Unit 7  Nuclear Chemistry

Contemporary Physics Education

> Contemporary Physics Education Project

  Fundamental Particles & Interactions  Particle Adventure
  Plasma Physics & Fusion  ABC’s of Nuclear Science
  The Universe Adventure

ABC Nuclear Science

> Home  Menu  - interactive animation –


Particle Adventure

> Main Menu  Intro to Particles

1. Birth of the Atom  Classic Atom 1  >2  >3  Radioactivity
2. Quantum Physics 1  >2  >3  >4
4. Four Fundamental Interactions  Gravitation  Electromagnetic Interaction
   Strong Interaction  Weak Interaction
5. Standard Model  Grand Unification  Theory of Everything
6. Big Bang 1 – Origin of Matter
7. Big Bang 2 > Let’s There be Matter
The Particle Adventure

> The Particle Adventure - interactive animation Start here –

Particle Physics Education

> Particle Physics Education

1. Fermilab Virtual Tour - Start Here –
   Chain of Accelerators      Anatomy of Detector

2. Intro to Particles      Inside Nucleus      Big Bang      Big Bang Science

4. History of Neutrinos      World of Beams

5. CERN Courie

6. The Second Superstring Revolution

7. Quark Dance - Humor Start here –

Scientific Topics

> Home  Chemistry  Physics  Quantum Physics  Nuclear Physics  Astrophysics
          Organic Chemistry  Inorganic Chemistry  Minerals  Airplanes

Plasma – the 4th State of Matter

> Home  Photo Gallery

1. What Are Plasmas?      Plasmas and Education      Plasmas for Energy
   Plasmas for National Security      Plasmas for Environment
   Plasmas for Home and Business      Plasmas for Manufacturing

2. Space Plasmas

3. Powers of 10 - Start here –
APS Physics Central

1. Einstein Bust  Violins  Star of David  Peace Symbol  Hand and Atom
   Puzzle Peace  Compass  Brain

2. Matter  Quantum  Relativity

3. Computer Chip  Magnifying Glass  Crystal  Caliper with Atom
   Superconductivity  Quantum Corral  STM  Random Walk

4. Compact Disc  Dice in Hands  E=hv  Cats  Spherical Harmonics
   Laser  String  Ionization Reaction

5. A New World View  Relativity  Black Hole  Train  Sun
   Clock  E=mc2  Radioactivity Symbol  Twin Paradox  Light Cone

Cambridge Physics

1. JJ Thomson’s Experiment  JJ Thomson’s Exp - Positive Rays
2. Rutherford Found Nucleus
3. Wilson Created Cloud Chamber
4. Aston’s Mass Spectrograph
5. Bragg’s X-Ray Diffraction
6. Cockcraft Splitted Atom
7. Chadwick Discovered Neutron
8. Crick and Watson Found DNA
9. Frisch Tracked Lasers
10. Bell and Hewish Discovered Pulsars

Chem 1 Virtual Textbook

1. What Is Chemistry
2. Atomic Structure and Periodic Table
Superconductivity

Through Einstein’s Eyes

Nobelprize Org.
> Microscope

> World of Particles  Cloud Chamber  Nuclear Emulsion  Bubble Chamber  Multiwire Chamber

> Relativity  Michelson-Morley Experiment  Postulates of Special Relativity  Lorentz Transformations  Twin Paradox  Energy is Equivalent to Mass  Special Relativity as a Tool  History of Special Relativity

> Semiconductors  Semiconductor Physics tour

> Star Stories  watch Star Story VDOs

> Structure of Matter  animations  Structure of Matter  contents  an Unanswered Question  Revolutionary Ideas  Tools of the Trade  Spin  Angular Momentum  Classification of Particles  Strangeness  Enter the Quark  Fractional Charge & Unseen Quarks  Color Charge  Quarks are Confined  Mass Particles & Quarks  Strong Force Carrier  Can Quarks be Seen  Fractional Charges  Even Quarks Decay  A Missing Charm  More Quarks  Power of Standard Model  Top Quark Discovery  Are Quarks Fundamental

> Quantised World  Intro to  Quantum Theory for Energy  Quantum Theory for Atomic Structure  Waves or Particles  Quantum Mechanics  Interpreting the Quantum World

> The Transistor  Transistor Recycler  animation

> Vacuum Tubes  First Vacuum Tube  Electron Discovery  Vacuum Tubes at Home

> X-rays  Discovery  How Are X-rays Made  What They Are  X-rays Timeline