Big Idea *Elements consist of one type of atom, and compounds consist of different elements*

*chemically combined.*

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| **Science 7 Matter DLRC Resources January 2019** | |
| 500 NEL GR7 | Nelson science 7 [kit]: biology and chemistry. [Burnaby, B.C.] : assembled by Burnaby School District, 2018. Kit includes 14 copies of the following title: Nelson science 7: biology and chemistry / Carolyn Durley, Doug Fraser. Teacher's guides: Nelson science 7 teacher's resource: biology and chemistry / Carolyn Durley, Doug Fraser -- Nelson science resource overview, 4-7 / Anita Chapman. Student book topics: Biology: evolution -- Chemistry: elements and compounds. Grades: 7. "The Nelson science series is one of a suite of Nelson resources designed for the BC curriculum. Nelson science fully meets the goals and rationale of the curriculum and addresses all the learning standards and big ideas."--Page [4] of Resource overview. Evolution: "In this unit, students construct their own knowledge of evolution through inquiry-based activities."--Page 12 of teacher's resource. Elements and compounds: "In this unit, students inquire into elements and compounds. They become familiar with competencies related to scientific inquiry and develop an understanding of themselves as scientists in talking about, reflecting on, and receiving feedback about their inquiries."--Page 90 of student book. |
| 541.34 MIX | Mixtures and solutions [kit]. [Burnaby, B.C.] : assembled by Burnaby School District, 2017. Kit contains the following 9 titles: Mixtures and solutions / Molly Aloian (6 copies) -- Mix it up! : solution or mixture? / Tracy Nelson Maurer (2 copies) -- Matter and materials / Peter Mellett (2 copies) -- Compounds and mixtures / Charnan Simon (1 copy) -- Crazy concoctions: a mad scientist's guide to messy mixtures / Jordan D. Brown (1 copy) -- Mixtures, compounds & solutions / Carol Baldwin (1 copy) -- Matter and how it changes / Joseph Midthun (1 copy) -- Science & technology 7. Mixtures / Kyn Barker et al. (1 copy) -- Mixtures and solutions / Hugh Westrup (1 copy). Teacher's guide: Science & technology 7. Mixtures teacher's guide / Kyn Barker et al. Grades: 5 6. The books in this kit introduce students to chemical mixtures, compounds and solutions, and include ideas for experiments that offer a deeper understanding of these scientific concepts. |
| 541.39 ATO | Atoms into compounds [kit]: chemical changes. [Burnaby, B.C.] : assembled by Burnaby School District, 2017. Kit contains the following 16 titles: Chemistry: getting a big reaction / Basher -- Quantum mechanics! -- Atoms and molecules / Tracy Nelson Maurer -- Chemistry : investigate the matter that makes up your world / Carla Mooney -- Dictionary of forces, matter, and energy / Leslie Garrett -- Amazing kitchen chemistry projects / Cynthia Light Brown -- Atoms and molecules / Molly Aloian -- Elements and compounds / Lynnette Brent -- Environmental chemistry / Rachel Eagen -- Chemistry around the house / Erin Knight -- Introducing the periodic table / Tom Jackson -- Chemical changes / Lynnette Brent -- Acids and bases / Lynnette Brent -- Explore atoms and molecules! / Janet Slingerland -- iScience / Clive Gifford -- Microworlds: unlocking the secrets of atoms and molecules / Anna Claybourne. Grades: 7. These books explore chemical elements, reactions and processes, as well as matter and energy. |
| 541.39 CHE | Chemical change café [kit]. [Burnaby, B.C.: assembled by Burnaby School District], 2014. This kit contains the following 4 titles: Cup and saucer chemistry / Nathan Shalit -- The magic school bus gets baked in a cake: a book about kitchen chemistry -- Pancakes, pancakes! / Eric Carle -- Kitchen chemistry / Jon Eben Field. Includes a portion of the teacher's guide Picture-perfect science lessons: using children's books to guide inquiry, grades 3-6 / Karen Ansberry, Emily Morgan. Grades: 3 4 5 6. Picture-perfect science integrates reading comprehension and content knowledge in different areas of science. This program uses picture books and activities to reinforce the concepts of inquiry-based learning for students and teachers. In this unit, "Learners explore the differences between chemical and physical changes by observing a variety of changes in matter." --Page 215 of teacher's guide. |
