God, the great Physician, cares for the health and well being of all people and Creation. Like the speaker in the book of Jeremiah, we also wonder “why then has the health of my poor people not been restored?” Here we seek to educate ourselves about health hazards in our community and the world, to make healthy choices, and to advocate for compassionate and fair public policies.

The National Council of Churches USA is pleased to bring the Healthy Kids, Healthy Churches, Healthy Creation curriculum to congregations and faith groups. We hope and pray that these activities and study sessions will help Christians live out a faithful witness of health and wholeness, love of Creation, and love of neighbor.

Is there no balm in Gilead? Is there no physician there?
Why then has the health of my poor people not been restored? Jeremiah 8.22
Healthy Kids, Healthy Churches, Healthy Creation

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Unless otherwise noted, all biblical references are from the New Revised Standard Version.

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The National Council of Churches has been the leading force for shared ecumenical witness among Christians in the United States. The NCC’s 37 member communions—from a wide spectrum of Protestant, Anglican, Orthodox, Evangelical, historic African American and Living Peace churches—include 40 million persons in more than 100,000 local congregations in communities across the nation. For more than 30 years the NCC has educated people of faith and advocated for policies that protect God’s people and planet.
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Welcome

How we choose to live, the products we use every day, and the way we care for God’s Earth impact our health and the well-being of all Creation. Environmental hazards such as water pollution, poor air quality, and exposure to toxic chemicals in every day products represent one of the greatest threats to God’s Creation and God’s children.

We are called to be stewards of Creation (Genesis 2:15) and of our bodies (I Corinthians 6:19-20). We are also called to care for the most vulnerable to toxic chemical exposure- women, children, low income communities, communities of color, people living with disabilities or compromised immune systems (Matthew 25:40). By seeking justice in love (Leviticus 19:18; Matthew 22:39) we have an opportunity to renew our bodies and all of Creation.

This is no easy task. It takes education and challenges our manner of living and the decisions we make daily. This curriculum is intended to be a tool to use along your own faith journey. It can be used to provide background and education on the various chemicals we find in every day products, and the impacts those chemicals can have. It is also intended to be a tool to help us change the way we have been living – to choose products without chemicals, and to take steps to protect the most vulnerable among us from the impacts of the chemicals. All of this is grounded in our faith in Jesus Christ, and the holiness that faith teaches us is present in all that God created and called good.
Introduction to the Curriculum

PURPOSE
The Healthy Kids, Healthy Churches, Healthy Creation curriculum seeks to provide Christian congregations and faith groups with an easy-to-use guide for initiating conversations in their communities about environmental health and how our consumer choices such as food, building materials, and personal care products impact human health and Creation. This curriculum encourages people to draw on their own experiences, think about caring for human health as a spiritual practice, become informed, and to take action to better manifest God's love in the world. We hope that this curriculum will be useful to your church or community as you learn together how to make healthier decisions for yourself, your family, your church, your community, and God's world.

COURSE OVERVIEW
This curriculum is intended as a four-week adult Christian education course on protecting health and community wellbeing as people of faith. However, each section can stand alone as a one time class.

Healthy Kids, Healthy Churches, Healthy Creation is appropriate for use in, for example:
• An adult Christian education class
• A women's or men's fellowship
• A retreat setting
• A Lenten study
• An intergenerational setting with adults and high-school students or youth (particularly the second session)
• A high school youth group or young adult group
• A social concerns committee
• An ecumenical clergy group
• An ecumenical gathering with other churches in your community
• A parenting group

About Each Session:
Each session has activities and discussion questions for the 1-1½ hour session and includes a list of the items you will need for each session. Suggestions for further exploration are included at the end of each session. Necessary handouts and links to additional resources are provided in the Appendix.

For the Pastor, Christian Education Director, or Lay Leader(s):
The course is designed so that it can be facilitated by anyone with an interest in environmental health as it relates to Christian faith. Each of the four sessions includes instructions for the leader. No specialized background or education is necessary. You may choose to have one leader for all four sessions, rotate the task, or invite persons with particular skills/interests to lead a particular session. Leadership shared between two or three people will lighten the leadership load, yet ensure continuity, should time conflicts arise for individual leaders. Tasks can be divided up according to leadership gifts, such as materials preparation, discussion facilitation, and prayer. It is best if someone with interest in the issue takes a leadership role, since they will bring their passion and commitment to the course.

