

Rogers Middle School
Department: Science
Course: Grade 5 Science

Term 1

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| Topic: Earth and Sun |
| Essential Questions: <ul style="list-style-type: none">• How and why does your shadow change during the day?• What can be learned by studying the length and direction of shadows?• What causes day and night? |
| Topic: Planetary Systems |
| Essential Questions: <ul style="list-style-type: none">• How can you explain why we see some natural objects only in the night sky, some only in the day sky, and some at both times?• Why would you describe the size of and distance between Earth, the Moon, and the Sun?• How does the shape of the Moon change over 4 weeks?• How do the parts of the solar system interact?• Why do stars appear to move across the night sky? |
| Topic: Earth's Atmosphere |
| Essential Questions: <ul style="list-style-type: none">• What is air?• What is Earth's atmosphere?• How do meteorologists measure and record weather variables? |

Term 2

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| Topic: Heating Earth |
| Essential Questions: <ul style="list-style-type: none">• What happens to earth materials when they are exposed to sunlight?• How does energy transfer to the air?• What happens when a volume of fluid is warmed at the bottom?• What is the best design for a solar water heater? |
| Topic: Water Planet |
| Essential Questions: <ul style="list-style-type: none">• What causes condensation to form?• How does water vapor get into the air?• What is the water cycle?• What is the difference between weather and climate? |
| Topic: Mixtures and Solutions |

Essential Questions:

- How can a mixture be separated?
- Where does the solid material go when a solution is made?
- How can you separate a mixture of dry materials?
- Are there materials outdoors that will dissolve in water?

Topic: Developing Models**Essential Questions:**

- What is the process to develop a model of the black box?
- How does a drought-stopper system work?
- What is the difference between dissolving and melting?

Term 3

Topic: Concentration**Essential Questions:**

- Are all solutions made with soft-drink powder and water the same?
- How can you determine which salt solution is more concentrated?
- How can you determine the relative concentrations of three mystery solutions?
- What is the relationship between salt-solution concentration and density?

Topic: Solutions**Essential Questions:**

- What is the relationship between salt-solution concentration and density?
- Does it always take the same amount of solid materials to saturate 50 ml of water?
- What is the effect of mixing two substances with water?
- How can we identify the products from the baking soda and calcium chloride reaction?
- What happens when you mix substances with water in a bag?

Term 4

Topic: Living Systems**Essential Questions:**

- Investigation #1
- How can you identify a system?
- Is planet Earth a system?
- What organisms are both predator and prey in the kelp forest ecosystem?

Topic: MCAS Review**Essential Questions:**

- Investigation #4
- In dodgeball, how are you able to avoid being hit?
- What features of organisms attract attention?

