

Quantum Physics

Explore our strange world

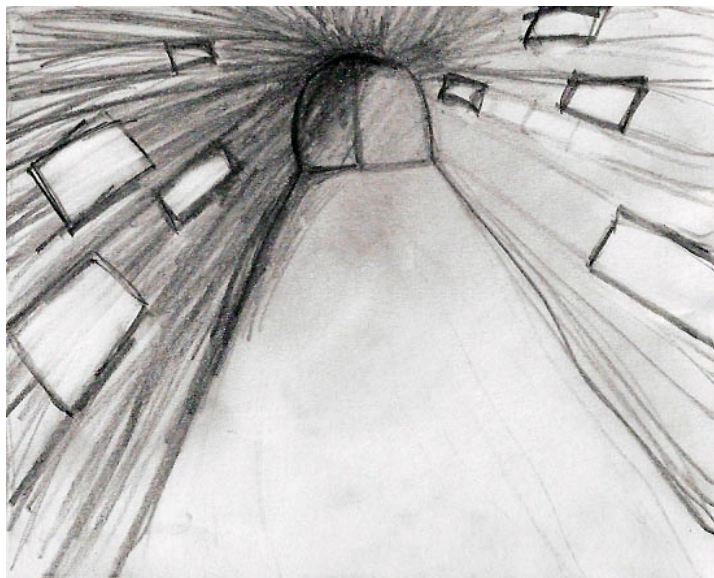
I. History

Introduction: Come Explore. Be apart of the Revolution. You could solve the mystery.

A) Entrance to the Exhibit: The Quantum World the Tunnel of Wonder



What are we made out of?
How small is the quantum world?
Ancient thoughts on the smallest matter.
Even the greatest scientist of our time do not truly understand.
Why are their so many theories?

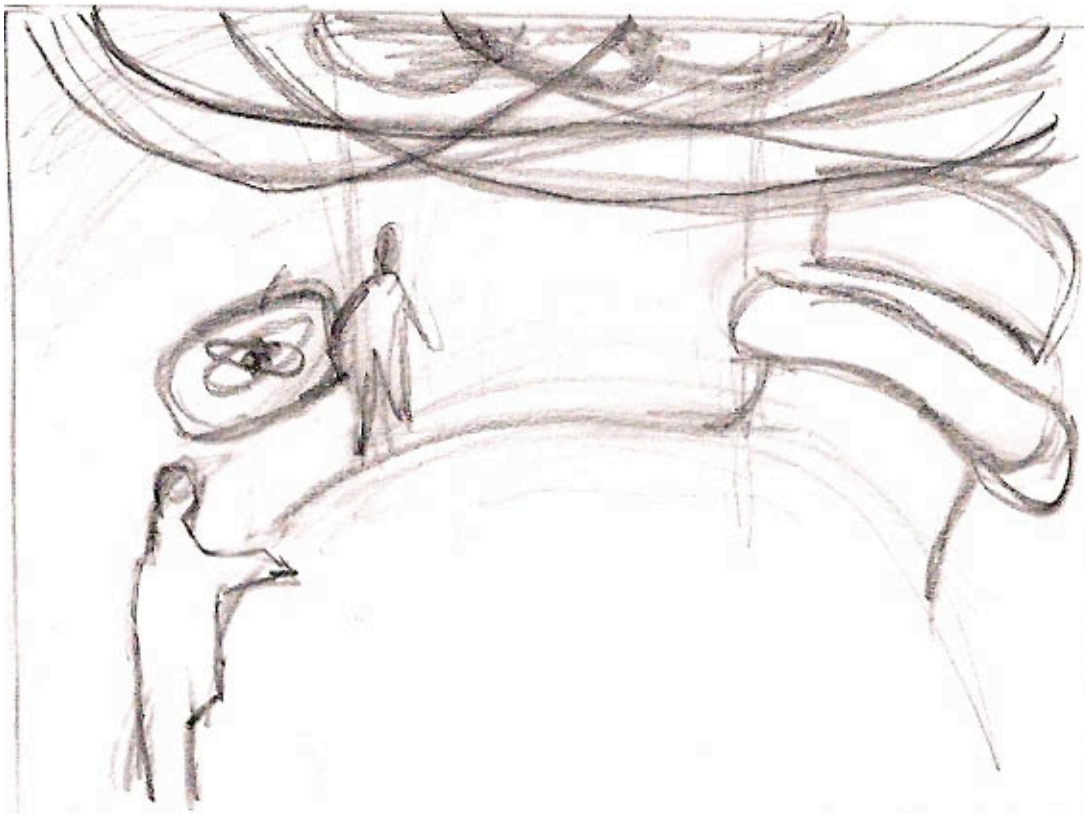


B. You have to open many doors to get the present. Open the history of discovery.



Participants are faced with doors. Each door has scientific discoveries that help lead to the understanding of the molecular world along with fun facts of science revolutions. To move through the space participants must either open the doors or slide them to one side or another. – (can handicap people navigate the space?)