For the Course Leader(s):
The key to a successful learning experience for all participants is preparation. For each session, the leader(s) should:
• Read the entire lesson guide beforehand.
• Photocopy prayers and handouts.
• Gather necessary supplies.
• Welcome participants and introduce the opening and closing prayer.
• Plan for the facilitation of the activities and conversation.
• Monitor the time so that you start, break, and end punctually.
• Plan strategies to ensure that all people have an opportunity to participate.
• Have readings for the next lessons ready for distribution and encourage participants to read them before coming.
• Be aware of possible emotional and/or spiritual reactions that will arise, and be prepared to provide support and pastoral care.
• In advance of the course be sure to let all the participants know the schedule for the course and provide any relevant materials needed ahead of time for the session.
• Consider providing (or have volunteers provide) refreshments for each session.
Resources:
Resources referenced in this curriculum can be found in the Appendix. For more faith-based resources and additional information on environmental health visit: nccecojustice.org/health and nccecojustice.org/resources. For a list of church or denominational statements and environmental policies visit nccecojustice.org/anthology.

Staying Current:
Scientific information on environmental health is constantly being updated. To keep current on new developments and to also learn about new resources or additional ways to advocate for a more healthy future consider joining our NCC Eco-Justice network. You will receive our weekly e-alerts as well as our e-newsletter, Capsules. To join, sign up at info@nccecojustice.org.
An Introduction to Environmental Health from a Christian Perspective

**Goal:** To understand the concept of environmental health as a Christian concern.

**Introduction:** The intent of this session is to introduce participants to the concept of environmental health as a Christian concern. Participants will leave with a better understanding of the role chemicals play in the development of chronic and prevalent health conditions. They will also leave understanding of who is most vulnerable to toxic chemicals, including God’s Creation, and why this should matter to us as Christians.

**Materials:**
- NCC Fact sheets on environmental health issues found in the Appendix:
  - Toxic Chemicals in God’s Creation;
  - Stewards of Health and Creation;
  - Unequal Exposures: Toxic Chemicals in Communities of Color;
  - Maternal and Children’s Environmental Health.

**OPENING PRAYER**

**Begin with Prayer (5 minutes):**
You may choose to have one reader or three readers to share the sections.

Creator God, you blessed us with the gifts of clean water, clean air, and clean soil. We honor you by committing ourselves today and moving forward to be good stewards of your Creation.

Creator God, you made humankind in your image. Yet the chemicals in the air we breathe, water we drink, food we eat, and everyday products used in our homes, church, and community threaten the health and integrity of your people and all Creation.

Creator God, you sent your Son to teach us compassion and love. He healed the sick, helped those in poverty, and lifted up the value of children. Remind us of the lessons Jesus taught us so that we may practice them in our community today.

May we work to protect and renew your Creation. Amen

**ACTIVITY 1: INTRODUCTIONS (10 minutes)**
As the leader, welcome everyone to the class. So that everyone can learn more about each other, ask everyone to go around the room and share their name and a moment when they felt closest to God in nature. Thank everyone for sharing.

**ACTIVITY 2: STAND UP (5 minutes)**
In this activity, you will help people to see that we all know someone or are ourselves affected by a chronic health condition that is linked to chemicals we use daily. This is a simple exercise that just asks people to stand up and sit down.

**Leader reads:**
We live in a world with polluted air, water, and soil. This pollution can harm our health, such as when we develop headaches or asthma from air pollution.

We live in a chemical world- chemicals are found in a wide array of products and processes such as pesticides, oil and gas production, cleaning products, furniture, plastics, personal care products, computers, and so much more.

In 2010 the Environmental Protection Agency reported that 3.9 billion pounds of 650 different chemicals were released into the atmosphere. Some of these chemicals harm not only human health, but all of God’s Creation, causing things like asthma and heart disease, and polluting the water, soil, and air.¹

In 1 Corinthians, Paul reminds us that we are members of one body. When one part of the body suffers, we all suffer and when one part of the body feels joy, we all feel joy (1 Corinthians 12:12-26). This body metaphor can be extended to our relationship to the rest of Creation. When we harm one part of Creation, we all feel the effects of that harm. In this next activity we can understand how we are linked, and some of the health concerns that can be linked to chemicals all around us.

