

PART 3

ACTIVITIES THAT PROMOTE ECOLOGICAL INTEGRITY

The activities that follow raise awareness and encourage action regarding ecological issues. The following specific Earth Charter principles address the ecology and can be read as at beginning of each activity in Part 3 and following the reading of the Preamble.

II ECOLOGICAL INTEGRITY

5. Protect and restore the integrity of Earth's ecological systems, with special concern for biological diversity and the natural processes that sustain life.

a. Adopt all levels sustainable development plans and regulations that make environmental conservation and rehabilitation integral for all development initiatives.

b. Establish and safeguard viable nature and biosphere reserves, including wild lands and marine areas, to protect the Earth's life support systems, maintain biodiversity, and preserve our natural heritage.

c. Promote the recovery of endangered species and ecosystems.

d. Control and eradicate non-native or genetically modified organisms harmful to native species and the environment, and prevent introduction of such harmful organisms.

e. Manage the use of renewable resources such as water, soil, forest products, and marine life in ways that do not exceed rates of regeneration and that protect the health of the ecosystems.

f. Manage the extraction and use of non-renewable resources such as minerals and fossil fuels in ways that minimize depletion and cause no serious environmental damage.

6. Prevent harm as the best method of environmental protection and, when knowledge is limited, apply a precautionary approach.

a. Take action to avoid the possibility of serious or irreversible environmental harm even when scientific knowledge is incomplete or inconclusive.

b. Place the burden of proof on those who argue that a proposed activity will not cause significant harm, and make the responsible parties liable for environmental harm.

c. Ensure that decision making addresses the cumulative, long term, indirect, long

distance, and global consequences of human activities.

d. Prevent pollution of any part of the environment and allow no build-up of radioactive, toxic, or hazardous substances.

e. Avoid military activities damaging to the environment.

7. Adopt patterns of production, consumption, and reproduction that safeguard Earth's regenerative capacities, human rights, and community well-being.

a. Reduce, reuse, and recycle the materials used in production and consumption systems, and ensure that residual waste can be assimilated by ecological systems.

b. Act with restraint and efficiency when using energy, and rely increasingly on renewable resources such as solar and wind.

c. Promote the development, adoption, and equitable transfer of environmentally sound technologies.

d. Internalize the full environmental and social costs of goods and services in the selling price, and enable consumers to identify products that meet the highest social and environmental standards.

e. Ensure universal access to health care that fosters reproductive health and responsible reproduction.

f. Adopt lifestyles that emphasize the quality of life and material sufficiency in a finite world.

8. Advance the study of ecological sustainability and promote the open exchange and wide application of the knowledge acquired.

a. Support international scientific and technical cooperation on sustainability, with special attention to the needs of developing nations.

b. Recognize and preserve the traditional knowledge and spiritual wisdom in all cultures that contribute to environmental protection and human well-being.

c. Ensure that information of vital importance to human health and environmental protection, including genetic information, remains available in the public domain.

ECOLOGICAL INTEGRITY ACTIVITY 1

A MEDITATION TO UNDERSTAND INTERCONNECTIONS

PURPOSE: *a-To evoke the wonders of our biological interconnected nature and the dynamic flows that sustain and interweave our being.*

b-To deepen the awareness of the Universe as a whole living system of which we are a part of.

SAMPLE MINI-LECTURE: Joanna Macy, author of *Coming Back To Life* wrote the following: modern scientists “began to look at the wholes instead of the parts, at processes instead of substances. They discovered that these wholes- be they cells, bodies, ecosystems, or even the planet itself- are not just a heap of disjunct parts, but are dynamically organized and intricately balanced ‘systems’ interdependent in every movement, every function, every exchange of energy and information. They saw that each element is part of a vaster pattern, a pattern that connects and evolves by discernable principles. By shifting the focus to relationships instead of separate entities, scientists made an amazing discovery...that nature is self-organizing.”

(The guide states that there will be a guided meditation to more deeply experience the interconnectedness in nature but for now he/she asks the participants to share their thoughts on this reading and on what they know of nature’s self-organizing systems. After this dialogue the meditation is presented.)

