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| **Grade 4 Science**  **Curricular Competencies (Do)**  In science, the curricular competencies introduced in K are expanded in a developmental continuum focused on the doing of science. | | | **Big Ideas (UNDERSTAND)** | | | | | | | | | | |
| All living things sense and respond to their environment. | | Matter has mass,  takes up space,  and can change phase. | | | Energy can be transformed. | | | | The motion of Earth and the moon cause observable patterns that affect living and  non-living systems. | |
| **Content (KNOW)** | | | | | | | | | | |
| sensing and responding:  - humans  - other animals  - plants | biomes as large regions with similar environmental features | | phases of matter | the effect of temperature on particle movement | | energy has various forms *(10 forms)* | energy is conserved *(energy cannot be created but can be changed)* | devices that transform energy *(i.e. glow stick, flashlight)* | local changes caused by Earth’s axis, rotation, and orbit *(day, night, phases of the moon)* | the effects of the relative positions of the sun, moon, and Earth including local First Peoples perspectives | |
|  |  | | *Inquiry Question* | | | *Inquiry Question* | | | *Inquiry Question* | | | *Inquiry Question* | | |
| Questioning and predicting | Demonstrate curiosity about the natural world. | |  |  | |  |  | |  |  |  |  |  | |
| Observe objects and events in familiar contexts. | |  |  | |  |  | |  |  |  |  |  | |
| Identify questions about familiar objects and events that can be investigated scientifically. | |  |  | |  |  | |  |  |  |  |  | |
| Make predictions based on prior knowledge. | |  |  | |  |  | |  |  |  |  |  | |
| Planning and conducting | Suggest ways to plan and conduct an inquiry to find answers to their questions. | |  |  | |  |  | |  |  |  |  |  | |
| Consider ethical responsibilities when deciding how to conduct an experiment. | |  |  | |  |  | |  |  |  |  |  | |
| Safely use appropriate tools to make observations and measurements, using formal measurements and digital technology as appropriate. | |  |  | |  |  | |  |  |  |  |  | |
| Make observations about living and non-living things in the local environment. | |  |  | |  |  | |  |  |  |  |  | |
| Collect simple data. | |  |  | |  |  | |  |  |  |  |  | |
| Processing and analyzing data and information | Experience and interpret the local environment. | |  |  | |  |  | |  |  |  |  |  | |
| Sort and classify data and information using drawings or provided tables. | |  |  | |  |  | |  |  |  |  |  | |
| Use tables, simple bar graphs, or other formats to represent data and show simple patterns and trends. | |  |  | |  |  | |  |  |  |  |  | |
| Compare results with predictions, suggesting possible reasons for findings. | |  |  | |  |  | |  |  |  |  |  | |
| Evaluating | Make simple inferences based on their results and prior knowledge. | |  |  | |  |  | |  |  |  |  |  | |
| Reflect on whether an investigation was a fair test . | |  |  | |  |  | |  |  |  |  |  | |
| Demonstrate an understanding and appreciation of evidence. | |  |  | |  |  | |  |  |  |  |  | |
| Identify some simple environmental implications of their and others’ actions. | |  |  | |  |  | |  |  |  |  |  | |
| Applying andinnovating | Contribute to care for self, others, school, and neighbourhood through individual or collaborative approaches. | |  |  | |  |  | |  |  |  |  |  | |
| Co-operatively design projects. | |  |  | |  |  | |  |  |  |  |  | |
| Transfer and apply learning to new situations. | |  |  | |  |  | |  |  |  |  |  | |
| Generate and introduce new or refined ideas when problem solving. | |  |  | |  |  | |  |  |  |  |  | |
| Communicating | Represent and communicate ideas and findings in a variety of ways, such as diagrams and simple reports, using digital technologies as appropriate. | |  |  | |  |  | |  |  |  |  |  | |
| Express and reflect on personal or shared experiences of place. | |  |  | |  |  | |  |  |  |  |  | |