



# sustainable schools project

Big Ideas of Sustainability	Enduring Understanding	Essential Question
<p><b>Community:</b> a group of living and non-living things sharing a common purpose or space</p>	<ul style="list-style-type: none"> <li>• Communities are made up of the people, animals, and plants that live in them.</li> <li>• There are human and natural communities and they are interconnected.</li> <li>• Individuals can make a difference in their community.</li> <li>• There are different kinds of communities</li> <li>• Each person is part of a community/ multiple communities</li> <li>• I shape, and am, shaped by my community</li> <li>• Community is an outcome of relationships</li> </ul>	<ul style="list-style-type: none"> <li>• What is a community?</li> <li>• How can we help our community?</li> <li>• What makes a sustainable community?</li> <li>• What is your responsibility to the community?</li> <li>• Who lives in our human and natural communities?</li> </ul>
<p><b>Systems:</b> parts that are connected through larger patterns</p>	<ul style="list-style-type: none"> <li>• Systems operate in human and natural communities.</li> <li>• Individuals can be part of multiple systems.</li> <li>• Many smaller systems are connected in larger systems.</li> <li>• Change in any part of a system will affect the whole system.</li> <li>• Individuals can affect a system.</li> <li>• Human systems can learn from natural systems.</li> <li>• Human systems consist of people, structures, and processes that work together to make an organization more or less healthy.</li> <li>• Natural systems include various elements such as air, water, movement, plants, and animals that work together to survive .</li> <li>• Humans are part of natural systems.</li> <li>• Actions of humans have an impact on natural systems.</li> <li>• Understanding systems allows us to see a more complete picture and make better informed choices.</li> <li>• Understanding a system a allows us to identify leverage points and create change.</li> <li>• Parts of systems are generally systems themselves and are composed of other parts, just as systems are generally parts of other systems.</li> </ul>	<ul style="list-style-type: none"> <li>• What role do economics play in shaping our world?</li> <li>• What is a system?</li> <li>• What systems are you a part of?</li> <li>• How does change happen in a system?</li> <li>• How do systems and changes in systems affect you?</li> <li>• How do you affect and make changes in systems?</li> <li>• What patterns can we find in our community?</li> <li>• How are human and natural systems connected?</li> </ul>

Big Ideas of Sustainability	Enduring Understanding	Essential Question
<p><b>Diversity:</b> all systems and places function because of variety</p>	<ul style="list-style-type: none"> <li>• Diversity is essential to the health of communities &amp; systems.</li> <li>• Biodiversity is a measure of the health of ecosystems; Diversity is a measure of the health of systems.</li> <li>• A diverse human community is more creative and can better adapt to change.</li> <li>• Multiple perspectives/inputs contribute to the resiliency and strength of a system/place.</li> <li>• Organisms, communities, places and systems would cease to function with out diversity.</li> <li>• Diversity happens on multiple scales.</li> <li>• Diversity is essential in both human and natural systems.</li> <li>• Diversity is a fundamental ecological principle.</li> </ul>	<ul style="list-style-type: none"> <li>• In what ways is human diversity related to biodiversity?</li> <li>• What makes a place diverse?</li> <li>• How does the diversity of a system affect its health?</li> <li>• What is our community made of?</li> <li>• Why is diversity important?</li> </ul>
<p><b>Inter-dependence:</b> all living things are connected, every organism, system, and place depends on others</p>	<ul style="list-style-type: none"> <li>• All things are connected.</li> <li>• Every organism depends on others.</li> <li>• Every system depends on others.</li> <li>• Every place depends on others.</li> <li>• Human communities can learn from natural systems and other human systems.</li> <li>• Human systems depend on natural systems.</li> <li>• Our choices have multiple impacts on human and natural communities.</li> </ul>	<ul style="list-style-type: none"> <li>• How do our choices affect us, our community, and the world?</li> <li>• How are human and natural systems interrelated?</li> <li>• What can communities learn from natural systems to improve our common future?</li> <li>• In what ways do you depend on others?</li> <li>• In what ways do you depend on natural systems?</li> <li>• How are we all connected?</li> <li>• Who or what depends on you?</li> </ul>
<p><b>Cycles:</b> every organism and every system goes through different stages</p>	<ul style="list-style-type: none"> <li>• Many cycles are found in the natural world.</li> <li>• Humans can impact natural cycles.</li> <li>• Humans are part of natural cycles.</li> <li>• Every living thing has a life cycle.</li> <li>• Living things have different needs at different life stages.</li> <li>• There is no “away” or end to a cycle</li> <li>• Cycles will continue unless acted upon or interrupted by an outside force</li> <li>• Humans can impact cycles and vice versa</li> <li>• There are all sizes and shapes, types and lengths of cycles (i.e. butterfly life cycle, seasons, a product, phases of the moon).</li> <li>• Cycles are the foundation for systems, understanding of cycles is the foundation for understanding systems.</li> </ul>	<ul style="list-style-type: none"> <li>• What cycles can we find in our community?</li> <li>• In what ways do we impact cycles?</li> <li>• What cycles are we a part of?</li> <li>• What and how are cycles related to one another?</li> </ul>