MEDITATION INSTRUCTIONS: *(For guide to read.) Today we will be doing a guided meditation that takes us into our close identification with the elements, and with Earth’s geo-history and life history. After the meditation we will discuss our experiences. So sit in a comfortable position, close your eyes and take in several deep and long breaths...relax...*

GUIDED MEDITATION: *(Adapted from Thinking Like A Mountain-Macy/Seed)*

We are intersecting cycles of water, earth, air and fire.

As WATER we are blood, lymph, mucus, tears, inner oceans tugged by the moon, tides within and tides without. Streaming fluids float our cells, washing and nourishing through endless riverways of veins and capillaries. Moisture pours in and through us as part of the hydrological cycle. We are this as the Earth is this.

As EARTH-we are matter made from rock and soil, also pulled by the moon as the magma circulates through the planet heart and roots suck molecules into biology. Earth pours through us replacing each cell in the body every seven years. Ashes to ashes, dust to dust, we ingest, incorporate and excrete the earth, are made from the earth. We are this.

AIR- the gaseous realm, the atmosphere, the planet’s membrane. The inhale and the exhale. Breathing out carbon dioxide to the trees and breathing in their fresh exudations. Oxygen kissing each cell awake, atoms dancing in orderly metabolism,

interpenetrating. That dance is the air cycle, breathing the universe in and out again and again. We are this.

FIRE- Fire, from our sun that fuels all life, drawing up plants and raising the waters through evaporation, forming clouds, to fall again replenishing. The inner furnace of our metabolism burns with the fire of the Big Bang that first sent matter/energy spinning through space and time and ultimately gave birth to organic life. We are this.

We were there, for each cell of our bodies is descended in an unbroken chain from that event. Atoms became molecules, molecules became cells, cells became organisms. Plants were born, then animals, humans being the last to be birthed in this last evolutionary journey. We come from them in an unbroken chain- through fish learning to walk the land, feeling scales turning to wings, through the migrations in the ages of ice. We have been but recently in human form. If Earth's whole history were to be compressed into twenty-four hours beginning at midnight, organic life would have begun only at 5pm...mammals emerge at 11:30pm...and only seconds before midnight, our species. In our long planetary journey we have taken far more ancient forms than these we now embody. Some of these forms we repeated in our mother's womb where we have vestigial tales, gills, and fins.

Let us behold all the different creatures that compose us- the mitochondria in the cells, the intestinal bacteria. We are a great symbiosis, the amazing coordination and cooperation of countless beings. Just as our body is part of a larger symbiosis, living in wider reciprocity. Let us be conscious of this give and take when we walk among trees. We breath our pure carbon dioxide to a leaf and sense it exhaling fresh oxygen back to us.

Let us remember again and again the old cycles of partnerships. Let us draw on these knowing as earth-bred wisdom of our inter-existence with all that is. We can take courage and power from this wisdom as we help each other awaken in this time of peril.

Now slowly focus on your breathing. Breathe evenly in and out. Notice any experience you might be having. Do not judge it as good or bad. It simply is what it is. Become aware of your current surroundings, the sounds in this room, the sound of my voice, the smells in the air. When you are ready open your eyes and become present in this moment.

DISCUSSION: *(After the meditation is over the guide encourages discussion with the following questions:)*

Have you ever experienced yourself as being part of a larger whole?

Have you ever thought that the molecules that form you are the same molecules that form other life forms?

Have you ever thought of how dynamic the exchange is between all that composes you and the rest of the natural world...that your skin is very permeable and all that is outside comes in and all that is within comes out in a brilliant, necessary, cooperative partnership?

What effect does the deepened awareness of our interconnectedness that came from this exercise have on you?

ECOLOGICAL INTEGRITY ACTIVITY 2

BEYOND ANTHROPOCENTRISM IN THE WEB OF LIFE (A GUIDED MEDITATION)

PURPOSE: a- *To become more aware (through discussion) of how our human-centeredness is embedded in our culture and in our consciousness.*
b- *To realize more genuinely our interrelatedness.*

SAMPLE MINI-LECTURE: *The Earth Charter states that we cannot consider people without considering the trees, plants, animals, marine life, air, water, and the planet itself. Everything occurring upon the planet is related to everything else. We are one part of the a greater community of life. In order to truly embody this core value we must go beyond our anthropocentrism, which is deeply conditioned by the culture.*

Anthropocentrism refers to human chauvinism, the notion that human beings are superior to all other species, that we are the crown of creation, the source of all value, the measure of all things. This ingrained belief has lead us to think that we have the right to control the environment and other living systems for our own benefit. It has lead us to develop an exploitative mind resulting in the massive destruction of our environment and in our personal experiences of separateness and alienation from the rest of the ecosystem, including other human beings.