C. Room filled with models of quantum physics



What is Quantum Physics?

Video of Scientist explaining with signage. Study of the smallest unit of matter. An atom.

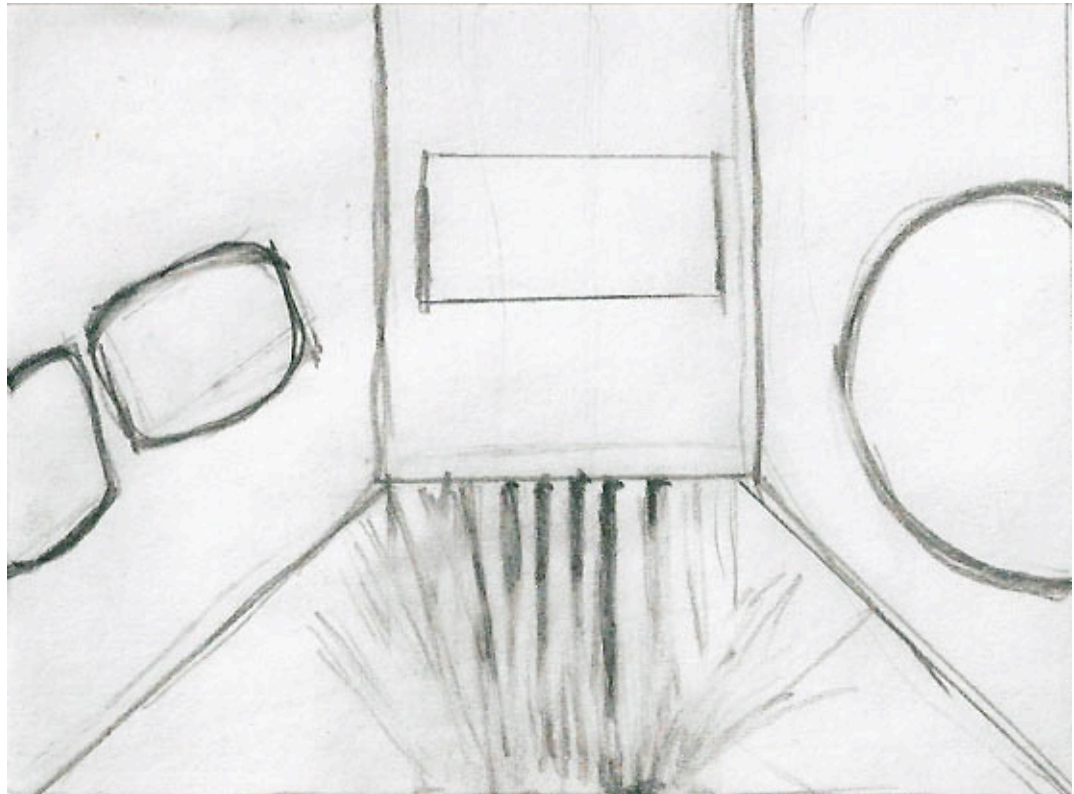
What is an atom?

A hands on version of the old model. Along with graphics of the new model and a computer simulations. Focus attention that quantum physic studies energy.

