Grade 4

Activity: Branching Out

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Forces and Motion
What makes objects move the way they do?

Content Standards (focus of standard)	**Activity Objectives** (from Project WET activity)	**CMT Correlation/Expected Performances**
4.1 The position and motion of objects can be changed by pushing or pulling. >The size of the change in an object's motion is related to the strength of the push or pull. >The more massive an object is, the less effect a given force will have on its motion.	1. Predict where water will flow in watersheds. 2. Describe drainage patterns in watersheds.	B9. Describe the effect of the mass of an object on its motion.

Activity: Capture, Store, Release

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Energy in the Earth's Systems
How do external and internal sources of energy affect the Earth's systems?

Content Standards (focus of standard)	**Activity Objectives** (from Project WET activity)	**CMT Correlation/Expected Performances**
4.3 Water has a major role in shaping the Earth's surface. >Water circulates through the Earth's crust, oceans and	1. Recognize that ground water, surface water, and precipitation can contribute water to wetlands. 2. Describe how wetlands capture, store, and release water.	B13. Describe the role of water in erosion and river formation.

atmosphere.		

Activity: **Energetic Water**
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Energy in the Earth's Systems
How do external and internal sources of energy affect the Earth's systems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances
4.3 Water has a major role in shaping the Earth's surface. > Water circulates through the Earth's crust, oceans and atmosphere.	1. Identify the forms of energy in water 2. Demonstrate how water can be used to do work.	B12. Describe how the sun's energy impacts the water cycle. B13. Describe the role of water in erosion and river formation.

Activity: **Every Drop Counts**
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Matter and Energy in Ecosystems
How do matter and energy flow through ecosystems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances
4.2 All organisms depend on the living and non-living features of the environment for survival. >When the environment changes, some organisms survive and	1. Determine how water conservation practices save water. 2. Identify water conservation habits they can change or adopt. 3. Recognize that water conservation is important.	B11. Describe how natural phenomena and some human activities may cause changes to habitats and their inhabitants.

reproduce and other die or move to new locations.		

Activity: **Humpty Dumpty**
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Matter and Energy in Ecosystems
How do matter and energy flow through ecosystems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances
4.2 All organisms depend on the living and nonliving features of the environment for survival. >When the environment changes, some organisms survive and reproduce and others die or move to new locations.	1. Describe the challenges of restoring an altered natural landscape. 2. Develop a restoration plan for a local site.	B 10. Describe how animals, directly or indirectly, depend on plants to provide the food and energy they need in order to grow and survive. B11. Describe how natural phenomena and some human activities may cause changes to habitats and their inhabitants.

Activity: **Imagine!**
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Energy in the Earth's Systems
How do external and internal sources of energy affect the Earth's systems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances

4.3 Water has a major role in shaping the Earth's surface. >Water circulates through the Earth's crust, oceans and atmosphere.	1. Identify changes in states of water that enable water to move through the water cycle. 2. Describe the water cycle.	B12. Describe how the sun's energy impacts the water cycle.

Activity: **Just Passing Through**
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Matter and Energy in Ecosystems
How do matter and energy flow through ecosystems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances
4.2 All organisms depend on the living and nonliving features of the environment for survival. >When the environment changes, some organisms survive and reproduce and others die or move to new locations.	1. Compare the rates at which water flows down slopes with and without plant cover. 2. Identify Best Management Practices that can be used to reduce erosion.	B11. Describe how natural phenomena and some human activities may cause changes to habitats and their inhabitants.

Activity: **Just Passing Through**
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Energy in the Earth's Systems
How do external and internal sources of energy affect the Earth's systems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances
4.3 Water has a major role in shaping the Earth's surface. >Water circulates through the Earth's crust, oceans and atmosphere	1. Compare the rates at which water flows down slopes with and without plant cover. 2. Identify Best Management Practices that can be used to reduce erosion.	B13. Describe the role of water in erosion and river formation.

Activity: **Let's Even Things Out**
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Energy in the Earth's Systems
How do external and internal sources of energy affect the Earth's systems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances
4.3 Water has a major role in shaping the Earth's surface. >Water circulates through the Earth's crust, oceans, and atmosphere.	1. Describe and demonstrate the processes of osmosis and diffusion.	B12. Describe how the sun's energy impacts the water cycle.