As we experience ourselves as one part of many in the vast web of life we begin to literally experience our connectedness and realize that our sense of separateness is an illusion. This helps us feel less alienated and more willing to engage in activities that are truly cooperating with all the living systems surrounding us. It enhances the

awareness that we and that which we are protecting is one and the same. The natural world is our own nature. So instead of saying, "I am protecting the rainforest" we say "I am part of the rainforest protecting myself". We become aware that our voice is indeed the voice of the earth, that our well being is profoundly interconnected with the well being of all around us, and that when we hurt another element in this web of life we are hurting our selves.

(The guide states that a guided meditation will now be offered to be followed by dialogue and sharing.)

MEDITATION INSTRUCTIONS: *(For guide to read.) The following meditation called The Web of Life is designed to help us more deeply experience ourselves within the interconnected universe. As you go through this meditation you may realize the awe that comes with a deeper experience of our interconnectedness; and the pain that comes from how we have mistreated our ecosystem. Make sure that you are sitting comfortably or lying down with your eyes closed. (The lights are dimmed and quiet is instilled).*

GUIDED MEDITATION: *(Adapted from Coming Back To Life- Joanna Macy.)*

Lie, stretch...relax...

Feel breath...lungs, abdomen...glide on the breath, in, out...The oxygen ignites each cell, stirs it awake as it burns in the metabolism of life...Extend your awareness deep within as you feel this energy...It is all around you, too...sustaining the bodies in this room, sparking in the great cycles of air, water, fire, and earth flowing through us all...weaving us into the web of life.

Imagine you can see these interlacing currents, like threads of light, perhaps...See how they connect us, and extend beyond this room, this moment...Experience the great multiplicity of strands...formed by countless relationships, woven of the work and food, the laughter and tears you've shared with others...they shape what you are...they hold you in place...Sense those filaments...lie into them.

The web sustains your bones and blood and skin, concocted so intricately out of the food you have eaten...out of grains, vegetables, fruit grown in so many places near and

far...The grass and the munching jaws of the cow as she makes your milk for your butter and cheese...The soil that yield the grain for your bread, the boughs of the tree that bears the oranges for your juice...the hands that plow, sow, reap, process...They are all your body now...

Back through this web extends...mothers, fathers, our great-grandmothers and great-grandfathers...giving you your coloring and features...your gestures, your tone of voice...The web extends back through countless generations, through hundred of ancestors we share...all the way back to those with gills and wings...for we are made of the same elements as the stars as they evolve through the flowing of time... We are each a jewel in this vast net, that called us into being...Each of us an unrepeatable jewel, sparkling with awareness, reflecting the world...Sound of gull crying over the sea, sight of mountain rising...colors of sunrise...scents of pine and loam...the excitement of a new idea...the melody of a favorite song.

There is pain too, coming in along the strands of the web...a friend with cancer...an oil spill coating the beach...an Iraqi mother weeping for her lost children...Do not shut them out, they exist in the web of this planet-time...Open to these sorrows, breathe them in, so the channels may stay open for the flow of energy and life and change...If we block the pain, we block the joy out too...There is power in the flowing of this fluid net, love that has enriched us and love that we give...Feel the caring and love that flow through you and out from you...

*Open to the pulsing of the web, its murmurs, whispers, tugs...Through that vast network all forms arose, intelligence arose...It shaped you as it shaped the mockingbird and the deep-diving trout...You are it...of it, even in the terror we've unleashed now...Open to it all...unafraid, relaxed, alert...We are the universe knowing itself.
To all our brothers and sisters, we open now...in this time of hardship... We go now through a dark time but we do not go alone...And we do not go without our own timeless knowledge of the dark...We come from it...it is behind our eyes...and we will look into it together, until the dark itself is clear...and home...There is no where you can go where you are not held in the web that sustains us all.*

Still sensing these connections through space and time, we stretch now, open our eyes, slowly move to rise...

DISCUSSION: *(After the meditation is over the guide encouraging dialogue with the following questions:)*

What was your experience during the meditation?

