

Physics A: History of Science 1

Scene #	Description	Narration
1	A slide with a picture of farm animals is showing in the bottom left corner.	<p>The History of Science, 5000 to the Present. This is going to be sort of like a history, science lesson combined. So hang on, here we go.</p> <p>7,000 years ago, approximately 5000, science was passed down mainly by oral tradition. The main type was agricultural, the physics of farming.</p>
2	A slide showing a comet in the bottom left corner and in the top right an image representing the four seasons.	Then in 3500, in Mesopotamia, observations of natural phenomenon were written down, things like comets, seasons, moon phases.
3	This slide shows the pyramids in the top right corner and an Egyptian Sarcophagus in the bottom left corner.	Also in 3500 in Egypt, astronomy and medicine and mathematical relationships were studied. And we see evidence of that in the pyramids.
4	The slide is showing an image of a map showing India and China in the top right corner.	From about 100 to 500, the rest of the world-- that is China, India, Europe-- they also started studying astronomy, medicine, and math.
5	An image of a model in space shows the Earth in the center and the sun going around the Earth on the slide.	And then in 500, India developed a geocentric, that is an earth-centered, model of the solar system. And they predicted eclipses, and they reasoned sunlight reflected off of the Moon.
6	An image of Aristotle is in the bottom left corner of the slide.	From about 400 to 100, Aristotle wrote about of many sciences, such as biology, physics, ethics. And he started the process of using logic.
7	A slide with a blue background is showing the definition for natural motion as the narrator reads it.	He divided motion into two classes. The first class was natural motion. That is every object in the universe had a proper place. These objects strived to get to this place.
8	An image of smoke is in the top right corner and rocks are in the bottom right corner.	On the Earth, this motion is simply up or down. Rocks fall down. Smoke rises up. Heavier objects strived harder so they would fall faster than a lighter one.
9	A slide with a blue background has the description of circular motion.	Other natural motion would be called circular motion. And this circular motion happened only among the gods, because it was thought that circles were perfect.
10	A slide with a blue background describes violent motion. A picture of a donkey is in the bottom right corner.	Then there was violent motion. And that is what happens to an object that is pushed or pulled. This is also sometimes called imposed motion.
11	An image of a pulley is in the bottom left corner of the slide.	Then from about 100 to 500, applied sciences were studied-- machines, farming, medicine, and astronomy.

Physics A: History of Science 1

12	An image of a volcano is in the bottom left corner of the slide and an image of earth is in the bottom right corner of the slide.	From 500 to 800, there were the Dark Ages. And this was a period of time where there were a lot of myths or confusion and where ignorance prevailed.
13	An image of Aristotle in the top right corner of the slide is showing.	But then from 800 to 1400, Aristotle was rediscovered. And his beliefs were spread all over Europe because it conformed to the church.
14	An image of Copernicus is in the top left corner of the slide.	<p>While in 1500, Copernicus, from years of astronomical study, found out that the Earth rotated around the sun. That is called heliocentric, instead of geocentric, that the Earth rotated around the sun and that the sun was the center of the universe.</p> <p>While he was not the first to suggest this-- ancient philosophers did this actually-- he was the first to use data to back up his claims. Copernicus was so afraid of being arrested because of his thoughts, his ideas, he did not publish this until he was near death in 1543.</p>
15	An image of Galileo is in the top right corner of the slide.	<p>Then in 1600, Galileo, through experimentation, found Aristotle was wrong about the motion of objects. For instance, by dropping different weights and different shaped objects, he found that if it were not for air resistance, all objects would hit the ground at the same time. That is he found that the weights of the stones did not matter.</p> <p>Now, Galileo tested Aristotle's ideas of motion using inclined planes. He used inclined planes because it slowed down the motion.</p>
16	An image of astronauts on the moon is in the bottom right corner of the slide.	And so, of course, we know from a true fact, that on the Moon many years later, astronauts released a hammer and released the feather at the same time. And, yes, they hit the ground at the same time as well.
17	An image of Isaac Newton is on the left side of the slide.	In 1700, Newton developed the idea that a force moves, or stops, an object. Newton came up with four laws. The idea of gravity has a force that causes acceleration was new. And we still use his ideas today.

Physics A: History of Science 1

		And also in the 1800s, we have Volta creating an electric battery, Dalton coming up with the atomic theory, and Maxwell discovering what were called electromagnetic or EM fields. Volta conceived of electrical fields, which helped Dalton come up with the atom, which then led to Maxwell combining electricity and magnetism.
18	An image of Einstein is in the top right corner of the slide.	In 1900, Einstein came up with four dimensions, relativity, and the idea that mass and energy are the same thing. And so he came up with the famous equation $E = mc^2$. And there's one of Einstein's famous pictures. Einstein got rid of the idea of gravity as a force. And instead, he came up with a warped 4-dimensional space-time.
19	An image of Schrodinger is in the top right corner of the slide. In the bottom left corner is an image of two cats along with a yellow glowing substance in a flask with the poison symbol and the nuclear symbol in a jar below the flask.	While in 20th century, in the 1900s, Schrodinger came up with quantum mechanics. And if you think physics is really weird stuff, well, just spend some time with QM, quantum mechanics. And that's really weird stuff.
20	An Image of Oppenheimer is in the top right corner and in the bottom left corner is an image of an atomic bomb exploding.	Also in the 20th century, in the 1900s, Oppenheimer is considered the father of the atomic bomb.
21	An image of Stephen Hawking is in the bottom right corner of the slide.	Hawking created-- an individual named Hawking in the 20th century-- created theoretical models of black holes and also solved the major problems in physics.
22	An image of Greene is in the bottom left corner of the slide.	<p>And Greene in the 21st century, in the 2000, Greene studied the concepts of string theory, space and time that has 11 dimensions. And this really combines relativity as well as quantum mechanics.</p> <p>Well, that's a brief and a very quick overview of the history of science, the history of physics. Tomorrow, what will it be? Well, you will determine that in another place, at another time. But it all begins here. So keep up the good work and keep pushing on.</p>

Physics A: History of Science 1

		That's it. You may complete the rest of this lesson.
--	--	--