Activity: **Life In the Fast Lane**
Page: 79

Matter and Energy in Ecosystems
How do matter and energy flow through ecosystems?

Content Standards (focus of standard)	Activity Objectives (from Project WET activity)	CMT Correlation/Expected Performances

4.2 Al organisms depend on the living and non-living features of the environment for survival. >When the environment changes, some organisms survive and reproduce and other die or move to new locations.	1. Describe physical and biological components of temporary wetlands. 2. Recognize the importance of temporary wetlands to larger ecosystems. 3. Explain how organisms in temporary wetlands race against time to obtain water, shelter, food, and a mate.	B10. Describe how animals, directly or indirectly, depend on plants to provide the food and energy they need in order to grow and survive. B11. Describe how natural phenomena and some human activities may cause changes to habitats and their inhabitants.

Activity: **Macroinvertebrate Mayhem**
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Matter and Energy in Ecosystems
How do matter and energy flow through ecosystems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances
4.2 All organisms depend on the living and nonliving features of the environment for survival. >When the environment changes, some organisms survive and reproduce and others die or move to new locations.	1. Illustrate how tolerance to water quality conditions varies among macroinvertebrate organisms. 2. Explain how population diversity provides insight into the health of an ecosystem.	B10. Describe how animals directly or indirectly, depend on plants to prove the food and energy they need in order to grow and survive. B11. Describe how natural phenomena and some human activities may cause changes to habitats and their inhabitants.

Activity: **Molecules In Motion**
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Energy in the Earth's Systems
How do external and internal sources of energy affect the Earth's systems?

Content Standards (focus of standard)	**Activity Objectives** (from Project WET activity)	**CMT Correlation/Expected Performances**
4.3 Water has a major role in shaping the Earth's surfaces. >Water circulates through the Earth's crust, oceans and atmospheres.	1. Model the effects of heat energy on the state of water.	B12. Describe how the sun's energy impacts the water cycle.

Activity: **Old Water**
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Energy in the Earth's Systems
How do external and internal sources of energy affect the Earth's systems?

Content Standard	**Activity Objectives**	**CMT Correlation/Expected Performances**
4.3 Water has a major role in shaping the Earth's surface. >Water circulates through the Earth's crust, oceans and atmosphere	1. Appreciate the age of water 2. Compare the proportion of time that water and life processes have existed on Earth	B12. Describe how the sun's energy impacts the water cycle. B13. Describe the role of water in erosion and river formation.

Activity: **Rainy-Day Hike**
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Earth Science/Environmental Science
Energy in the Earth's Systems

How do external and internal sources of energy affect the Earth's systems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances
4.3 Water has a major role in shaping the Earth's surface. >Water circulates through the Earth's crust, oceans and atmosphere.	1. Identify the watershed in which their school is located. 2. Explain the role the schoolyard plays in the watershed.	B12. Describe how the sun's energy impacts the water cycle. B13. Describe the role of water in erosion and river formation.

Activity: **Reaching Your Limits**
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Matter and Energy in Ecosystems
How do matter and energy flow through ecosystems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances
4.2 All organisms depend on the living and non-living features of the environment for survival. >When the environment changes, some organisms survive and reproduce and other die or move to new locations.	1. Describe the relationship between water quality and water treatment. 2. Be aware of the ratio of one to a million.	B11. Describe how natural phenomena and some human activities may cause changes to habitats and their inhabitants.

Activity: **Salt Marsh Players**

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Matter and Energy in Ecosystems
How do matter and energy flow through ecosystems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances
4.2 All organisms depend on the living and nonliving features of the environment for survival. >When the environment changes, some organisms survive and reproduce and others die or move to new locations.	1. Demonstrate how various salt marsh plants and animals adapt to environmental conditions 2. Recognize various plants and animals that live in salt marshes	B10. Describe how animals, directly or indirectly, depend on plants to provide the food and energy they need in order to grow and survive. B11. Describe how natural phenomena and some human activities may cause changes to habitats and their inhabitants.

Activity: **Sum of the Parts**
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Energy in the Earth's Systems
How do external and internal sources of energy affect the Earth's systems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances
4.3 Water has a major role in shaping the Earth's surface. >Water circulates through the Earth's crust, oceans and atmosphere.	1. Distinguish between point and non-point source pollution. 2. Recognize that everyone contribute to and is responsible for a river or lake's water quality. 3. Identify Best Management Practices to reduce pollution.	B12. Describe how the sun's energy impacts the water cycle. B13. Describe the role of water in erosion and river formation.