How are you been aware of being influenced by an anthropocentric mind set?

What are your reactions when you think about your not being the “crown of creation” but rather an equal member of this vast living community upon the planet?

What changes can you imagine yourself making as you become more aware of your role in the web of life?

CLOSING: *(The guide encourages the group to sit in a circle stating the following invocation)*

With our deepened awareness of the web of life, our role in it, and our willingness to transcend our own anthropocentrism we go forward with clarity and courage as we act upon our expanded insights. We commit ourselves to take action that enhances our community and we do so as we create and nurture supportive relationships with other human beings. For we remember that we cannot do this alone, that we must honor our interdependency, and that all of us are more likely to thrive as we build community.

ECOLOGICAL INTEGRITY ACTIVITY 3

ADOPTING OUR OWN ENVIRONMENTALLY SUSTAINABLE PRACTICES

PURPOSE: *a- To promote general awareness of ecological sustainability*

b- To become more aware of concrete ways to live a more sustainable lifestyle in our day to day lives.

SAMPLE MINI-LECTURE: *The massive destruction of the environment and the depletion of earth’s resources has been a well known fact for many years. Yet, many of us feel overwhelmed and helpless when we realize that major corporations are largely responsible for the devastation of the environment. When we start thinking about solutions it is hard to believe that our own individual actions do not make a difference. So we continue to engage in behaviors that contribute to the widespread destruction of the earth. We might buy more than we need, use more water than necessary, use products with contaminants, throw away rather than recycle, etc. Through our personal actions we align ourselves with the mentality of the corporate machine and blind ourselves to the impact of our own individual behaviors.*

The level of awareness about how our individual actions can make a difference has risen tremendously over the last few years. Many communities that are engaging in sustainable living practices are emerging. Individuals are feeling more empowered realizing that the sum total of individual efforts to create sustainable practices are creating massive changes that are positive. Many corporations and public officials are engaging in actions that are more respectful of the environment because the consumer, the private citizen, has spoken.

Yet the work is far from over. We must continue to learn about the many alternative behaviors that we can individually engage in to protect the Earth and conserve the planet's resources. Many things that we can do differently are easy and require very little sacrifice. By engaging in these changes we feel better because we are contributing to the reparation of the planet and not to its destruction.

What is Sustainability: "Sustainability" gained world-wide attention in 1987 when the UN World Commission on Environment and Development, in its final document, "Our Common Future" called for sustainable living as the planet's goal. A sustainable society is one that "meets the needs of the present without endangering the ability of future generations to meet their own needs." Sustainability also refers to issues such as gender equity, social and economic equity, nonviolence, a culture of peace and respect and care for the community of all life.

Today's activity will generally address the aspect of environmental sustainability that refers to the integrity of the Earth's ecological system and how we as individuals can make a difference in our day to day lives.

INSTRUCTIONS:

(The guide encourages participants to sit in a circle and tells them that we are going to be exploring our role as individuals in the creation of sustainable life styles. The guide tells participants that they are going to review some facts about human behavior and its effects on the environment followed by a discussion. Pass out Handout A-3, read it through, and discuss any reactions participants might have. The guide asks the following questions, one at a time, leaving time in between for the participants to respond and dialogue.)

What reactions do you have to the idea that you, as an individual, can create a life style that is significantly more environmentally sustainable?

What types of actions are you taking already that contribute to a environmentally sustainable lifestyle?

What questions do you have about how to create a more environmentally sustainable lifestyle?

(The guide encourages discussion and talks about how we can teach each other by sharing information and role modeling for each other.

Handout B-3 is then passed out, read out loud and discussed. Participants share their thoughts about the list and when the discussion is over the leader asks each participant to share with the group one thing that they are willing to start doing to develop a sustainable lifestyle. The guide then suggests the creation of a buddy system where two people exchange contact information and report to each other on the progress they are making adopting environmentally sustainable practices.

