EDUCATION FOR SUSTAINABILITY
EfS STANDARDS & PERFORMANCE INDICATORS
2012 EDITION

WITH ENDURING UNDERSTANDINGS

This edition of our EfS standards and Performance Indicators is based on the Commencement Edition and retains whole system integrity, though simplified to be appropriate for an early childhood context.

THE 9 CORE EfS STANDARDS

Cultural Preservation & Transformation

Responsible Local & Global Citizenship

The Dynamics of Systems & Change

Sustainable Economics

Healthy Commons

Natural Laws & Ecological Principles

Inventing & Affecting The Future

Multiple Perspectives

Strong Sense Of Place

EfS ENDURING UNDERSTANDINGS

1. **A HEALTHY AND SUSTAINABLE FUTURE IS POSSIBLE**
   We can learn how to live well within the means of nature. This viewpoint inspires and motivates people to act.

2. **WE ARE ALL IN THIS TOGETHER**
   We are interdependent on each other and on the natural systems. In this context, self interests are best served through mutually beneficial relationships.

3. **HEALTHY SYSTEMS HAVE LIMITS**
   Rather than exceeding or ignoring the limits, tap the power of limits. Constraints drive creativity.

4. **RECOGNIZE AND PROTECT THE COMMONS**
   The Commons are the creations of nature and society that we inherit jointly and freely, and hold in trust for future generations. We all depend on them and we are all responsible for them. Who is tending them at the moment?

5. **RECONCILE INDIVIDUAL RIGHTS WITH COLLECTIVE RESPONSIBILITIES**
   Responsible and ethical participation and leadership are required in order to make the changes we need to make. We must reconcile the conflicts that exist between our individual rights and our responsibilities as citizens.

6. **DIVERSITY MAKES OUR LIVES POSSIBLE**
   Diversity is required to support rich complex systems (like us), to build strength and to develop resilience in living systems. Biological diversity, cultural, gender, political and intergenerational diversity all serve this purpose.

7. **CREATE CHANGE AT THE SOURCE NOT THE SYMPTOM**
   Distinguish problems from symptoms and goals from indicators. Identify the most upstream problem you can address within your sphere of influence, and then solve more than one problem at a time while minimizing the creation of new problems.

8. **THINK 1000 YEARS**
   Envision the kind of future we want and start working towards it. We do not have to sacrifice our children's future to meet our needs. In fact, that is irresponsible and just plain wrong.

9. **READ THE FEEDBACK**
   We need to pay attention to the results of our behavior on the systems upon which we depend. How will we measure success? Sometimes the results of our behavior are inconsistent with our values and our desired outcomes. If we keep our eyes on the feedback, we can adjust our thinking and behavior before we cross detrimental thresholds.

10. **IT ALL BEGINS WITH A CHANGE IN THINKING**
    Thinking drives behavior and behavior causes results. The significant problems we face cannot be solved with the same level of thinking we used to create them. (Einstein) Think systems, cycles and out of the box.

11. **LIVE BY THE NATURAL LAWS**
    We must operate within the natural laws and principles rather than attempt to overcome them. It is non-negotiable.

12. **WE ARE ALL RESPONSIBLE**
    Everything we do and everything we don't do makes a difference.

KNOWLEDGE & ACTION

A. CULTURAL PRESERVATION AND TRANSFORMATION

The preservation of cultural histories and heritages, and the transformation of cultural identities and practices contribute to sustainable communities. Students will develop the ability to discern with others what to preserve and what to change in order for future generations to thrive.

B. RESPONSIBLE LOCAL/GLOBAL CITIZENSHIP

The rights, responsibilities and actions associated with leadership and participation toward healthy and sustainable communities. Students will know and understand these rights and responsibilities and assume their roles of leadership and participation.

