

SCIENCE STARTS WITH A QUESTION

Science is powerful. It has generated the knowledge that allows us to call a friend halfway around the world with a cell phone, vaccinate a baby against polio, build a skyscraper, and drive a car. And science helps us answer important questions like which areas might be hit by a tsunami after an earthquake, how did the hole in the ozone layer form, how can we protect our crops from pests, and who were our evolutionary ancestors?

Science studies the natural world and only the natural world. This includes the components of the physical universe around us like atoms, plants, ecosystems, people, societies and galaxies, as well as the natural forces at work on those things. Science as a collective institution aims to produce more and more accurate explanations of how the natural world works, what its components are, and how the world got to be the way it is now.

Science can investigate all sorts of questions:

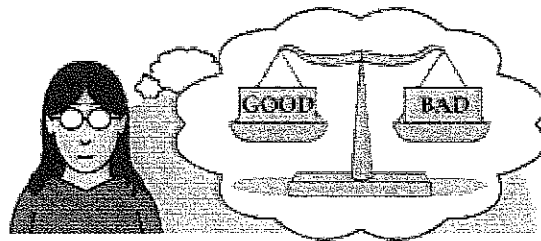
- When did the oldest rocks on earth form?
- Through what chemical reactions do fungi get energy from the nutrients they absorb?
- What causes Jupiter's red spot?
- How does smog move through the atmosphere?

With such breadth, the reach of science might seem to be endless, but it is not. Science has definite limits. Science can only answer questions in terms of natural phenomena and natural processes.

Science doesn't make moral judgments

When is euthanasia the right thing to do? What universal rights should humans have? Should other animals have rights?

Questions like these are important, but scientific research will not answer them. Science can help us learn about terminal illnesses and the history of human and animal rights — and that knowledge can inform our opinions and decisions. But ultimately, individual people must make moral judgments. Science helps us describe how the world *is*, but it cannot make any judgments about whether that state of affairs is right, wrong, good, or bad.



Science doesn't make aesthetic judgments

Science can reveal the frequency of a musical note and how our eyes relay information about color to our brains, but science cannot tell us whether a