<b>Big Ideas of Sustainability</b>	<b>Enduring Understanding</b>	<b>Essential Question</b>
<p><b>Change over time:</b> all organisms, places, and systems are constantly changing</p>	<ul style="list-style-type: none"> <li>• Living things must adapt to changes in their environment in order to survive.</li> <li>• Systems are constantly changing .</li> <li>• We can learn from the past.</li> <li>• Humans shape and are shaped by the land.</li> <li>• Individuals/communities/organisms can bring about or slow change.</li> <li>• Change occurs at different rates and on different scales.</li> <li>• Change impacts ecosystems &amp; communities in different ways. Some ways are healthy and some ways are unhealthy.</li> <li>• Change may not always be seen as it occurs.</li> <li>• Change is constant.</li> <li>• Change in any part of a system affects all other parts of a system.</li> </ul>	<ul style="list-style-type: none"> <li>• What can we learn from the past?</li> <li>• Whose story is it?</li> <li>• How do living things adapt to changes in their environment?</li> <li>• How do we shape the land? How does the land shape us?</li> <li>• How has our community changed over time?</li> <li>• How have you changed over time?</li> </ul>
<p><b>Limits:</b> every system has a carrying capacity</p>	<ul style="list-style-type: none"> <li>• Every system has a limit/carrying capacity, which if exceeded will result in loss of balance in the system.</li> <li>• There are limits to environmental, social, and economic systems.</li> <li>• Systems have a natural rate of change and set of limitations.</li> <li>• A system's limitations help keep that system in balance.</li> <li>• Natural selection limits the total number of individuals in any group.</li> <li>• The earth, and other closed systems, has a finite amount of resources.</li> </ul>	<ul style="list-style-type: none"> <li>• Why do living things move from place to place?</li> <li>• Who decides what limits something?</li> <li>• What determines limits in the natural world? In economic systems? In social systems?</li> <li>• What happens when a system reaches its limits?</li> </ul>
<p><b>Ability to make a difference:</b> everyone has the ability to change or impact a system, community, and themselves</p>	<ul style="list-style-type: none"> <li>• Our choices impact ourselves, our communities, and our world.</li> <li>• I can make a difference.</li> <li>• We can make a difference.</li> <li>• Everyone has the ability to make a difference to themselves, their community, and their place.</li> <li>• No one can do everything, but everyone can do something.</li> <li>• Everyone can, and does, affect systems positively or negatively.</li> </ul>	<ul style="list-style-type: none"> <li>• How do our choices affect ourselves, our communities, and the world?</li> <li>• What is your responsibility to yourself, your community, and the world?</li> <li>• How can one individual make a difference?</li> <li>• How can a group of individuals make a difference?</li> <li>• What does it mean to be a citizen in our neighborhood?</li> <li>• What can you do to make change in a system?</li> </ul>