C. THE DYNAMICS OF SYSTEMS & CHANGE

A system is made up of two or more parts in a dynamic relationship that forms a whole whose elements 'hang together' and change because they continually affect each other over time. Students will know and understand the dynamic nature of complex systems and change over time. They will be able to apply the tools and concepts of system dynamics and systems thinking in their present lives, and to inform the choices that will affect our future.

D. SUSTAINABLE ECONOMICS

The evolving theories and practices of economics and the shift towards integrating our economic, natural and social systems, to support and maintain life on the planet. Students will know and understand 21st century economic practices and will produce and consume in ways that contribute to the health of the financial, social and natural capital.

E. HEALTHY COMMONS

Healthy Commons are that upon which we all depend and for which we are all responsible (i.e., air, trust, biodiversity, climate regulation, our collective future, water, libraries, public health, heritage sites, top soil, etc.). Students will be able to recognize and value the vital importance of the Commons in our lives and for our future. They will assume the rights, responsibilities and actions to care for the Commons.

F. NATURAL LAWS AND ECOLOGICAL PRINCIPLES

The laws of nature and science principles of sustainability. Students will see themselves as interdependent with each other, all living things and natural systems. They will be able to put their knowledge and understanding to use in the service of their lives, their communities and the places in which they live.

G. INVENTING AND AFFECTING THE FUTURE

The vital role of vision, imagination and intention in creating the desired future. Students will design, implement and assess actions in the service of their individual and collective visions.

H. MULTIPLE PERSPECTIVES

The perspectives, life experiences and cultures of others, as well as our own. Students will know, understand, value and draw from multiple perspectives to co-create with diverse stakeholders shared and evolving visions and actions in the service of a healthy and sustainable future locally and globally.

I. STRONG SENSE OF PLACE

The strong connection to the place in which one lives. Students will recognize and value the interrelationships between the social, economic, ecological and architectural history of that place and contribute to its continuous health.

EDUCATION FOR SUSTAINABILITY STANDARDS & PERFORMANCE INDICATORS

PreK - 2 EDITION

|A| CULTURAL PRESERVATION AND TRANSFORMATION*

The preservation of cultural histories and heritages, and the transformation of cultural identities and practices contribute to sustainable communities. Students will develop the ability to discern with others what to preserve and what to change in order for future generations to thrive.

** The indicators below are age appropriate versions of our original indicators for each standard. The numbers are not in sequence because we kept the original number that they represent in the larger set of indicators for each standard. Please use these numbers when you are referring to them in your unit design work.*

PERFORMANCE INDICATORS

Connecting the Biosphere and the Ethnosphere

Students will:

1. Discuss the inter-relationships between healthy people and healthy ecosystems.

Reconciling Tradition and Change

Students will:

4. Explain how cultural traditions and languages can influence people's ability to live well in their places over time.Students then identify their own cultural traditions and language(s) and determine what should be preserved and what needs to change in order to thrive over time.

Uncovering and Catalyzing through Arts and Culture

Students will:

8. Use stories and the arts to document and make visible what we want to preserve and what needs to change to contribute to the sustainability of our communities in our places over time.

|B| RESPONSIBLE LOCAL AND GLOBAL CITIZENSHIP*

PreK - 2 EDITION

The rights, responsibilities and actions associated with leadership and participation toward healthy and sustainable communities. Students will know and understand these rights and responsibilities and assume their roles of leadership and participation.

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PERFORMANCE INDICATORS

Understanding Citizenship

Students will:

1. Articulate the rights and responsibilities of democratic participation and leadership in the classroom, school and/or local context. Apply what they have learned by practicing in the classroom and in the community.

5. Identify different types of leadership that exist in their classroom, school, and community and discuss which types of leadership contribute to sustainable communities.

Activating Participation

Students will:

7. Demonstrate individual and collective respect for themselves and others, and for the things that they all share, depend on, and are responsible for (the commons).

8. Demonstrate an ability to be fair, to cooperate, to be a good team member, to resolve conflicts and to build consensus when addressing challenges about sustainability.