HANDOUT B-3

TEN EASY THINGS TO DO TO LIVE MORE ENVIRONMENTALLY SUSTAINABLE

- 1. Use a clean detergent that are phosphate free (phosphates empty into streams and lakes causing an "algae bloom" which leads to the death of the lakes and streams).*
- 2. Use reusable containers, unbleached coffee filters, and rags instead of paper towels. (Bleaching paper creates dioxin which goes into the waterways).*
- 3. Call your utility company to inquire about energy audits and conservation information. Call your water utility company to see what water conservation devices they offer. Call the recycling center to get information on recycling more products.*
- 4. Do not use products that have chlorofluorocarbons (CFC) which deplete the ozone layer. Avoid polystyrene and aerosols. Make sure the AC in your vehicle has no leaks (freon is a CFC).*
- 5. Use rechargeable batteries which last longer than alkaline batteries and therefore contribute less to the hazardous waste problem. Recycle alkaline batteries. (Batteries contain heavy metals, primarily mercury, which contaminate waste dumps and ultimately causes illness).*
- 6. Buy and use cloth bags for your grocery shopping. (Plastic bags are usually not bio-degradable and all plastic is made from petroleum, a nonrenewable resource.)*

- 7. Instead of using flea collars or chemicals on your pet to combat fleas order citrus oil sprays and add brewer's yeast and garlic to the food. (The pesticides on flea collars can cause permanent nerve damage. About 50 million flea collars are thrown away each year making them a potent force.)*
- 8. Use a "low flow" shower head and save reduce water use by 50% or more. (A five minute shower with a standard shower head can use about 35 gallons of water.)*
- 9. Recycle your motor oil. Make sure your mechanic recycles the motor oil or go somewhere else if he does not making sure you tell him. Motivate him to recycle the oil if he does not. (Motor oil is one of the worst oils for the environment and some experts think that 40% of all pollution in American waterways comes from motor oil).*
- 10. Start a neighborhood club where all of you develop environmentally sustainable practices and support each other. The ripple effect of your individual actions engages the entire community and the influence spreads.*

HANDOUT A-3

FACTS TO BE AWARE OF

- 1. About one third of what Americans throw away is packaging.*
- 2. More than one billion trees are used to make disposable diapers every year.*
- 3. An American uses twice as much energy than a Japanese or a German and fifty times more than a person in India.*
- 4. About 90% of the energy used in lighting a standard incandescent light bulb is lost in heat.*
- 5. Air conditioning uses ten times more energy than a fan and creates ten times the pollutants.*
- 6. Cars and pick-up trucks are responsible for 20% of the carbon dioxide released into the air.*
- 7. There are 500 million automobiles on the planet burning about two gallons of fuel per day. Each gallon releases 20 pounds of carbon dioxide into the air.*

8. *About 80% of our trash goes to landfills, 10% is incinerated, and 10% is recycled.*
9. *Since there is little oxygen underground where the garbage is buried, almost nothing happens to it. Scientists have dug into landfills and have found ears of corn still intact after 20 years and newspapers, still readable, after 30 years.*
10. *The average American creates about 3.5 pounds of garbage per day.*

ACTIVITY 4

ECO-FRIENDLY APPROACHES TO GARBAGE

PURPOSE: *a- To become more aware of the extent to which we create unnecessary waste and how this violates a natural law of reciprocity.
b- To explore alternatives such as recycling and reusing.*

SAMPLE MINI-LECTURE: *Most human beings do not realize that in the natural world there exists no waste; there is no such thing as “garbage”. Everything that is created in nature is used to create something else. We need to learn how to live in harmony with this same natural law if we aspire to be sustainable over the long run.*

Human waste has caused great difficulties. Some of these include the overfilling of landfills and the toxic leakage of garbage into the groundwater.

Here are some interesting facts:

The average American generates about 4.3 pounds of garbage per day. Packaging accounts for up to a third of what goes into the waste stream. One fourth of household waste is made up of organic matter that could be composted. Many Americans spend about two full days per year sorting through unnecessary junk mail. Paper products such as napkins and paper towels contributes one third of waste in the landfills (two paper napkins per day adds up to 700 per year!). If you are an average American you will use up seven trees per year in paper products. During the peak growing season grass clippings account for about 50% of residential yard waste.

