



Zula Exploration Mission Modules  
Alignment Overview to PALS  
Performance Assessment Links in Science

**Module Key**

| <b>Physical Science</b>   | <b>Life Science</b>  | <b>Earth Science</b>  |
|---|--|---|
| <ol style="list-style-type: none"><li>1. Simple machines</li><li>2. Force</li><li>3. Mixtures, Solutions, and Chemical Reactions</li><li>4. Matter</li><li>5. Light</li><li>6. Invisible Forces</li></ol> | <ol style="list-style-type: none"><li>7. Habitats: Oceans, Rainforests, and Canyons</li><li>8. Plants, Animals, and Life Cycles</li><li>9. Animal Adaptations</li><li>10. Animals and Energy</li><li>11. Garden Habitats</li></ol> | <ol style="list-style-type: none"><li>12. Water</li><li>13. Earth's Water Cycle</li><li>14. Evaporation and Condensation</li><li>15. Earth's Changing Environment</li><li>16. Weather</li><li>17. Wind and Erosion</li><li>18. Rocks and Soil</li><li>19. Landforms: Mountains and Volcanoes</li><li>20. Objects in the Sky: Sun and Moon</li></ol> |

| <b>Science as Inquiry</b><br>(4ASI) | <b>Standards K-4</b>                                       | <b>Zula's<br/>           Exploration<br/>           Mission<br/>           Modules™</b> |
|-------------------------------------|--|---|
| 4ASI1                               | <b>Abilities necessary to do scientific inquiry</b>        |   |
| 4ASI1.1                             | Ask a question about objects, organisms, and events        | All   |
| 4ASI1.2                             | Plan and conduct a simple investigation                    | All   |
| 4ASI1.3                             | Employ simple equipment and tools to gather data           | All   |
| 4ASI1.4                             | Use data to construct a reasonable explanation             | All   |
| 4ASI1.5                             | Communicate investigations and explanations                | All   |
| 4ASI2                               | <b>Understandings about scientific inquiry</b>             |   |
| 4ASI2.1                             | Asking and answering a question                            | All   |
| 4ASI2.2                             | Types of investigations and doing a fair test              | All   |
| 4ASI2.3                             | Simple instruments   | All   |
| 4ASI2.4                             | Develop explanations using observations (evidence)         | All   |
| 4ASI2.5                             | Scientists make the results of their investigations public | All   |
| (4ASI2.6)                           | Review and ask questions about results                     | All   |
| <b>Physical Science</b><br>4BPS     |  |   |
| 4BPS1                               | <b>Properties of objects and materials</b>                 |   |
| 4BPS1.1                             | Observable properties                                      | 3,4,13  |
| 4BPS1.2                             | Materials and their properties                             | 3,4,13  |
| 4BPS1.3                             | States of matter   | 3,4,13  |
| <b>4BPS2</b>                        | <b>Position and motion of objects</b>                      |   |
| 4BPS2.1                             | Describing position  | 1,2   |
| 4BPS2.2                             | Describing motion  | 1,2   |
| 4BPS2.3                             | Changing position and motion                               | 1,2   |
| 4BPS2.4                             | Sound  |   |

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| 4BPS3                                   | <b>Light, heat, electricity, and magnetism</b> |              |
| 4BPS3.1                                 | Behavior of light                              | 5            |
| 4BPS3.2                                 | Heat production and conduction                 |              |
| 4BPS3.3                                 | Electricity in circuits                        |              |
| 4BPS3.4                                 | Magnets  | 6            |
| <b>Life Science</b><br>4CLS             |  |              |
| 4CLS1                                   | <b>Characteristics of organisms</b>            |              |
| 4CLS1.1                                 | Needs of organisms                             | 8,9,10,11,12 |
| 4CLS1.2                                 | Structure and function                         | 8,9,10,11,12 |
| 4CLS1.3                                 | Behavior and senses                            | 8,9,10,11,12 |
| 4CLS2                                   | <b>Life cycles</b>                             |              |
| 4CLS2.1                                 | Life cycles of different organisms             | 8,9,10,11,12 |
| 4CLS2.2                                 | Resembling parents                             | 8,9,10,11,12 |
| 4CLS2.3                                 | Heredity and environmental interactions        | 8,9,10,11,12 |
| 4CLS3                                   | <b>Organisms and environments</b>              |              |
| 4CLS3.1                                 | Food chains                                    | 8,9,10,11,12 |
| 4CLS3.2                                 | Organisms relations to the environment         | 8,9,10,11,12 |
| 4CLS3.3                                 | Organisms effects on the environment           | 8,9,10,11,12 |
| 4CLS3.4                                 | Humans and the environment                     | 8,9,10,11,12 |
| <b>Earth and Space Science</b><br>4DESS |  |              |
| 4DESS1                                  | <b>Properties of earth materials</b>           |              |
| 4DESS1.1                                | Earth/atmosphere materials                     | 18,19        |
| 4DESS1.2                                | Soils  | 18,19        |
| 4DESS1.3                                | Fossils  | 18,19        |
| 4DESS2                                  | <b>Objects in the sky</b>                      |              |

