| 1st Grade – 2017-2018: Rotation A | |
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| **1st & 2nd Quarters** | **SOUND, LIGHT, & SKY**<br>**1:** Conduct experiments to provide evidence that vibrations of matter can create sound (e.g., striking a tuning fork, plucking a guitar string) and sound can make matter vibrate (e.g., holding a piece of paper near a sound system speaker, touching your throat while speaking).<br>**2:** Construct explanations from observations that objects can be seen only when light is available to illuminate them (e.g., moon being illuminated by the sun, colors and patterns in a kaleidoscope being illuminated when held toward a light).<br>**3:** Investigate materials to determine which types allow light to pass through (e.g., transparent materials such as clear plastic wrap), allow only partial light to pass through (e.g., translucent materials such as wax paper), block light (e.g., opaque materials such as construction paper), or reflect light (e.g., shiny materials such as aluminum foil).<br>**4:** Design and construct a device that uses light or sound to send a communication signal over a distance (e.g., using a flashlight and a piece of cardboard to simulate a signal lamp for sending a coded message to a classmate, using a paper cup and string to simulate a telephone for talking to a classmate).*<br>**8:** Observe, describe, and predict patterns of the sun, moon, and stars as they appear in the sky (e.g., sun and moon appearing to rise in one part of the sky, move across the sky, and set; stars other than our sun being visible at night, but not during the day).<br>**9:** Observe seasonal patterns of sunrise and sunset to describe the relationship between the number of hours of daylight and the time of year (e.g., more hours of daylight during summer as compared to winter). |
| **3rd & 4th Quarters** | **WILD ORGANISMS**<br>**(AMSTI Schools – No AMSTI Kit 3rd Quarter)**<br>**5:** Design a solution to a human problem by using materials to imitate how plants and/or animals use their external parts to help them survive, grow, and meet their needs (e.g., outerwear imitating animal furs for insulation, gear mimicking tree bark or shells for protection).*<br>**6:** Obtain information to provide evidence that parents and their offspring engage in patterns of behavior that help the offspring survive (e.g., crying of offspring indicating need for feeding, quacking or barking by parents indicating protection of young).<br>**7:** Make observations to identify the similarities and differences of offspring to their parents and to other members of the same species (e.g., flowers from the same kind of plant being the same shape, but differing in size; dog being same breed as parent, but differing in fur color or pattern). |

| 1st Grade – 2017-2018: Rotation B | |
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| **1st & 2nd Quarters** | **WILD ORGANISMS**<br>**(AMSTI Schools – No AMSTI Kit 1st Quarter)**<br>**5:** Design a solution to a human problem by using materials to imitate how plants and/or animals use their external parts to help them survive, grow, and meet their needs (e.g., outerwear imitating animal furs for insulation, gear mimicking tree bark or shells for protection).*<br>**6:** Obtain information to provide evidence that parents and their offspring engage in patterns of behavior that help the offspring survive (e.g., crying of offspring indicating need for feeding, quacking or barking by parents indicating protection of young).<br>**7:** Make observations to identify the similarities and differences of offspring to their parents and to other members of the same species (e.g., flowers from the same kind of plant being the same shape, but differing in size; dog being same breed as parent, but differing in fur color or pattern). |
| **3rd & 4th Quarters** | **SOUND, LIGHT, & SKY**<br>**1:** Conduct experiments to provide evidence that vibrations of matter can create sound (e.g., striking a tuning fork, plucking a guitar string) and sound can make matter vibrate (e.g., holding a piece of paper near a sound system speaker, touching your throat while speaking).<br>**2:** Construct explanations from observations that objects can be seen only when light is available to illuminate them (e.g., moon being illuminated by the sun, colors and patterns in a kaleidoscope being illuminated when held toward a light).<br>**3:** Investigate materials to determine which types allow light to pass through (e.g., transparent materials such as clear plastic wrap), allow only partial light to pass through (e.g., translucent materials such as wax paper), block light (e.g., opaque materials such as construction paper), or reflect light (e.g., shiny materials such as aluminum foil).<br>**4:** Design and construct a device that uses light or sound to send a communication signal over a distance (e.g., using a flashlight and a piece of cardboard to simulate a signal lamp for sending a coded message to a classmate, using a paper cup and string to simulate a telephone for talking to a classmate).*<br>**8:** Observe, describe, and predict patterns of the sun, moon, and stars as they appear in the sky (e.g., sun and moon appearing to rise in one part of the sky, move across the sky, and set; stars other than our sun being visible at night, but not during the day).<br>**9:** Observe seasonal patterns of sunrise and sunset to describe the relationship between the number of hours of daylight and the time of year (e.g., more hours of daylight during summer as compared to winter). |