As global citizens we must begin to shift our attitudes dramatically regarding what we bring home and how we use it. The motto for all people should be, “What I bring into my house I steward”. This attitude leads us to ask the following very essential question regarding everything we bring home, “Do I have a way to reuse or recycle this

product?" *The goal is to reduce our household waste to zero, a challenging but not impossible task. With a healthy attitude we can see this as an adventure and thoroughly enjoy our personal evolution as responsible stewards.*

DISCUSSION: *(The guide passes out the Handout A-4 and has someone read it out loud. Discussion is encouraged about different ways to reduce garbage. This activity can close with the guide encouraging participants verbalize efforts they are willing to make to reduce waste).*

HANDOUT A-4

WAYS TO REDUCE GARBAGE

- 1. Call your local recycling agency and ask them what they can recycle and where.*
- 2. Think creatively about re-using items. Choose To Reuse by Nikki and David Goldbeck is a great book that offers many tips.*
- 3. Change your purchasing habits regarding items that cannot be recycled or reused.*
- 4. Set up boxes in your utility room where each category of recyclable items are put.*
- 5. Bring cloth bags each time you go to the grocery store.*
- 6. Create your own kit of reusable containers, napkins, silver wear, covered mug. Use them for food take-outs, bulk food purchases, coffee, and doggie bags.*
- 7. Reuse paper by using as much space in the paper sheets that you use to write on.*
- 8. Have your name deleted from many companies that send you junk mail. You can do this by writing to Mail Preference Service, Direct Marketing Association, P.O. Box 9008, Farmingdale, NY 11735 or www.the-dma.org.*
- 9. Build a compost pile or purchase a composter. Set a bucket with a tight-fitting lid next to your kitchen sink. After every meal put the compostable material in the bucket and close it tight. Every few days add the content to the compost pile.*
- 10. Use cloth napkins and cloth materials to clean everything instead of paper products. Use handkerchiefs rather than tissue.*

11. *Repair as many damaged items as you can. Recycle what you cannot repair or donate to Goodwill.*
12. *Take your unused clothing to Goodwill, the Salvation Army or second hand stores. Buy many items you need from these same stores.*
13. *Reuse gift wrap and wash and reuse all plastic wear that you use for special occasions. Use reusable table cloths.*
14. *Consider replacing your lawn with drought-tolerant native plants, herbs and wild flowers. Or mow your lawn to two inches to hide the clippings. Leave the clippings on the lawn.*

(Adapted from ECOTEAM, a program by Empowerment Institute, Gershon & Stern)

ACTIVITY 5

TAKING CARE OF OUR WATER

PURPOSE: a- *To understand the facts and consequences of excessive water usage.*

b- *To explore ways to become better stewards of our water resources.*

SAMPLE MINI-LECTURE: *Our wasteful practices and the pollution affecting groundwater are seriously deteriorating the quality and quantity of one of this planet's most precious resources. Water from underground aquifers is limited and is often being used faster than it is being replenished. Furthermore, vast amounts of energy is needed to transport, heat, and treat water.*

80% of the Earth's surface is water and less than 1% of this water is available and potable. Our body weight is composed primarily of water which runs through our veins and permeates our bodies. Water is indeed the substance of life and we must awaken to our stewardship of this most vital elixir.

Consider the following facts:

1. *A slow leak can waste over ten gallons of water per day. An EPA study found that a single family home leaks 9.5 gallons per person per day (on average).*

- 2. Only 1.6 gallons are needed to flush a toilet and most toilets flush 3.5 gallons. Showers and faucets account for 30% of water use. 25 gallons of water can be saved by staying in the shower five rather than ten minutes. Letting the water just run while brushing ones teeth uses up to nine gallons per day.*
- 3. About 24 cups of water are wasted each time we wait for the water to turn cold by letting it run for one minute. Then this water will travel through a sewage treatment plant wasting energy.*
- 4. The salt in water softeners, which cannot be removed by wastewater treatment plants, is toxic to many aquatic animals that live in local lakes and rivers.*
- 5. The soap, dirt, and oil washed from your vehicle can find its way to local streams, wells and groundwater through storm drains.*
- 6. The water you drink, bathe and cook with comes from your local watershed and could carry soil particles, road salt, organic materials, pesticides, and fertilizers.*
- 7. The average quarter acre of lawn gets 22,000 more gallons of water a week than it needs. If you have a garden you may be over-watering by 50%.*
- 8. Toxins in weed killers and fertilizers often wash into the groundwater as pollution.*
- 9. Union of Concerned Scientists (USC) points out in The Consumer's Guide to Effective Environmental Choices, that not eating one Big Mac from MacDonald's conserves 700 gallons of water weekly because that's what it takes to raise and produce the beef for that hamburger.*
- 10. Another source of information is 50 Simple Things You Can Do to Save the Earth or 50 Simple Things Kids Can Do to Save the Earth by Earthworks Group.*