Stand up if...
• You eat canned tuna more than three times a month.
• You live within two miles of an industrial facility or freeway.
• You eat canned food on a regular basis.
• You work inside at a computer with little ventilation.
• In your workplace you work with chemicals such as cleaning chemicals, inks, nail polish, solvents, or pesticides.
• You use at least eight personal care products such as shampoo, deodorant, hair gel, soap, lipstick, cologne, lotion, or shaving cream each day.
• You eat fish out of a local river that is known to be polluted.
• You use cleaning products

Ask everyone to sit back down. Now we will do the exercise again with different questions:

Stand up if...
• You know someone who has asthma
• You know someone who has heart disease
• You know someone who has cancer
• You know someone with type II diabetes
• You know someone who has fertility challenges

Have everyone sit back down.

Leader reads:
The choices we make or that are imposed on us can contribute to health challenges throughout our lifetime—just as our choices can affect the rest of Creation. Some of the exposures to chemicals such as those found in the products and processes described in the first part of this exercise are linked to the prevalent and chronic health concerns described in the second part. While not always the cause of the disease, chemicals may be a factor that determines if someone will develop a disease. We will explore this more in the next exercise.

ACTIVITY 3: WHO IS VULNERABLE TO TOXIC CHEMICALS? (20 minutes)

Leader reads:
Based on the last exercise, we know that we are all more vulnerable to chronic diseases through exposures to chemicals. Yet, some people and other parts of Creation are uniquely vulnerable. In this next exercise, we are going to break into groups to learn more about why some people or some species are more vulnerable and how. The fact sheets that each group uses will be available for everyone at the end of class so don’t worry if you didn’t get a chance to look closely at chemicals and disabilities today. You will still have a chance to read about it after class.

Divide the group into four. Distribute the Unequal Exposures: Toxic Chemicals in Communities of Color fact sheet to one group, Stewards of Health and Creation faith fact sheet to another group, the Toxic Chemicals in God’s Creation fact sheet, and the Maternal and Children’s Environmental Health fact sheet to the fourth group. Each group should read the fact sheet and explore the corresponding questions listed on the fact sheet. Give each group 10 minutes to complete the questions and then gather the group back into a large group. Have each small group report out to the larger group one thing that they learned.

Leader reads:
We are all interconnected. Human health is integrally connected with the health of all God’s Creation. The chemicals that are used to produce household products can contaminate the air, water, and soil, harming God’s good Creation. During this exercise, we learned that chemicals such as persistent bioaccumulative toxic chemicals, endocrine disruptors, and carcinogens can cause cancer, birth defects, and neurodevelopmental concerns. In Romans 8:18-27 Paul reminds us that the end of our suffering is connected to the end of Creation’s suffering for we are all one body of Christ.

Close your eyes for a second and consider Paul’s words:
I consider that the sufferings of this present time are not worth comparing with the glory about to be revealed to us.

For creation waits with eager longing for the revealing of the children of God; for creation was subjected to futility, not of its own will but by the will of the one who subjected it, in hope that creation itself will be set free from its bondage to decay and will obtain the freedom of the glory of the children of God. We know that the whole creation has been groaning in labor pains until now; and not only creation, but we ourselves, who have the first fruits of the Spirit, groan inwardly while we wait for adoption, the redemption of our bodies. For in hope we were saved.

During this course we will explore how toxic chemicals harm not only plants and animals, but also human health. We will learn how to turn the knowledge we gain into concrete actions that deliver health, hope, and salvation to our bodies and all Creation.

Offer to share all the factsheets with people so they can learn about the other areas of concern on their own time. Bring everyone in a spirit of prayer to end class.

CLOSING PRAYER (5 minutes)

God, Creator, we recognize that you entrusted us with the responsibility of protecting the health of your entire Creation. We have fallen short on our responsibilities. We have allowed the pollution of your air, water, and soil—and now feel the effects within ourselves. We leave today with heavy hearts but with hope that we may follow in your son’s footsteps to address the environmental and social injustices that result from toxic chemicals in our everyday lives and bring shalom in our world. Amen

Healthy Kids

Goals: To understand how toxic chemicals can harm children’s health, what can be done to protect them, and engage in intergenerational activities such as art, scavenger hunts, and non-toxic product creation.

Introduction: This session is a great opportunity to involve all generations in your congregation in learning about healthy aging—which begins in the womb. Intergenerational activities can help adults, especially older adults, to stay healthy in mind and spirit, and by doing these activities together you can build intergenerational relationships and give both adults and youth the opportunity to learn how to protect children from toxic chemicals.

Materials:
• Markers, flip chart, paper for drawings, blue masking tape (safe for painted surfaces)
• Colored pens, crayons, or pencils and an optional music player.
• NCC fact sheets found in the Appendix:
  • Maternal and Children’s Environmental Health
  • Toxic Scavenger Hunt
  • Toxic Chemical Alphabet Soup
• Ingredients for the personal care product or cleaning product listed in Activity 3.
• Spray bottle for disinfectant and yogurt container or the equivalent for your leftover face mask.