Activity: **The Incredible Journey**
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Energy in the Earth's Systems
How do external and internal sources of energy affect the Earth's systems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances
4.3 Water has a major role in shaping the Earth's surface. >Water circulates through the Earth's crust, oceans and atmosphere.	1. Describe the movement of water within the water cycle. 2. Identify the states of water as it moves through the water cycle.	B12. Describe how the sun's energy impacts the water cycle. B13. Describe the role of water in erosion and river formation.

Activity: **The Life Box**
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Matter and Energy in Ecosystems
How do matter and energy flow through ecosystems?

Content Standards (focus of standard)	Activity Objectives (from Project WET activity)	CMT Correlation/Expected Performances
4.2 All organisms depend on the living and non-living features of the environment for survival. >When the environment changes, some organisms survive and reproduce and others die or move to new locations.	1. Identify four essential factors necessary for life. 2. Explain how living things use these four factors.	B10. Describe how animals, directly or indirectly, depend on plants to provide the food and energy they need to order to grow and survive.

Activity: **Water Address**
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Matter and Energy in Ecosystems
How do matter and energy flow through ecosystems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances
4.2 All organisms depend on the living and non-living features of the environment for survival. >When the environment changes, some organisms survive and reproduce and others die or move to new locations.	1. Recognize water-related adaptations of some plants and animals.	B10. Describe how animals, directly or indirectly, depend on plants to provide the food and energy they need in order to grow and survive. B11. Describe how natural phenomena and some human activities may cause changes to habitats and their inhabitants.

Activity: **Water Crossings**
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Forces and Motion
What makes objects move the way they do?

Content Standards (focus of standard)	Activity Objectives (from Project WET activity)	CMT Correlation/Expected Performances
4.1 The position and motion of objects can be changed by pushing or pulling. >The size of the change in an object's motion is related to the strength of the push or pull. >The more massive an object is, the less effect a given force will have	1. Analyze the influence of river crossings on settlement patterns. 2. Describe the water-related transportation problems that faced early explorers and settlers. 3. Design and build water-crossing conveyances.	B9. Describe the effect of the mass of an object on its motion.

on its motion.		

Activity: **Water Models**
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Energy in the Earth's Systems
How do external and internal sources of energy affect the Earth's systems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances
4.3 Water has a major role in shaping the Earth's surface. >Water circulates through the Earth's crust, oceans and atmosphere.	1. Recognize the roles of condensation and evaporation in the water cycle. 2. Relate the water cycle to different climates and ecosystems around the world.	B12. Describe how the sun's energy impacts the water cycle. B13. Describe the role of water in erosion and river formation.

Activity: **Water Works**
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Matter and Energy in Ecosystems
How do matter and energy flow through ecosystems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances
4.2 All organisms depend on the living and non-living features of the environment for survival.	1. Distinguish between direct and indirect uses of water. 2. Illustrate the interconnectedness of water users in a community. 3. Demonstrate the complexity of resolving water shortages	B11. Describe how natural phenomena and some human activities may cause changes to habitats

>When the environment changes, some organisms survive and reproduce and others die or move to new locations.	among interdependent community water users.	and their inhabitants.

Activity: **Water Works**
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Energy in the Earth's Systems
How do external and internal sources of energy affect the Earth's systems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances
4.3 Water has a major role in shaping the Earth's surface. >Water circulates through the Earth's crust, oceans and atmosphere.	1. Distinguish between direct and indirect uses of water. 2. Illustrate the interconnectedness of water users in a community. 3. Demonstrate the complexity of resolving water shortages among interdependent community water users.	B13. Describe the role of water in erosion and river formation.

Activity: **What's the Solution?**
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Energy in the Earth's Systems
How do external and internal sources of energy affect the Earth's systems?

Content Standards	Activity Objectives	CMT Correlation/Expected Performances
4.3 Water has a major role in shaping the Earth's surface. >Water circulates through the Earth's	1. Discriminate solutions from other mixtures. 2. Demonstrate the water's ability to dissolve solids, liquids and gases.	B12. Describe how the sun's energy impacts the water cycle.

crust, oceans and atmosphere.		

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