Leading Change

Students will:

10. Demonstrate their awareness that our choices have consequences that can be good or bad for people and for all living systems, and practice making good choices.

11. Participate in group decision making processes and be able to make collective decisions that are vision oriented, solve more than one problem at a time, and minimize new problems.

12. Develop a sense of self-empowerment and ability to advocate for what is important to them by using authentic voice as a tool (e.g. drawing, storytelling, etc.).

|C| THE DYNAMICS OF SYSTEMS & CHANGE*

PreK - 2 EDITION

KNOWLEDGE AND ACTION

A system is made up of two or more parts in a dynamic relationship that forms a whole whose elements 'hang together' and change because they continually affect each other over time. Fundamental patterns of systems include growth, decline and vacillation. Students will know and understand the dynamic nature of complex systems and change over time. They will be able to apply the tools and concepts of system dynamics and systems thinking in their present lives, and to inform the choices that will affect our future.

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PERFORMANCE INDICATORS

Recognizing Systems as the Context

Students will:

1. See both the whole system (e.g. the body, a garden, a plant) and its parts and be able to place themselves within the system.
2. Define what a system is, and distinguish between things that are systems and things that are not (e.g. a human body is a system, a pile of rocks is not).
3. Be able to step back and see the big picture.
4. See and be able to describe the interrelatedness of at least two variables (e.g. eating and waste) and tell a story about it.
5. Illustrate that what we see depends on where we are (our perspective). If we want to see more or differently, we can change perspectives.

Taking the Long View

Students will:

18. Take responsibility for the effect of their actions on present and future generations
20. Know what the difference is between long term and short term goals.

Taking Responsibility for the Difference We Make

Students will:

25. Demonstrate that they can read feedback and adjust behavior when necessary.
28. Define how their own (or other peoples') actions affect the systems (e.G. Their body, their classroom) they are in.
29. Demonstrate an understanding of how one event can influence another.

Being Strategic

Students will:

41. Ask probing questions when things do not turn out the way they were planned.

Shifting Mental Models

Students will:

50. Fully consider an issue about sustainability and resist the urge to come to a quick conclusion.

|D| SUSTAINABLE ECONOMICS*

PreK - 2 EDITION

The evolving theories and practices of economics and the shift towards integrating our economic, natural and social systems, to support and maintain life on the planet. Students will know and understand 21st century economic practices and will produce and consume in ways that contribute to the health of the financial, social and natural capital.

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PERFORMANCE INDICATORS

Informing Our Choices

Students will:

2. Understand the difference between materials produced in the natural world and materials produced by people.

3. & 4. Follow the life cycle of a product and consider that there is no end to the materials cycle (no such place as away).

5. Articulate how our health and the health of the natural world is affected by our consumption choices, and use critical thinking and questioning to understand the media's role in shaping and influencing our consumption patterns.

Making Informed Choices

Students will:

6. Define consumer buying power and be able to discuss how they can use it to contribute to a sustainable future.

7. Envision how their choices and actions can contribute to a sustainable future.

8. Create a set of sustainable community indicators for their community (classroom, school, town) that they want to track over time.

|E| HEALTHY COMMONS*

PreK - 2 EDITION

Healthy Commons are that upon which we all depend and for which we are all responsible (i.e., air, trust, biodiversity, climate regulation, our collective future, water, libraries, public health, heritage sites, top soil, etc.). Students will be able to recognize and value the vital importance of the Commons in our lives and for our future. They will assume the rights, responsibilities and actions to care for the Commons.

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PERFORMANCE INDICATORS

Framing the Commons

Students will:

1. Define "The Commons" in their own words and in relation to their own experiences. Know the difference between private, and common areas.
2. Articulate the distinguishing characteristics of a commons and the types of measures required to keep different types of commons healthy.
3. Identify several examples of commons in their classroom, school, town and in our world and explain how those commons function—i.e., the rules for access and use and who or what enforces them.
4. Explore examples of healthy commons locally and compare and contrast the various ways people use, protect and care for them.