PRAYERFUL BEGINNING (10 minutes)

Gather everyone in a circle and ask them to share in a prayerful spirit their name and one piece of wisdom their parent or grandparent passed on to them

ACTIVITY 1: ZECHARIAH’S VISION 10 minutes

The intent of this activity is to provide an opportunity for participants to learn about what people in the class already know about environmental health. This will help you know how much you will need to explain additional information in the remainder of the class. It is also a great way for visual learners to gain and share knowledge about children’s health.
First off, break the large group into small groups of 3-4 people. If you are leading this class with an intergenerational group, ensure that there both youth and adults in each group.

**Leader reads:**
The Biblical visions of a redeemed and restored Creation make special note of the security and well-being of children. Isaiah foresees a time when even the most vulnerable children, nursing babies and toddlers, play safely in the presence of the snake and serpent\(^3\) (Isaiah 11:8.) People will no longer labor in vain or bear children for calamity, but they and their descendants shall be blessed by the Lord (Isaiah 65:23.) Zechariah has a vision of a restored Jerusalem where old men and women sit on their porches and the city is full of boys and girls playing safely in the streets (Zechariah 8:5.)

Children are among God’s most precious—and most vulnerable—gifts. They are the hope for our future, but theirs is a future threatened by environmental pollution and chronic disease. People of faith are called to work together to help safeguard children’s health and their future. We can work together to help make Zechariah’s dream a reality and ensure that when we offer children a fish, they get a fish not contaminated with toxic chemicals—or rather we can safeguard a vision of where children play safely with non-toxic toys in their homes and schools, on their playgrounds, and even in our city streets.

For this first activity, we have an opportunity to paint a vision akin to Zechariah’s. First, take time to draw a picture of what you see to be some of the greatest threats to children’s health and ensuring that children grow up in a healthy environment. Before you start drawing, consider the following questions. I will post these where everyone can see them.

**Facilitator’s note:** Either write these on a big piece of paper in advance of the workshop, or distribute copies of the questions when the exercise starts, or write them on a chalk or white board as you lead the activity.

**Questions to consider before drawing:**
What are some sources of pollution that you are aware of that can harm children’s health? Are these in the air? In the water? In the soil?

Are you aware of any toxic chemicals in children’s products, other household products, or food that may propel a child towards disease?

What other concerns do you have that may threaten the healthy future of one of God’s children?

After participants consider these questions, ask them to incorporate the answers into their drawings. They may use a few words if that helps them express their ideas, but the majority should be a picture. After five to seven minutes of drawing, invite people to share or to walk around the room and look at others’ drawings depending on how much time you have for your class.

**Close with the following:**
From this activity, we shared some environmental threats to children’s health. In the next activity, we will take a closer look inside our church and home to understand what environmental threats exist in our indoor environment.

**ACTIVITY 2: SORTING THE GOOD FROM THE TOXIC—A TOXIC SCAVENGER HUNT**

(25 minutes)
Begin by distributing the Toxic Scavenger Hunt sheet from the Appendix. This is a great way to do a toxic audit in your church or home to see what kind of chemicals children are exposed to in these environments. In advance of this activity (say a week or two or even a few days beforehand), you should do the scavenger hunt yourself to see what you find. If there are some things on the list that you don’t find, you may ask some of the participants in advance of the class to bring in a few of those items or you can mention them in the discussion period after the hunt.

**Leader reads:**
In many cases, our indoor environment may be more contaminated than the outdoors. Our homes, churches, and workplaces contain a number of environmental pollutants such as materials used in construction, carpets, paint, cleaning supplies, furniture, electronics, and personal care products such as perfume and hairspray. Some toys, cosmetics, and jewelry have been found to contain lead or mercury\(^4\). In this exercise we will consider products with which children come into contact. Children are uniquely susceptible to toxics.

At this point, break the group into 3 or 4 groups and send them off to their specific locations to investigate one of the

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\(^3\) Language from The Common English Bible

\(^4\) See NCC Environmental Health resources for more - [http://nccecojustice.org/health/LearnMore.php](http://nccecojustice.org/health/LearnMore.php)
rooms or interview church leadership. Ask them to return in 15 minutes prepared to share one of the products they found.