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| 4DESS2.1   | Properties of objects in the sky   | 5,21     |
| 4DESS2.2   | The Sun  | 5,21     |
| 4DESS3   | <b>Changes in earth and sky</b>  |          |
| 4DESS3.1   | Surface changes  | 18       |
| 4DESS3.2   | Weather  | 4,5,17   |
| 4DESS3.3   | Patterns   | 17,18,21 |
| <b>Science and Technology</b><br>4EST                        |  |          |
| 4EST1  | <b>Abilities of technological design</b>   |          |
| 4EST1.1  | Identify a simple problem  | All      |
| 4EST1.2  | Propose a solution   | All      |
| 4EST1.3  | Implementing proposed solutions  | All      |
| 4EST1.4  | Evaluate a product or design   | All      |
| 4EST1.5  | Communicate a problem, design, and solution  | All      |
| 4EST2  | <b>Understanding about science and technology</b>                                  |          |
| 4EST2.1  | Science is one way of answering questions people have about the world              | All      |
| 4EST2.2  | People invent tools and techniques to solve problems and avoid new problems        | All      |
| 4EST2.3  | Teams of scientists and engineers often work together                              | All      |
| 4EST2.4  | All kinds of women and men do a variety of scientific/technological work           | All      |
| 4EST2.5  | Tools help scientists do science better  | All      |
| 4EST3  | <b>Abilities to distinguish between natural objects and objects made by humans</b> |          |
| 4EST3.1  | Some objects occur in nature; others are made by people to enhance life            | All      |
| 4EST3.2  | Objects can be categorized into two groups, natural and designed                   | All      |
| <b>Science in Personal and Social Perspectives</b><br>4FSPSP |  |          |
| 4FSPSP1  | <b>Personal health</b>   |          |
| 4FSPSP1.1  | Safety and security are basic needs of humans                                      |          |
| 4FSPSP1.2  | Individuals have some responsibility for their own health                          |          |
| 4FSPSP1.3  | Nutrition is essential to health   |          |

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| 4FSPSP1.4                                   | Different substances can damage the body and how it functions                                       |     |
| 4FSPSP2                                     | <b>Characteristics and changes in populations</b>   |     |
| 4FSPSP2.1                                   | Human populations include groups living in a particular location                                    |     |
| 4FSPSP2.2                                   | The size of a human population can increase or decrease   |     |
| 4FSPSP3                                     | <b>Types of resources</b>   |     |
| 4FSPSP3.1                                   | We get resources from the living and nonliving environment  |     |
| 4FSPSP3.2                                   | Some resources are basic materials, some are produced from basic resources, some are nonmaterial.   |     |
| (4FSPSP3.3                                  | The supply of many resources is limited.  |     |
| 4FSPSP4)                                    | <b>Changes in environments</b>  |     |
| 4FSPSP4.1                                   | Environmental factors affect the ability to survive and the quality of life                         | 8,9 |
| 4FSPSP4.2                                   | Changes in environments can be natural or influenced by humans                                      | 8,9 |
| 4FSPSP4.3                                   | Some environmental changes occur slowly, others occur rapidly                                       | 8,9 |
| 4FSPSP5                                     | <b>Science and technology in local challenges</b>   |     |
| 4FSPSP5.1                                   | People continue inventing new ways of doing things/solving problems                                 | NA  |
| 4FSPSP5.2                                   | Science and technology have greatly improved things for some people                                 | NA  |
| <b>History and Nature of Science 4GHNS1</b> |   |     |
| 4GHNS1                                      | <b>Science as a human endeavor</b>  |     |
| 4GHNS1.1                                    | Science and technology have been practiced by people for a long time                                | NA  |
| 4GHNS1.2                                    | Men and women have made a variety of contributions throughout the history of science and technology | NA  |
|   | Much more remains to be understood, science will never be finished                                  | NA  |
| 4GHNS1.4                                    | Many people choose science as a lifelong career and enjoy it  | NA  |