II. Theories

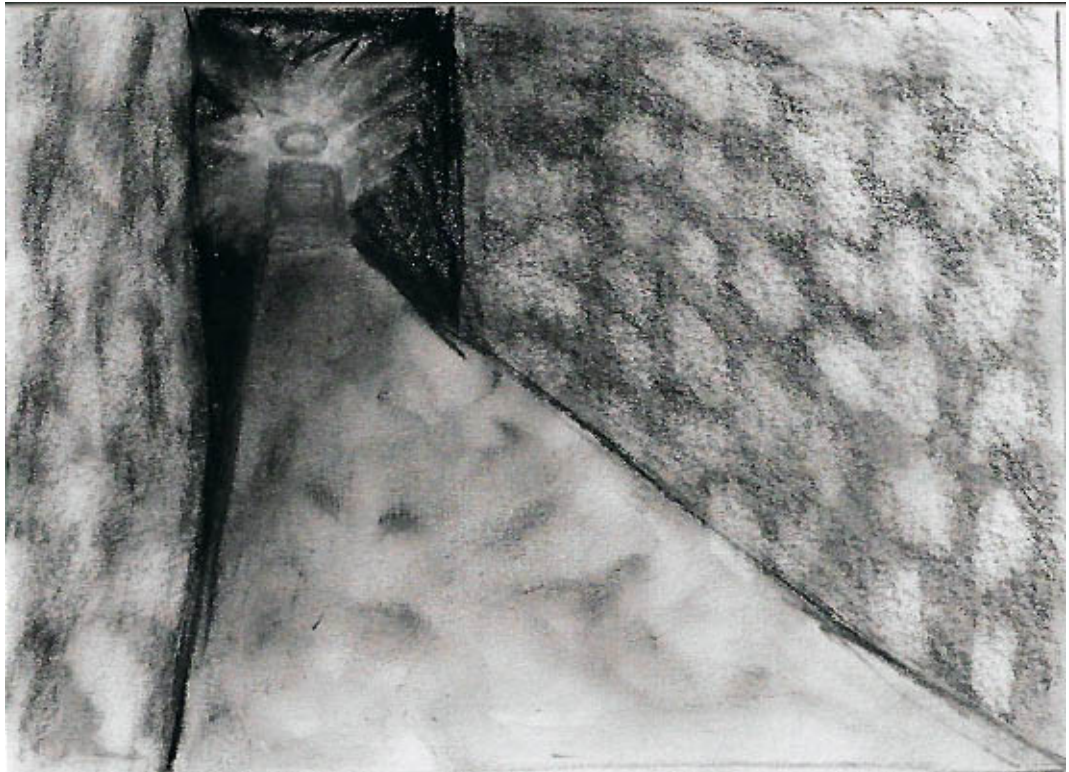
Introduction: **"Anyone who is not shocked by quantum theory has not understood it". Niels Boh**

A. Particle vs. Wave



Two panels on left wall explain how an electron acts like a wave and how it acts like a particle. The middle screen shows the interference pattern animation. Right hand wall talks about how when by observing it, it chooses one state.

B. No Such Thing as a casual observer



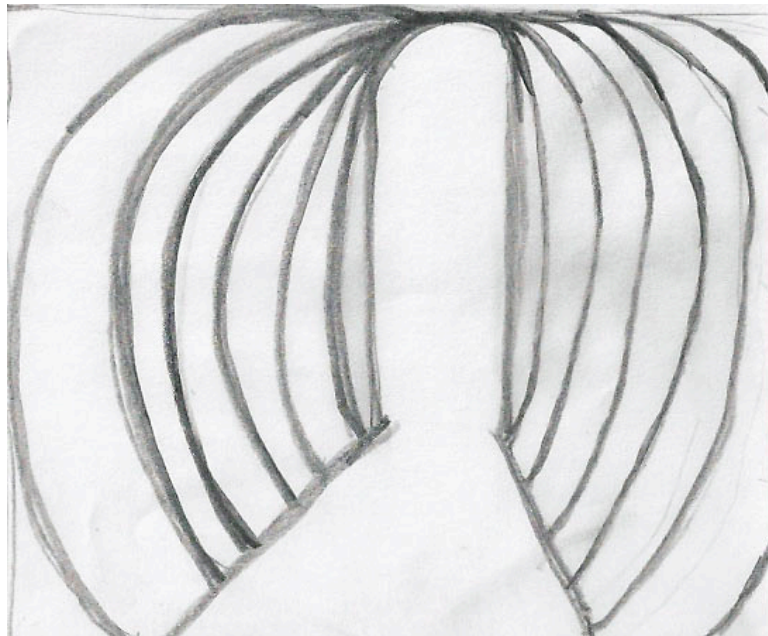
A multi color ball is shown in the corner. When viewer looks over the box to see what it is projecting. The ball changes colors. The process happens each time the viewer looks. Signage explains the Copenhagen Interpretation.

In all states at once.

III. Multiple Universes

Introduction: **Where does all the weirdness go?**

A. Many World Interpretation



A multicolored tunnel with all the colors. Explanation: A universe for each color that you could have seen and you seeing that color.

What type of crackpot scientist believes in multiple universes?

Signage: David Raub reports a poll of 72 of the "leading cosmologists and other quantum field theorists" about the "Many-Worlds Interpretation" and found that fifty eight percent of those scientists believe in the many world interpretation

Remember a computer would have sound like science fiction to someone in the 1860s.

IV. CERN Lab

-Bringing the future to present endeavors.

V. The Future

Introduction: **Why is this Important?**

A. Quantum Computers

B. Harnessing Energy

C. Website and Email Station

People can send postcard of their favorite exhibit

D. Thought wall

People record their thoughts about what they thought and leave questions in a message board kind of interaction