I wonder why. I wonder why I wonder.

~Richard P. Feynman

There in wine is found the great generalization: all life is fermentation.

~Richard P. Feynman

No problem is too small or too trivial if we can really do something about it.

~Richard P. Feynman

Mathematics is not just a language. Mathematics is a language plus reasoning.

~Richard P. Feynman

Turbulence is the most important unsolved problem of classical



physics.

~Richard P. Feynman

There is no authority who decides what is a good idea.

~Richard P. Feynman

Learn what the rest of the world is like. The variety is worthwhile.

~Richard P. Feynman

A great deal more is known than has been proved.

~Richard P. Feynman

So far as we know, all the fundamental laws of physics, like Newton's equations, are reversible.

~Richard P. Feynman

If all of mathematics disappeared, physics would be set back by exactly one week.

~Richard P. Feynman

Some people say, "How can you live without knowing?" I do not know what they mean. I always live without knowing. That is easy. How you get to know is what I want to know.

~Richard P. Feynman

I love to think. I once considered taking drugs as an attempt to better understand an altered state of mind; however, I decided not to. I didn't want to chance ruining the machine.

~Richard P. Feynman

Science is a way of trying not to fool yourself.

~Richard P. Feynman

I was born not knowing and have had only a little time to change that

here and there.

~Richard P. Feynman

For those who want some proof that physicists are human, the proof is in the idiocy of all the different units which they use for measuring energy.

~Richard P. Feynman

What is not surrounded by uncertainty cannot be the truth.

~Richard P. Feynman

I don't feel frightened by not knowing things, by being lost in the mysterious universe without any purpose - which is the way it really is, as far as I can tell. Possibly. It doesn't frighten me.

~Richard P. Feynman

But there is nothing in biology yet found that indicates the inevitability of death.

~Richard P. Feynman

To guess what to keep and what to throw away takes considerable skill. Actually it is probably merely a matter of luck, but it looks as if it takes considerable skill.

~Richard P. Feynman

But logic is not all, one needs one's heart to follow an idea.

~Richard P. Feynman

Science is what we have learned about how to keep from fooling ourselves.

~Richard P. Feynman

For a successful technology, reality must take precedence over public relations, for Nature cannot be fooled.

~Richard P. Feynman

Victory usually goes to those green enough to underestimate the monumental hurdles they are facing.

~Richard P. Feynman

I think I can safely say that nobody understands Quantum Mechanics.

~Richard P. Feynman

It is simple, therefore it is beautiful

~Richard P. Feynman

All the time you're saying to yourself, 'I could do that, but I won't,'--which is just another way of saying that you can't.

~Richard P. Feynman

Tell your son to stop trying to fill your head with science - for to fill your heart with love is enough!

~Richard P. Feynman

Another thing I must point out is that you cannot prove a vague theory wrong.

~Richard P. Feynman

Science is what we do to keep us from lying to ourselves

~Richard P. Feynman

If an apple was magnified to the size of the Earth, then the atoms in the apple would be approximately the size of the original apple.

~Richard P. Feynman

Doubt is clearly a value in science. It is important to doubt and that the doubt is not a fearful thing, but a thing of great value.

~Richard P. Feynman

You do not know anything until you have practiced.

~Richard P. Feynman

To develop working ideas efficiently, I try to fail as fast as I can.

~Richard P. Feynman

Have no respect whatsoever for authority; forget who said it and instead look what he starts with, where he ends up, and ask yourself, "Is it reasonable?"

~Richard P. Feynman

You see, the chemists have a complicated way of counting: instead of saying "one, two, three, four, five protons", they say, "hydrogen, helium, lithium, beryllium, boron."

~Richard P. Feynman

Start out understanding religion by saying everything is possibly wrong... As soon as you do that, you start sliding down an edge which is hard to recover from.

~Richard P. Feynman

The exception tests the rule.

~Richard P. Feynman

Science alone of all the subjects contains within itself the lesson of the danger of belief in the infallibility of the greatest teachers of the preceding generation.

~Richard P. Feynman

If you know that you are not sure, you have a chance to improve the situation. I want to demand this freedom for future generations.

~Richard P. Feynman

A scientist is never certain. ... We absolutely must leave room for doubt

or there is no progress and there is no learning.

~Richard P. Feynman

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