Protecting the Commons

Students will:

6. Develop and agree on the criteria they can use to reconcile when someone's individual rights conflict with their responsibilities for the commons.

|F| NATURAL LAWS & ECOLOGICAL PRINCIPLES*

PreK - 2 EDITION

The laws of nature and science principles of sustainability. Students will see themselves as interdependent with each other, all living things and natural systems. They will be able to put their knowledge and understanding to use in the service of their lives, their communities and the places in which they live.

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PERFORMANCE INDICATORS

Understanding the Natural Laws and Ecological Principles

Students will:

1. Explore different elements that support life on earth (e.g. fresh water, land and atmosphere) and how they are related to one another (interconnectivity). This includes the relation of high quality and abundant water, soil and air essential to support all life.

3. Provide examples of the dependence of humans on our shared natural resources for sustenance and a suitable quality of life (food, shelter, health, and aesthetics).

4. Clarify the importance of a great diversity of life (biodiversity) to the long term sustainability of humankind and other living species on Earth.

Advocating for Living by the Natural Laws and Principles

Students will:

7. Demonstrate an understanding of some basic natural laws and principles (materials cycles, photosynthesis, material value, and appropriate scale). Explain why it is important for us to live by them.

|G| INVENTING & AFFECTING THE FUTURE*

PreK - 2 EDITION

The vital role of vision, imagination and intention in creating the desired future. Students will design, implement and assess actions in the service of their individual and collective visions.

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PERFORMANCE INDICATORS

Envisioning, Creating, and Thinking Out of the Box

Students will:

1. Develop visioning skills to create a healthy and sustainable future.
2. Set goals; develop indicators (rubrics, checklists, and quantitative measures) to measure the extent to which they are moving toward or away from their goals.
3. Explore the difference between a problem and a symptom (goals from indicators).
5. Utilize lateral thinking skills ("out of the box" thinking) to address problems in the service of their vision.
6. Demonstrate the ability to turn problems into opportunities to make positive change.
7. Make a contribution to actions that solve more than one problem at a time and that minimize the creation of new problems (create value).

Tapping Our Passion

Students will:

14. Articulate their strengths and limitations as they design a sustainable future.

Persevering

Students will:

17. Demonstrate a willingness to take a risk in an area they want to succeed and understand how to learn from their mistakes (especially what not to do the next time).

Accepting and Taking Risks

Students will:

27. Provide examples of when they were required to try something new in order to do what they wanted to do and to who they want to be.
28. Demonstrate a willingness to do things before everyone else is ready to do them if that is what it takes to pursue their passion.

Finding Strength in Individuality

Students will:

32. "Walk the path" that they have made for themselves. If their path doesn't take them where they want to go they should show interest in making a new and better path for themselves.

Developing Self-Efficacy

Students will:

33. Believe in their ability to succeed as they address issues of sustainability.

Taking Responsibility

Students will:

34. Understand how to be accountable for their actions (and inaction) as well as begin to understand what the short term and long term consequences of those actions are.

|H| MULTIPLE PERSPECTIVES*

PreK - 2 EDITION

The perspectives, life experiences and cultures of others, as well as our own. Students will know, understand, value and draw from multiple perspectives to co-create with diverse stakeholders shared and evolving visions and actions in the service of a healthy and sustainable future locally and globally.

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PERFORMANCE INDICATORS

Appreciating Diversity

Students will:

3. Recognize and value the strength in diversity.

7. Demonstrate the ability to work well together with people who present different perspectives.

Developing Perspective Consciousness

Students will:

9. Demonstrate the ability to empathize with and experience the outlook and emotions of another being by putting themselves "in their shoes" and identify what it is like to see the world from someone else's "shoes."