| 546 ELE | The elements [kit]. [Burnaby, B.C.] : assembled by Burnaby School District, 2016. Kit contains the following titles: Your guide to the periodic table / Gill Arbuthnott -- Molecules: the elements and the architecture of everything / Theodore Gray -- How to make a universe with 92 ingredients: an electrifying guide to the elements / Adrian Dingle -- The photographic card deck of the elements. Grades: 7. An introduction to the elements and the periodic table. Includes a photographic card deck. |
| 546.22 WAT | Water molecule [kit]. [Burnaby, B.C.] : assembled by Burnaby School District, 2015. Each cup contains: 24 oxygen pieces, 24 hydrogen pieces, 1 chloride model, 2 carbon pieces, 6 hydrogen pieces, 1 post, 1 hydroxyl group model. Grades: 5 6 7 8 9 10 11 12. This kit contains all the materials necessary for students to create 3-D models of a water molecule, including oxygen and hydrogen pieces, as well as a multi-part ethane model. "Students will feel bonds with these magnetic ... molecules. Embedded magnets accurately reflect positive and negative charges."--Publisher's web site. |
| 546.382 NAC | NaCl model [kit]. [Burnaby, B.C.] : assembled by Burnaby School District, 2017. Each bag contains: 13 green chloride pieces, 14 blue sodium pieces, 1 red/white water molecule piece. Grades: 5 6 7 8 9 10 11 12. This kit contains all the materials necessary for students to create 3-D models of a NaCl salt lattice model, including chloride and sodium pieces plus water molecule. "Students will use magnetic sodium chloride ion models and a guided-inquiry approach to explore the properties of NaCl. They will feel the ionic bonding between sodium and chloride and learn about the positive and negative charges of sodium and chloride."--Publisher's web site. NOTE: DUE TO CHOKING/SAFETY HAZARD, this kit may NOT be used with children UNDER 8 years old. |
| DVD 539.7 ATO | Atoms [videorecording]. Classroom ed. DVD. Elk Grove Village, IL: Disney Educational Productions, c2003. Features: fully indexed 'chapters' correlated to National Science Standards, interactive glossaries and quizzes, bonus footage of never-before-seen segments, interviews, and demos. Hosted by Bill Nye. Grades: 4 5 6 7 8 9 10. "Bill Nye explains how atoms combine to form molecules and that even though they're too small to see with our eyes, they are the building blocks of all matter."--Container. |
| DVD 541.24 ATO | Atomic structure & the periodic table [videorecording]. Wynnewood, PA: Schlessinger Media;, c2004. "One of a five-part series, this fast-paced program begins with a history of early concepts of the atom and its structure. Also described is atomic theory including information on atomic number, isotopes and radioactivity, as well as the evolution of atomic models. The computer-generated graphics and animation clearly illustrate key chemistry concepts. Organized into chapters, this program also covers the importance of electrons and clearly describes electron configuration and its role in determining the behavior of an atom. The guide is comprehensive. Suits components of the existing and the draft revised science curriculum at grades 9 and 10, as well as Chemistry 11."--ERAC. |
| DVD 541.24 WHA | What are atoms made of? [videorecording]. Hamilton, NJ: Films for the Humanities & Sciences;, 2010. Presenter, Ben McKenzie. NOTE: DLRC copy will not play in a DVD player. May only be played in a computer DVD drive. Grades: 6 7 8 9 10. Everything is made up of atoms, but what are atoms made of? This program summarizes modern atomic theory and the chemistry of atoms. First, modern atomic theory is explained with emphasis on some of the major breakthroughs by Ernest Rutherford, who experimented with alpha particles; Niels Bohr, who observed the valency of elements; and Dmitri Mendeleev, who designed the periodic table of elements. Next, the structure of the periodic table is examined, including an explanation of its organization by atomic mass and reactivity. Then, valency and ways in which elements are combined to create different substances are illustrated. An informative and fast-paced survey of basic principles of chemistry.--Publisher's description. |