DISCUSSION: (After reading the above facts the guide passes out Handout A-5 and reviews, through shared reading and discussion, the activities and choices that we can all engage in to reduce our water use. After this discussion participants can talk about what they are willing to do differently regarding their water use. The guide could ask them if it is worth it to them to feel a bit inconvenienced until a new life style habit is in place. The guide can also help the participants explore any resistance they might be feeling as they discuss changing behavioral habits. Finally the guide can encourage dialogue about the benefits that come from these changes.)

HANDOUT A-5

WAYS TO CONSERVE WATER

- 1. Scout out leaks under sinks and around showers, tubs and toilets. Call a plumber to fix them.*
- 2. Purchase a toilet dam for each toilet in your house or replace your toilet with a low-flow model. Don't flush every single time you pee.*
- 3. Install low-flow showerheads and faucet aerators.*
- 4. Try five minute showers as often as possible.*
- 5. Don't keep the water faucet on while brushing your teeth or shaving.*
- 6. When washing dishes fill one section of the sink with warm soapy water using biodegradable soap. Let them sit for a few minutes then scrub them. Then fill the other half of the sink about two-thirds full with warm water. Then dunk and swish the dishes to remove soapy film. Only use the dishwasher if you have a full load.*
- 7. Fill a reusable water bottle and keep it in the refrigerator. Then you will have cold water all the time.*
- 8. Make sure your water softener is adjusted for the most efficient salt usage.*
- 9. Call your county health department or municipal water authority for information on the water quality in your area, and if you decide to test your water ask them to recommend a certified laboratory. If you need a water filtration system, research and install it. For valuable water information check the EPA website www.epa.gov/safewater.*
- 10. Wash your vehicle on grass or gravel instead of the street or driveway to help filter the soapy water. Use biodegradable soap. Pour left-over soapy water down the sink so it can be treated. If you go to a car wash go to one that recycles the wash water.*
- 11. Be aware that most established lawns need one inch of water a week. Water early*

in the morning or evening to avoid evaporation. Keep your grass between two to three inches tall to provide natural shade for the soil keeping it moist. Leave grass clippings on the grass to retain moisture.

- 12. Use organic compost instead of chemical fertilizers. Consider xeriscaping.*
- 13. Cover your garden with a protective mulch to retain moisture. Install a drip irrigation system which can save up to 50% water.*
- 14. Consider consuming fewer beef dishes and more vegetable-based meals.*

(Adapted from ECOTEAM, a program by Empowerment Institute, Gershon & Stern.)

ACTIVITY 6

CONSERVING ENERGY

PURPOSE: *a- To increase awareness of how energy is wasted.
b- To explore ways to conserve energy.*

SAMPLE MINI-LECTURE: *Much of the energy we use in our daily lives comes from fossil fuels (petroleum, natural gas, and coal) Fossil fuels are non-renewable, which means that they are limited in quantity and once they are used up future generations will be deprived of this resource. Burning fossil fuel also causes pollution and contributes to global warming and acid rain.*

As Americans we are one of the greatest consumers of fossil fuels. One American in one year uses as much fossil fuel as one person in a developing country during their whole lifetime. Furthermore, due to inefficient practices and lack of awareness, Americans waste about 75% of the energy used.

As a starting point and to learn more about how heavily or lightly you tread on this earth, measure your carbon footprint. www.carbonfootprint.com Then, learn about the Feed-In Tariff legislation that has significantly increased the production of alternative energy and created more than 250,000 Green jobs in countries such as Germany. Consider advocating for the adoption of this legislation in your country. www.earthaction.org

Consider the following facts:

- 1. In an average home the combination of televisions, video recorders, stereos, and other appliances use about 50 watts of electricity 24 hours per day, even when not*

turned on. Many of these appliances have energy leaks even when not turned on.

2. The electricity used by a computer and printer left on all day creates more than a ton of carbon dioxide in the atmosphere.

3. Regular light bulbs waste most of their energy by creating heat.

4. Electric washers and dryers can account for about 25% of home electricity use.

5. Water heaters represent about 20% of home energy usage. Most of this energy is unnecessarily lost particularly if the water heater was built before 1989.