**Leader reads:**

_The truth is, it is often impossible to determine which everyday items are toxic and which are nontoxic. In 2011, 34 toys were recalled, which is down from 172 in 2008, the year Congress passed a law limiting lead and phthalates in children’s toys. When this law passed many companies voluntarily reduced the amount of lead and removed harmful phthalates. Environmental health organizations started testing the toys for lead and phthalates starting in 2007. Every year fewer and fewer toys had harmful lead levels and phthalates in them. Even so, plastic toys don’t usually come with labels fully disclosing what chemicals are in them and it takes watch dog organizations to test and find out what is in them. We should not need a degree in toxicology to purchase a toy for a child. The fact that it is so hard to tell the toxic items from the nontoxic ones should alert us to the depth of this problem._

**ACTIVITY 3: MAKE YOUR OWN SAFE AND HEALTHY PRODUCTS**

*(15 minutes)*

Invite the class to make a non-toxic personal care product or cleaning product. This is another great activity that could involve youth. See the sidebar for a recipe. More recipes can be found in our Made in the Image of God Healthy Spa Toolkit and in our Green Cleaning Toolkit, found at nccecojustice.org/health.

**Leader reads:**

“One thing we learned from the scavenger hunt is that cleaning products and personal care products can contain chemicals linked to learning disabilities, reproductive harm, and even cancer. Childhood exposures can be more damaging, even if the effects aren’t seen for years to come. Yet children are exposed to these chemicals on a daily basis. We can make our own non-toxic products. Homemade products are fun, low-cost, and non-toxic substitutes.”

**Close with the following body prayer**

*(5 minutes)* *(Lift arms up to the sky)*

Oh God, Creator of all that is, open our hearts to your message.

---

May we learn to be good stewards of our bodies and your Creation so that all are reflections of your divine handiwork.

*(Reach your arms to the ground)*

Just as you blew the breath of life, the breath of spirit into our nostrils, we will live as spirit-filled people of faith and do your work to protect children and future generations from toxic chemicals.

*(Pull your left arm over your head to the right side of your body)*

May we learn to follow the example of your son who spoke up for the destitute, the sick, the hungry, the vulnerable.

*(Pull your right arm over your head to your left side of your body)*

Oh God, Creator, your children are suffering. May we have the courage to protect the gifts you provided—clean air, water, and soil—so that all of God’s children have a chance at a vibrant and healthy future.

*(come back to center with eyes closed)*

As Easter people, we hold out hope for a new vision that delivers justice for all God’s people and the whole of Creation. Amen

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**CHOCOLATE FACE MASK**

Disinfectant—Mix ¼ cup Borax with ½ gallon of water, and 20-30 drops of tea tree oil (which is a natural disinfectant.) Try this out on the church windows or tables.

This decadent mask is actually an excellent moisturizer—it leaves your skin baby soft. Recommended for normal skin. Note that this product should be used shortly after making and kept refrigerated since it contains ingredients that spoil.

1/3 cup cocoa
3 tbsp. heavy cream
2 tsp. cottage cheese
3 tsp. oatmeal powder
1/4 cup honey

Mix all ingredients together and smooth onto face then wash off with warm water.

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Healthy Aging

Goals: To understand how chemicals act in our bodies, and the long-term effect chemicals, diet, exercise, and social interactions have on chronic disease, especially older age diseases.

Introduction: As we touched on in the previous session, healthy aging begins in the womb but continues throughout the entire lifespan. This is a great session to demonstrate to adults that what we come into contact with, whether or not by choice, throughout our lifetime really can help us prevent, ameliorate, or reverse some chronic diseases or their symptoms. We will also explore a Christian response to this news. This is a great activity to involve all adults, and especially older adults or seniors.

Materials:
- Three cups of granola
- Two cups of raisins
- Two cups of nuts
- One bag of chocolate chips
- Handouts from the Appendix:
  - Unequal Exposures: Disparities in Chemical Body Burden fact sheet
  - Role Play Descriptions for Body Burden Activity handout
  - Healthy Aging Bible Study handout
  - Four Steps to Healthy Aging handout.
  - Four Steps Towards Healthy Aging fact sheet
  - Chemical Alphabet Soup fact sheet
  - Large sheet of paper
  - At least two markers of different colors.

OPEN WITH PRAYER (3 minutes)
One: God Creator, Christ Redeemer, and Spirit Sustainer—You knew us before we were born. When we grew in our mothers’ wombs, you twirled in the curve of our DNA and danced to the beat of our hearts.

Many: We praise you because you live in us, Oh God!