<b>Big Ideas of Sustainability</b>	<b>Enduring Understanding</b>	<b>Essential Question</b>
<p><b>Equilibrium:</b> a state of balance</p>	<ul style="list-style-type: none"> <li>• Equilibrium is achieved when all parts of a system are in balance.</li> <li>• A system regulates itself and tends to maintain a stable, constant condition.</li> <li>• When equilibrium is lost a system can cease to function.</li> <li>• The diversity of a system impacts its equilibrium.</li> <li>• Systems require equilibrium to stay healthy and/or alive.</li> <li>• Cycles, diversity, and change over time are natural forces to maintain equilibrium</li> <li>• Human intervention can destroy or repair equilibrium.</li> <li>• Changes in system can destroy or repair equilibrium.</li> <li>• To maintain equilibrium we must operate within a system's limits.</li> </ul>	<ul style="list-style-type: none"> <li>• Why do animals or humans move from place to place?</li> <li>• What makes a system balanced? What throws off its balance?</li> <li>• How do systems achieve equilibrium?</li> <li>• What happens in a system when it is out of balance?</li> <li>• What is the relationship between diversity and equilibrium?</li> <li>• What happens when you or your community is out of balance?</li> </ul>
<p><b>Long-term effects:</b> actions will have effects beyond immediate reactions</p>	<ul style="list-style-type: none"> <li>• How we live today impacts how people will live in the future.</li> <li>• Our elders made choices that impact how we live today.</li> <li>• We can make choices that ensure a healthy future.</li> <li>• I can make choices that contribute to a healthy future.</li> <li>• My actions impact others' future.</li> <li>• what you do now has both an immediate and long term effect on you, your community, the environment, and the economy.</li> <li>• Change in any one system can have long term effects on human and natural systems that limit the systems ability to regenerate.</li> <li>• Human behavior can have long-term effects on natural systems that can be irreversible.</li> <li>• The impact of human behavior, choices, and decisions isn't always immediate.</li> <li>• Short term and temporary effects are much easier to measure than long term effects.</li> <li>• When we operate outside the natural limits of our ecosystem the long term effects have the potential to be irreversible.</li> <li>• We don't always know the long term effects of our actions.</li> </ul>	<ul style="list-style-type: none"> <li>• How do living things adapt to changes in their environment?</li> <li>• In what ways does how we live today impact how people live in the future?</li> <li>• What choices did our elders make that affect the way we live today?</li> <li>• How can we make choices to ensure a healthy future?</li> <li>• How do your actions impact the future of others?</li> </ul>

<b>Big Ideas of Sustainability</b>	<b>Enduring Understanding</b>	<b>Essential Question</b>
<p><b>Place:</b> natural and human communities together make up one's place</p>	<ul style="list-style-type: none"> <li>• Human culture shapes, and is shaped, by the land.</li> <li>• Landscape impacts how we live.</li> <li>• Human and natural communities interact in place.</li> <li>• We are connected to the people that lived in this place before us.</li> <li>• Each person, living and non living thing is native to and influenced by a place.</li> <li>• Living and non-living things influence and contribute to their place.</li> <li>• Humans have the unique ability to chose their place and to choose to switch places.</li> <li>• The needs, concerns, systems and cycles in each place are different and indicative of the ecological, geological, cultural and historic cycles that have happened and are happening there.</li> </ul>	<ul style="list-style-type: none"> <li>• How are we shaped by the land/How do we shape the land?</li> <li>• How do humans and the natural world interact?</li> <li>• How does where we live impact how we live?</li> <li>• How are people connected to the past?</li> <li>• What stories are here?</li> <li>• What makes up your place? Who makes up your place?</li> </ul>
<p><b>Fairness / Equity:</b> resources need to be shared to meet the needs of living things—across places and generations</p>	<ul style="list-style-type: none"> <li>• Resources must be shared across time and space to meet the needs of all living things now and in the future.</li> <li>• Environmental, economic, and social equity perspectives must be considered when determining fairness.</li> <li>• Inequitable allocation of resources can lead to conflict.</li> <li>• Actions we take now will impact the future.</li> <li>• Equity is a uniquely human concept.</li> <li>• Equity/fairness requires each individual to be aware of his or her own needs and the needs of others and to change his or her behavior accordingly.</li> <li>• Communities need to conserve natural resources.</li> <li>• Not everyone gets everything they want, but we try to ensure everyone has what they need.</li> <li>• Equal and equitable are not the same.</li> <li>• Different people/organisms have different needs and meet them in different ways.</li> </ul>	<ul style="list-style-type: none"> <li>• Who decides what is fair or equitable? Who should decide?</li> <li>• What is the difference between fairness and equity?</li> <li>• How should we balance the rights of individuals with the common good?</li> <li>• What determines value?</li> <li>• Is there a difference between wants and needs?</li> <li>• What happens in a system when resources are limited?</li> <li>• What happens when resources are inequitably allocated?</li> <li>• Why is it important to think about the future?</li> </ul>