| DVD 541.39 CHE | Chemical reactions [videorecording]. Classroom ed. Elk Grove Village, IL: Disney Educational Productions, 2009. Host, Bill Nye. Grades: 4 5 6 7. You'll have a blast watching the explosive examples Bill Nye uses to explain that everything is made of chemicals. Guest star Candace Cameron shares the lab with Bill and shows that fire is actually a chemical reaction. |
| DVD 541.39 INV | Investigating chemical reactions [videorecording]. Brandon, Vt.: Visual Learning Company;, c2009. Introduction -- What are chemical reactions? - Clues to chemical reactions -- Describing chemical reactions -- Types of chemical reactions -- Energy and chemical reactions -- Summing up -- Video assessment -- Previews -- Glossary -- Slides. Narrator: Nina Keck. Grades: 6 7. From cooking food to enjoying the warmth of a fire, we use chemical reactions every day. This exciting video highlights the major characteristics and types of chemical reactions. Additional concepts and terminology: reactants, products, physical and chemical changes, chemical equation, reaction rate, and indicators of chemical reactions. |
| DVD 668.55 SCI | The science in cosmetics [videorecording]. White Plains, NY: VEA (Video Education America);, 2006. Voice over: Mark Collard. Grades: 7 8 9 10 11 12. "Cosmetics are big business. They are used by almost every person walking on the Earth and by many students in your classroom. This program shows students how cosmetics are made and how they have been used for thousands of years. Bases, bulking agents, colouring agents, fragrances and preservatives are outlined. The making of an emulsion is demonstrated and the processes of distillation or solvent extraction explained. This is everyday science in action."--Container. |
| ELL 540 CHE | Chemistry [kit]. [Burnaby, B.C.: assembled by Burnaby School District], 2014. This kit contains 10 copies of the following title: Chemistry / Les Asselstine. Kit includes a section of the Big idea science teacher's guide. Audience: Intermediate ELL. Level 2. "This series offers students opportunities to learn essential curriculum concepts, develop content-specific vocabulary and academic words in context, as well as acquire competencies in literacy and critical thinking skills." --Page 4 of teacher's guide. "This book explores chemistry and the matter that is around us. It identifies matter in various forms and investigates changes in matter." --Page 19 of teacher's guide. NOTE: Copy 2 of this kit has only 7 copies of student book. |
| ELL 546 TEN ELE | The 10 most essential elements [kit]. [Burnaby, B.C.] : assembled by Burnaby School District, 2016. 4 copies of The 10 most essential elements / Judith Burt. Markham, Ont.: Scholastic Canada, c2008. ELL Level 2. Titles in this series are designed to be accessible to readers at all levels, grades 6 and above. The books encourage students to think critically about contemporary topics and read for meaning, while enhancing research skills and understanding of different types of non-fiction texts. --Publisher's website. "What element is the most important to life on our planet?"--P. 1 of teaching plan. |
| TR 507.8 HAU | Hauser, Jill Frankel, 1950-. Super science concoctions: 50 mysterious mixtures for fabulous fun. Nashville, TN: Williamson Books, c2007. Audience: Professional. Grades: 1 2 3 4 5 6. In this introduction to chemistry, well-organized, concise information offers the building blocks for the activities included and stresses the safety factor. |
| TR 540 ROB | Robertson, William C. Stop faking it! Chemistry basics. Arlington, VA: NSTA Press, c2007. Simple models -- Better models -- Periodicity -- Let's get together ... yeah, yeah, yeah -- Balancing act -- Organic, dude. Audience: Professional. A resource for chemistry teachers that explains fundamental chemistry concepts "from the ground up," covering why atoms behave in certain ways, how to balance chemical equations, and other topics. |