One: We feel you, God, in warm embraces, in sharing food, water, shelter, and clothes with one another. You are in our joy each time we meet family and friends.

Many: We praise you because you live in us, Oh God!

One: God, as we age, our bodies carry our histories. Silver hairs, laugh and worry lines, scars and calluses tell the stories of each moment you witnessed with us. Even the times when you felt far away, we lived in you and you in us. God, make our bodies temples of your Spirit.

Many: We praise you because you live in us, Oh God!

One: Let us celebrate the years of life, few or many, gathered in your son’s name, years filled with memories of your goodness. Let us here today remember to whom we have always belonged, and in whom we dwell. Engage our eyes, ears, mouths, hands, minds, and hearts in your mission for the wholeness of all your Creation. Amen.

ICEBREAKER (10 minutes)
Ask everyone to share their name and one healthy choice they know they are making, whether it is daily, weekly, or monthly.

INTRODUCTORY REMARKS TO GROUP
Leader reads:
Healthy aging begins in the womb and continues throughout our lifetime. In this session we are going to explore how factors throughout our lifetime can contribute to our likelihood to develop chronic disease and other health concerns. We will also discuss practical things we can do to reduce these exposures and how to provide a Christian response to chronic diseases in older age. In this first exercise, we will hypothetically simulate how chemicals can build up in our bodies and how some people are exposed differently than others.
**ACTIVITY 1: UNDERSTANDING BODY BURDEN AND UNEQUAL EXPOSURES (25 minutes)**

This is an opportunity for the group to understand how chemicals build up in our bodies and how people are unequally impacted by chemicals. It is also a great way to make a healthy snack for the class. Make sure you have the required ingredients set up on each table in advance of the activity or that you have someone help you set them up as people settle into their groups. In addition to the ingredients, you should have four small bowls - one for each group. Divide the large group into smaller groups of four and have them sit with the ingredients and one of the four descriptions in the Appendix and follow the instructions listed under each character.

Once everyone has finished, ask them to stir the ingredients in their bowls.

**Leader reads:**

Like this trail mix, our bodies have many chemicals inside of them - some of which are naturally produced and many that are synthetic. Some of these chemicals are damaging and toxic. Much research is still underway to understand how these chemicals interact in our bodies. Some chemicals build up over time and are always going to be inside of our bodies. Our bodies process other chemicals on a daily basis but levels of exposures to these chemicals is not equal. We learn from this activity that not all of us are exposed equally to chemicals, especially ones that can do harm.

Ask the group to go around the room and observe the different quantities in each bowl.

**Leader reads:**

While the amounts of ingredients for our snack are perhaps arbitrary and just a simulation, we know that while we all carry a chemical body burden, some of us carry more than others based on where we live, work, play, and pray. Who did you observe to have more ingredients than others (people should notice that Mary, Joe, and Monique had higher quantities than Bob in his bowl)? Demographic factors such as race and ethnicity, class, and age can all be factors that contribute to unequal exposures. Here is a fact sheet demonstrating why some groups of people are more vulnerable than others. (Pass out the fact sheet entitled Unequal Exposures: Disparities in Chemical Body Burden. Give people two minutes to read it to themselves.)

One thing we do know is that childhood exposures and exposures in the womb can have health effects today and years later. Diseases are on the rise in children and in older adults. These studies demonstrate that the accumulated chemical exposures throughout our lifetime can contribute to diseases in the older adult population, especially in communities of color. In the next exercise we will explore how we can respond to this knowledge as people of faith.

**ACTIVITY 2: HEALTHY AGING—BIBLE STUDY (10 minutes)**

Divide the group into two groups and have them consider one of the scripture passages, facts, and questions listed in the Healthy Aging Bible Study handout in the back. If your group is really big, break into multiple groups, perhaps by congregating with three or four people around them or mix the group up by counting off in fours or sixes and have them find a place to gather in the room. Give each group five to seven minutes to tackle their question.

While the groups are discussing, you can write on the top of a sheet of paper four columns for food, toxics reduction, exercise, social inclusion, accessibility.

**ACTIVITY 3: CONGREGATIONAL ACTION PART 2 (10 minutes)**

Bring the groups back together. Share with them the fact sheet on Four Steps to Healthy Aging.

**Leader reads:**

There are things we can do to improve the health of older adults. Encouraging healthy diets, activity and social engagement, and reducing exposures to harmful chemicals can reduce factors leading to chronic diseases in older age and even reduce some of their symptoms. Let’s take time to brainstorm what we are already doing in these areas and others to make our church a healing and healthy space for older adults in our community, and what other ideas we could try.

