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| **Monitor My Maple (MMM) Unit Calendar – Autumn**  Tips: Select and tag trees before starting unit. Collect MMM observations as frequently as possible – ideally once or twice a week until all the leaves drop. | | |
| **Unit Lessons (chronological)** | | **NYS Next Generation Standards**  **Science (MS-LS) and Literacy (MS-SL)** |
| **1** | **What is Citizen Science?**  Intro to Citizen Science, Intro to Nature Up North and Monitor My Maple. *Optional Nature Up North guest lecture.* | **MS- SL1** Comprehension and Collaboration |
| **2** | **Phenology: Nature’s Calendar**  Intro to Phenology, Phenology Relay Race, MMM Datasheets. | **MS-LS2-1** Ecosystems: Cause & Effect Relationship; **MS-LS2-4** Ecosystems: Impact of Change on Populations; **MS- SL1** Comprehension and Collaboration |
| **3** | **1st Monitor My Maple Observation**  Introduction to trees, 1st Observation, Maple Portrait, Pair & Share, Reflections and Predictions. | **MS-LS2-1** Ecosystems: Cause & Effect Relationship; **MS-LS2-4** Ecosystems; Impact of Change on Populations; **MS-SL6** Presentation of Knowledge and Ideas |
| **4** | **Class Phenology Calendar**  Introduce Class Phenology Calendar, Map Our Schoolyard, class goal setting, Maple Observation | **MS-LS2-1** Ecosystems: Cause & Effect Relationship; **MS-LS2-4** Ecosystems: Impact of Change on Populations; **MS- SL1** Comprehension and Collaboration |
| **5** | **Student Phenology Journals**  Introduce Phenology Journals, Map My Backyard Activity, student predictions, student goal setting. | **MS-LS2-1** Ecosystems: Cause & Effect Relationship; **MS-LS2-4** Ecosystems: Impact of Change on Populations; **MS-SL6** Presentation of Knowledge and Ideas |
| **6** | **Leaf Color Change Lab**  Color Pigments Lesson, Photosynthesis Tag, Collect Leaves, Color Wheel (Activity), Leaf Pressing, Maple Observation | **MS-LS2-1** Ecosystems: Cause & Effect Relationship; **MS-LS2-4** Ecosystems: Impact of Change on Populations; **MS-LS1-6** Role of Photosynthesis in Energy Cycle; **MS-SL6** Presentation of Knowledge and Ideas |
| **7** | **Maple Species ID**  Students ID trees using leaves, branches and bark; “Who was that tree” activity; introduce dichotomous keys & field guides, Maple Mayhem (game), Maple Observation | **MS-LS2-1** Ecosystems: Cause & Effect Relationship; **MS-LS2-4** Ecosystems: Impact of Change on Populations; **MS-LS1-5** Influence of Environment on Growth |
| **8** | **Carbon Cycle**  Use the North Country location & maple trees to teach Carbon Cycle; teams create carbon cycle diagram for maple tree. | **MS-LS2-1** Ecosystems: Cause & Effect Relationship; **MS-LS2-4** Ecosystems: Impact of Change on Populations; **MS-LS1-6** Role of Photosynthesis in Energy Cycle; **MS-LS2-3** Ecosystems: Cycling and Flow of Matter |
| **9** | **Monitor My Maple Data**  Watch data video, Introduce Nature Up North data portal; students practice asking questions of the data | **MS-LS2-1** Ecosystems: Cause & Effect Relationship; **MS- SL1** Comprehension and Collaboration; **MS-SL6** Presentation of Knowledge and Ideas |
| **10** | **Making Conclusions**  Importance of data quality video, students finish entering data on natureupnorth.org, export data, student teams analyze based on their hypothesis | **MS-LS2-1** Ecosystems: Cause & Effect Relationship; **MS- SL1** Comprehension and Collaboration; **MS-SL6** Presentation of Knowledge and Ideas |
| **11** | **Letter to a Stakeholder**  Why share your data reading, Maple Producer interview, Stakeholder Brainstorm, Write letters to stakeholders | **MS-LS2-1** Ecosystems: Cause & Effect Relationship; **MS-LS2-4** Ecosystems: Impact of Change on Populations; **MS-SL6** Presentation of Knowledge and Ideas |
| **12** | **Maple Report & Reflection**  Teams Report on class & community results from current season, Personal reflections­­ | **MS-LS2-1** Ecosystems: Cause & Effect Relationship; **MS-LS2-4** Ecosystems: Impact of Change on Populations  **MS- SL1** Comprehension and Collaboration; **MS-SL6** Presentation of Knowledge and Ideas |

Note: Lessons 1,2,3, 8, and 11 (shaded blue) have been developed and are available for use. Others are included as suggestions for what you may develop and may be added in time and/or with your assistance. Feedback is welcome and encouraged.