6. The refrigerator is the appliance that uses the most energy, up to 25% of most household usage.

7. Air leaks in the average American home are the equivalent of an average sized window being left open all the time. Air leaks are often found around windows, doors, heating ducts, plumbing pipes, and fireplaces. This represents about 15% loss of energy and an unnecessary monetary expense.

8. Air conditioners are often over used due to a desire to overcool the home and leaving them on longer than needed. They use up about 15% of total household energy consumption.

Using energy efficiently and using renewable sources of energy whenever possible are the principles to creating a sustainable energy household. There are many easy changes we can make that can help reduce our energy usage. We will explore these ways as well as more complex but worthy strategies that help reduce our energy usage. It is helpful to remember that anything we do to use energy more efficiently will not only make us better stewards of the planet, we will also save money in the long run.

Let us discuss Handout 6-A which lists several ways of reducing our energy usage.

DISCUSSION: *(Guide passes out Handout 6-A and has the participants read them one at a time. It might be a good idea to make time for discussion after each item is read to talk about resources and explore any questions participants might have.)*

HANDOUT A-6

CONSERVING ENERGY

- 1. Turn the lights off when not in the room. Turn all appliances off when not in use. With computers, at least turn the monitor off if you are going to be away for 20 minutes. If you are going to be away for two hours turn off the computer.*
- 2. Plug the appliances that leak the most electricity such as the TV and the video recorders into a switched cord or a power strip. In this way you can easily turn off the power to these appliances when not in use. When possible, unplug any devices and chargers that have a block-shaped transformer on the plug when they are not in use. When you buy new equipment look for the EnergyStar label. Check out www.energystar.gov*
- 3. Replace your bulbs with compact fluorescent which uses 70% less electricity than conventional bulbs. Compact fluorescents come in different sizes but are generally slightly larger than the standard bulb. Looked for bulbs marked 27K for the warmest light. Call your local utility company and see if they home energy auditor offers free compact fluorescents, or if they offer rebates. Compact fluorescents save about 600 pounds of coal over the life of the bulb. They will also save you on your electric bill.*
- 4. Do not be convinced that your clothes need to be washed each time you wear them. Wash them only when they are dirty. Wash with cold water most of the time. Wash a full load at a time. Clean the dryer's lint filter after each use to maximize efficiency. Buy an EnergyStar rated washer and dryer if shopping for new appliances.*
- 5. Set the water temperature in the water heater at 120 degrees F. Turn the water heater on "off" or "pilot" when out of town. Have the water heater tuned up every year. If the heater does not have adequate insulation install an insulating blanket. Insulate the pipes with foam sleeves. Inquire with your utility company about rebates and installations with a home energy audit. See if a solar water heating system will work in your area.*
- 6. Maintain your refrigerator. Make sure the tightness of the door seal is appropriate. Twice a year vacuum or wipe the condenser coils (at the back or behind the front grill-usually at the bottom) to remove dust so the coils operate efficiently. The temperature in the frig should be kept at 38 degrees F and in the freezer at 5 degrees F. If your frig has a power miser switch use it. Keep the frig door open for only a short time. If you*

are going to be out of town for two weeks take out the perishables and leave the frig at its lowest setting.

7. In the winter try to keep your thermostat at sweater temperature during the day (about 67 degrees F) and blanket temperature during the night (57 degrees F). During the summers set your thermostat at "short sleeve" temperature (78 degrees F). Turn your air conditioner off when you leave home. It is a myth that it's more efficient to leave it on than to shut it off and have to recool a home later. Keep the shades down during the day and plant trees on the western, eastern, and southern part of the house to create shade.

8. Insulate the glass in your home having insulated materials added to window treatments. Make low-cost thermal shades from an insulating material such as Reflectix, available by the roll at hardware stores. You can install plastic barriers, available in kits from the hardware store) on the inside of your windows and glass doors. This is a very inexpensive alternative. Install well insulated windows.

9. To add weather stripping and caulking call your local utility company to see if they have free energy audits. Independent contractors, non-profits, and government agencies may also offer energy audits. If you do it yourself do some research and install weather stripping and caulking anywhere where there are energy leaks. Plugging up the holes in your home will save you money and decrease wasted energy.

Use ceiling fans as often as possible especially during the warm months.