11. Develop the ability to respect, if not agree with, others' points of view.

12. Be able to identify other people's interests and how these interests create their behaviors.

|1| STRONG SENSE OF PLACE*

PreK - 2 EDITION

The strong connection to the place in which one lives. Students will recognize and value the interrelationships between the social, economic, ecological and architectural history of that place and contribute to its continuous health.

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PERFORMANCE INDICATORS

Framing the Bio-Region

Students will:

1. Draw the parameters of their bio-region (watershed) and/or community (e.g. class, school, and/or neighborhood). Identify the characteristics of that place and why it is important to be able to do so.
2. Transfer the knowledge they have gained on their own bio-region and/or community to their study of other bio-regions or communities.
3. Identify plants, animals, and bodies of water in their bio-region or community. Explore how these parts relate to one another (interdependency) and the benefits and threats to them and us associated with our behavior.

Creating Social and Ecological Memory

Students will:

7. Document the heritage and current condition of the place in which they live (e.g. drawing a picture, acting out a play, writing a poem, making a collage), and provide a vision of what they want that place to look like in the future to an authentic audience (e.g. other classrooms, a nursing home, a parent event).
12. Create a celebration of the unique cultural character of a place.

Developing Our School as a Green School

Students will:

27. Discuss and create green school initiatives (e.g. make a garden in the classroom, find a way to re-use waste to make art).

Making Responsible Choices

Students will:

28. Explain the impact of their consumption choices (e.g. food, clothes, materials) on the health of a place (e.g. classroom community) and be able to make responsible decisions.

Building a Legacy

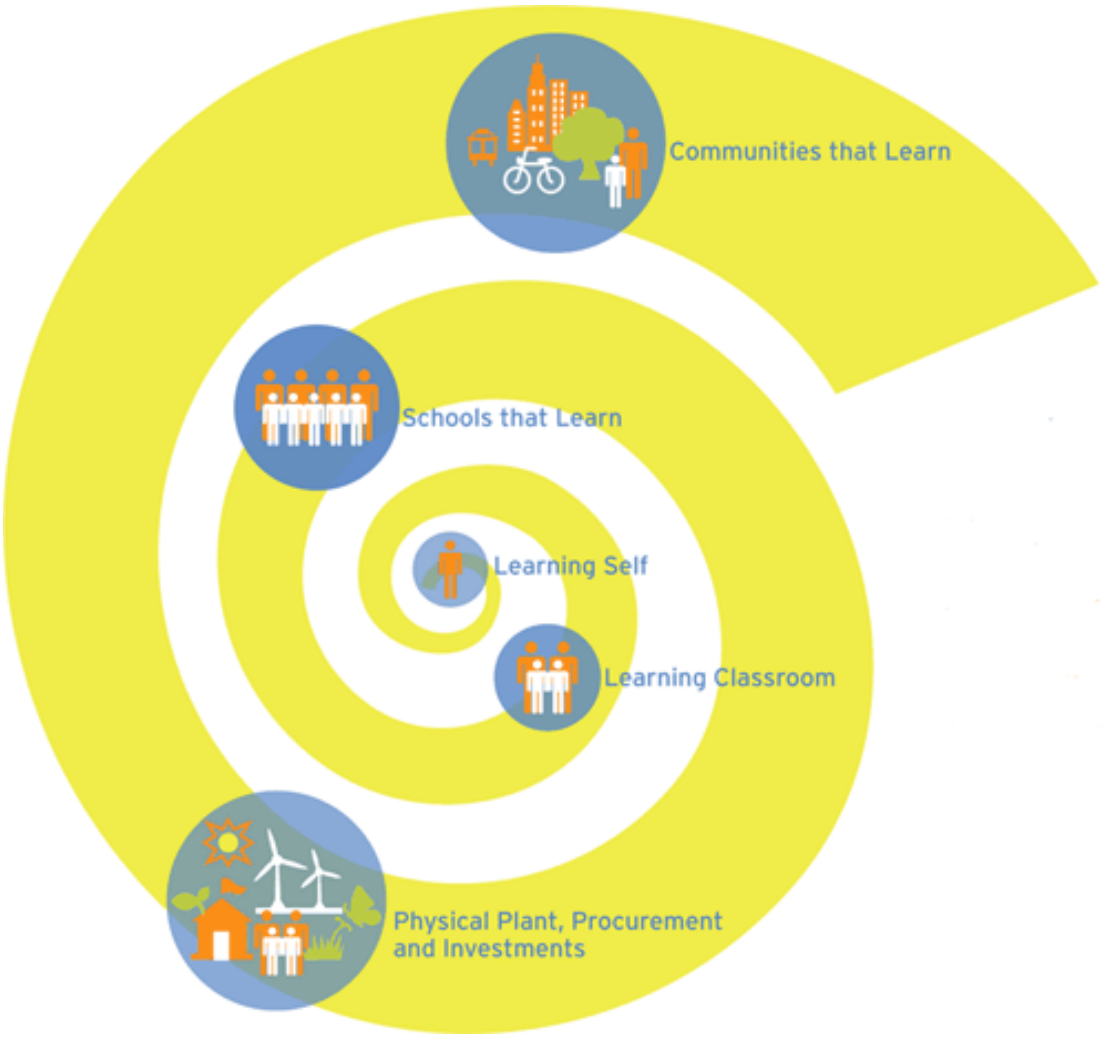
Students will:

