

# TABLE of Contents

---

|  |           |
|--|-----------|
| <b>UNIT 1: Introduction.....</b>                   | <b>2</b>  |
| Lesson 1: <i>Gateways to Science</i> .....         | 4         |
| Lesson 2: Safety .....                             | 6         |
| <b>UNIT 2: Matter and Energy.....</b>              | <b>12</b> |
| Lesson 1: Defining Matter.....                     | 14        |
| Lesson 2: Physical Properties of Matter .....      | 18        |
| Lesson 3: Defining Density.....                    | 21        |
| Lesson 4: Density of Regular-Shaped Objects.....   | 28        |
| Lesson 5: Density of Liquids.....                  | 37        |
| Lesson 6: Density of Irregular-Shaped Objects..... | 43        |
| Lesson 7: Elements and Their Symbols .....         | 47        |
| Lesson 8: Metals, Nonmetals, and Metalloids .....  | 54        |
| Lesson 9: Elements and Compounds.....              | 61        |
| Lesson 10: Evidence of a Chemical Change.....      | 66        |

# TABLE of Contents

---

## UNIT 3: Force, Motion, and Energy .....72

|  |     |
|--|-----|
| Lesson 1: Earth's Energy Resources .....     | 74  |
| Lesson 2: Energy Debate .....                | 80  |
| Lesson 3: Potential and Kinetic Energy ..... | 82  |
| Lesson 4: Forms of Energy.....               | 92  |
| Lesson 5: Energy Transformations .....       | 99  |
| Lesson 6: Thermal Energy.....                | 105 |
| Lesson 7: Speed.....                         | 111 |
| Lesson 8: Unbalanced Forces .....            | 115 |
| Lesson 9: Pulleys and Inclined Planes .....  | 123 |

## UNIT 4: Earth and Space .....134

|   |     |
|---|-----|
| Lesson 1: Gravity.....                              | 137 |
| Lesson 2: Planet Locations and Properties .....     | 146 |
| Lesson 3: Planet Properties and Motion.....         | 152 |
| Lesson 4: Space Exploration .....                   | 160 |
| Lesson 5: Earth's Layers .....                      | 169 |
| Lesson 6: Tectonic Plates .....                     | 175 |
| Lesson 7: Plate Tectonics and Geologic Events ..... | 182 |
| Lesson 8: Rock Cycle .....                          | 191 |
| Lesson 9: Minerals.....                             | 199 |



# TABLE of Contents

---

|   |            |
|---|------------|
| <b>UNIT 5: Organisms and the Environment.....</b>         | <b>208</b> |
| Lesson 1: Biotic and Abiotic Factors.....                 | 210        |
| Lesson 2: Levels of Organization within an Ecosystem..... | 216        |
| Lesson 3: The Microscope.....                             | 221        |
| Lesson 4: Cells .....                                     | 229        |
| Lesson 5: Kingdoms .....                                  | 236        |
| Lesson 6: Domains.....                                    | 247        |
| <b>Appendix.....</b>                                      | <b>251</b> |
| <b>Science Notebook .....</b>                             | <b>252</b> |
| Description .....   | 252        |
| Rubric Checklist.....                                     | 253        |
| <b>Drawings and Diagrams .....</b>                        | <b>254</b> |
| Description .....   | 254        |
| Rubric Checklist.....                                     | 255        |
| <b>Concept Map .....</b>                                  | <b>256</b> |
| Description .....   | 256        |
| Rubric Checklist.....                                     | 257        |
| <b>Venn Diagrams .....</b>                                | <b>258</b> |
| Description .....   | 258        |
| Rubric Checklist.....                                     | 259        |

# TABLE of Contents

---

|                                |     |
|--------------------------------|-----|
| Line and Bar Graphs .....      | 260 |
| Description .....              | 260 |
| Rubric Checklist.....          | 261 |
| Writing in Science.....        | 262 |
| Rubric Checklist.....          | 262 |
| Fraye Model.....               | 263 |
| Folded Models in Science ..... | 264 |
| Directions.....                | 264 |