Ask people to share ideas on what their church is already doing to improve the health of older adults for each of the categories listed in the four columns. Write these ideas in one color. Then ask the participants to share ideas on what their church or community could be doing. Use a marker of another color to list ideas for things they could be doing. Celebrate the successes and perhaps suggest that the group follow up with the pastors and church leadership on some of the ideas generated.
Closing Prayer (Inspired by Psalm 139)
Oh God, you formed my inward parts and knit me together in my mother’s womb, just like the psalmist, who was intricately woven together in the depths of the Earth. I praise you for I am fearfully and wonderfully made. Made as a reflection of you, I honor your Creation. I will go forth, seeking ways to care for my body, the health of my elders, and the generations of my church body who will come after me. Amen.

Opening Prayer
Prayer of Citizens
Lord, we are citizens both of this world and of your Kingdom:

Help us to use whatever power we have for the good of all our brothers and sisters and fellow creatures—

To pray faithfully, to vote carefully, to work diligently, to speak truthfully, that your will may be done, here as in heaven. Amen.

Activity 1: Icebreaker (10 minutes)
Have each person describe one time they have witnessed the church having an impact in the larger community.

Activity 2: Understanding Our Call As Christians to Bear Witness (20 minutes)
This activity will introduce the group to today’s topic. Start by breaking the group into small groups of four or less people. If it is a small group, a pair share between two people would work fine. You can either ask people to count off to create equal groups of four people or you can ask people to naturally group up with the people around them.

Leader Reads:
As people of faith, we are called to bear witness and speak out on behalf of those who suffer, including the rest of Creation that lives on the planet with us. In this next exercise, we will examine both the Biblical roots of this witness and how some religious leaders and theologians of modern times interpret this call to help us understand our role as Christians in protecting God’s people and Creation today.

Pass out the Understanding Our Call to Bear Christian Witness Study Questions listed in the appendix to each group. Give each group five minutes to read the quotes, and ten...
minutes to discuss the questions. Bring everyone back together. Go around the room and ask everyone to share in one word what they learned from that activity.

ACTIVITY 3: DISCUSSING A CHURCH POLICY ON TOXICS
(30 minutes)

Leader reads:
One way our churches can be a witness to the community is by developing a policy around the use and storage of toxic materials. Many churches and church judicatories have adopted a “Safe Church Policy” to ensure that children and vulnerable persons are safe from abuse. A toxics policy can continue to build a safe church environment for all who work, meet, or worship in the church, including those who are very sensitive or become ill from exposure to chemicals, also known as Multiple Chemical Sensitivity. It is also an opportunity to educate everyone who uses the building about the importance of environmental health.

A policy is not necessarily a complex legal document. It is meant to guide behaviors of staff, board members, and parishioners in the church, to help in decision-making, and to give continuity of actions as people and staff change. It should be based on Christian understandings of the issue, and reflect the mission and values of the faith community. The object of this activity is not to come out with a finished product, but rather an exploration of what might be involved and who and what should be included. These policies can make your church a safer space for people who have allergies to chemicals and make a safer space for everyone from chemicals linked to concerns such as cancer, obesity, reproductive harm, and developmental disabilities.

Divide into groups of four or five. Divide the questions among the groups. Each group can answer one or two, or all four. One person in each group should take notes.

Questions:
1. Who would be in charge of adopting a toxics policy for the church? Who should be included in the discussion? Who will make the final decision about the policy?

2. What will form the theological and ethical basis for the policy? What principles will guide decisions when priorities compete (economic realities, priorities of different groups within or using the church, etc.)?

3. What issues or potential toxics should be covered in the policy? You will want to consider cleaning products, plastics, carpets, perfumes or colognes, furniture, building and repair supplies, pesticides, machine fuels, etc. For instance, should the church be fragrance free, in order to be more welcoming to those with chemical sensitivities? Would the community be best served by a general guideline, or very specific protocols?

4. What is the projected timeline for the policy? How soon could it get written? Implemented? How could the new policy be publicized and celebrated?

Invite the small groups to reconvene and share their recommendations with the large group. If there is interest in pursuing the policy, have one or several people agree to take responsibility for bringing the idea to the governing board of the church.

ACTIVITY 4: USING OUR PUBLIC VOICE (10 Minutes)

Leader reads:
In addition to witnessing through our own policies as faith communities, the church is called to use its public voice to change the way we operate as a society. This means publically speaking out for policy changes that make our environment safer for all of God’s Creation.