34. Research, design, implement and assess a project of the students' own choosing that contributes to the health of the community (classroom, school, town).

FRAMEWORK

The Cloud Institute's Education for Sustainability (EfS) Framework illustrates our whole systems approach, which springs from the recognition that lasting transformation in education requires innovation at the curricular, institutional, and community levels.

No single element within our framework stands alone. Rather, all of the elements are interdependent and represent our learner-centered vision and our approach to educating for sustainability.



"When Education for Sustainability (EfS) is comprehensively implemented over time through explicit instruction, aligned policies and the day to day practices of school community members, it increases the possibility that humans and other life will flourish on this planet indefinitely".

Jaimie P. Cloud, Founder and President – The Cloud Institute for Sustainability Education

The Cloud Institute's Education for Sustainability (EfS) Standards and Performance Indicators draw upon our 19 years of experience educating for a sustainable future in both Pre-K-12 schools and in higher education institutions, and, have been influenced and reviewed by many scholars, thought leaders and practitioners who have devoted their professional lives to educating for the future we want.

Most notably, this work represents the thinking of the educators who contributed to Chapter 36 (The Education Chapter) of Agenda 21[1], the U.S. Task Force on Education[2], and many champions since then, including (in alphabetical order) Wendell Berry, Anne Perraca- Bijur, Jack Byrne, Harland Cleveland, Jaimie P. Cloud, Bob Costanza, Herman Daly, Wade Davis, Betty Sue Flowers, Paul Hawken, Willard Kniep, David Orr, Franziska Oswald, Jean Perras, Jonathan Rowe , David Selby, Peter Senge, Stephen Sterling, Lees Stuntz, Linda Booth Sweeney, Daniella Tilbury, Ursula Frischknecht-Tobler, Keith Wheeler, the thousands of teachers and administrators that piloted and contributed to the revision of these standards and indicators, and the tens of thousands that design and assess for them, and produce student work as evidence of them in their classrooms and their communities every day.

Collaboratively, we have created a framework for EfS and have made it accessible to educators, community members and policy makers. We continue to be inspired by the accomplishments of our colleagues in universities and ministries of education around the world especially those in Australia, Brazil, Canada, Germany, Japan, New Zealand, Mexico, Switzerland and the U.K.

[1] UNCED, Agenda 21, Regency Press, London, 1992, Chapter 36

[2] To read more about the historic contributions to Education for Sustainability, please see our defining chapter in "Stumbling Toward Sustainability" by John Dernbach, ed. Environmental Law Institute, 2002