We are currently exploiting the world's resources to the maximum extent. Unfortunately, as our needs increase each day, the availability of resources is beginning to dwindle. If we want to continue to satisfy the demands of our modern lifestyle, we urgently need to discover new sources of energy. The objective is to develop environmentally friendly, renewable types of energy.

No Other Versions Available

Forensic Detectives - Chemistry at Work
73325
55 min T 2004 Marlin Motion Pictures Limited
From crime-scene clues to pyrotechnic beauty, there's wonder and power in the molecular makeup of substances. Segments cover methods of analysis, chemical reactions, the periodic table of elements, and the significance of carbon. This presentation uses fascinating examples to reinforce the roles and importance of chemistry in today's world.

No Other Versions Available

Hunting The Elements
76469
120 min S 2012 McIntyre Films
Where do nature's building blocks, called the elements, come from? They're the hidden ingredients of everything in our world, from the carbon in our bodies to the metals in our smartphones. To unlock their secrets, David Pogue, spins viewers through the world of weird, extreme chemistry—the strongest acids, the deadliest poisons, the universe's most abundant elements, and the rarest of the rare substances cooked up in atom smashers that flicker into existence for only fractions of a second. Why are some elements like platinum or gold-inert, while others like phosphorus or potassium are violently explosive? Why are some vital to every breath we take while others are lethal toxins that kill off their discoverers, as with Marie Curie? As he digs for answers, Pogue reveals the story of the elements to be a rich stew simmering with passion, madness, and obsessive scientific rivalry. Punctuated by surprising and often alarming experiments, this program takes NOVA on a roller-coaster ride through nature's hidden lab and the compelling stories of discovery that revealed its secrets.

No Other Versions Available

Properties of Compounds
546/8
25 min IS 2004 Distribution Access
How do a mere 100 or so elements produce the millions of different compounds and mixtures that make up our world? In Properties of Compounds, viewers see that chemical bonds are the key to understanding how elements combine. The differences between ionic and covalent bonds are clearly presented using vivid graphics and dynamic footage. Students see how valence electrons interact among atoms to form compounds, and learn how simple Lewis structures can help describe how easily an element will react. Students explore the significance of the arrangement of the elements and are shown how to predict the behavior of an element from its position on the periodic table.

No Other Versions Available

Properties of Elements
546/8
23 min IS 2004 Distribution Access
Why are some elements highly reactive and others very stable? Why do elements in the same family have similar properties? Properties of Elements explores the connection between the atomic structure of an element and its properties. Students see how the behavior of the elements and the compounds they form is related to their valence shells—and learn that anything that affects the valence shell will affect the chemical and physical properties of the element. Viewers learn how to identify trends in properties based on the location of an element in the periodic table.

No Other Versions Available