Pass out the sample letters to Congress, and lead the group in brainstorming around two questions:
1. Who are our members of Congress we should send these letters to?

2. How can we encourage and facilitate people in our churches also sending these letters?
### Appendix

#### ROLE PLAY DESCRIPTIONS FOR BODY BURDEN ACTIVITY IN SESSION 3

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mary is an eight-year old who lives in Alaska. She eats a native diet of</td>
<td>Scoop 1/2 cup of nuts into a bowl. Mary drank from a bottle and sippy cup as a child that contained bisphenol-a, or BPA, and continues to eat canned food three days a week with BPA. Add 1/4 cup of raisins into the bowl. There is also an old military site within one mile of where she lives that contains polychlorinated biphenyls. Place 1/2 cup of granola into the bowl.</td>
</tr>
<tr>
<td>Jose is 70 years old. He worked in the agricultural fields of California for 30 years where he was exposed to pesticides. Put 1/2 a cup of granola in your bowl. Jose has furniture from before 2008 that contain PBDE flame retardants. Place 1/8 cup of chocolate in the bowl. He also lives in a neighborhood that is within one mile of a municipal landfill. Add 1/4 cup of granola into the bowl. At his age, Jose has lived through a time when other toxic substances which are now banned were in heavy production, such as DDT. Add an additional 1/8 cup of nuts to the bowl.</td>
<td></td>
</tr>
<tr>
<td>Monique lives in Louisiana and is a 30 year-old African American. There is a chemical plant in the community where she lives. Place 1/4 cup of granola into the bowl. Monique lives on $20,000 a year and depends on canned food to feed her two kids. Place two tablespoons of raisins into the bowl. Monique uses ten personal care products a day including deodorant and makeup. Place two tablespoons of chocolate into the container. Monique works as a nail cosmetologist. Place 4 tablespoons of chocolate into the bowl. Her apartment has been treated with pesticides to prevent unwanted pests from entering. Add 1/8 cup of granola into the bowl.</td>
<td></td>
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<tr>
<td>Bob is a 40 year old white male. He uses an average of seven personal care products with 70 chemicals in them daily. Add 4 tablespoons of chocolate to the bowl. Bob uses cleaning products from his grocery store to clean his house. Add one tablespoon of chocolate. Bob cooks with a set of Teflon pans he bought in 2008. Place 1/4 cup of granola to the mix. Bob earns $80,000 and lives more than five miles from any chemical or toxic waste facilities. Bob does enjoy eating tuna sandwiches twice a week for lunch. Add 1/8 cup of nuts to his bowl.</td>
<td></td>
</tr>
</tbody>
</table>
“And God said, ‘Let the waters bring forth swarms of living creatures, and let birds fly above the Earth across the dome of the sky.’ So God created the great sea monsters and every living creature that moves of every kind, with which the waters swarm, and every winged bird of every kind. And God saw that it was good.” Genesis 1:20-21

From the beginning, God has blessed Creation. God entrusted humankind to be stewards of all living things, to care for them as God does. Yet we haven’t always filled this mandate. We have polluted the waters, soil, plants, animals, air, and people that God made good. One source of pollution is from toxic chemicals used in industrial processes, cosmetics, pesticides, cookware, furniture, and natural resource extraction. Some of these chemicals have lasting effects that can harm future generations of wildlife and humans. Below are some examples of chemicals of concern and their impacts on God’s Creation.

**Persistent Bioaccumulative Toxic Chemicals (PBTs) in Arctic Species**

PBTs persist for many years in the environment, pass at a greater level of toxicity from one species to another species when consumed, build up in fatty tissue, and are acutely toxic. PBTs can even end up in breast milk. Some PBTs include DDT, polychlorinated biphenyls (PCBs), and halogenated flame retardants such as PBDEs and chlorinated tris.

While levels of persistent organic pollutants (POPs), a subset of PBTs, has gone down thanks to the Stockholm Convention (although the U.S. is not a signatory), levels in arctic species have not. PBTs and POPs tend to float to the earth’s poles. This means that arctic species have higher levels of PBTs. As the ice is melting, PBTs and other toxics that were once locked in the ice are now in the arctic waters. Studies have found that polar bears now have weakened immune systems and have difficulty reproducing. Since they are at the top of the Arctic food chain, these impacts will spread throughout the ecosystem. Some of these chemicals are also EDCs. Research suggests that polar bears have the highest levels of POPs than any other animal on the planet.8

**Endocrine Disrupting Chemicals in Bony Tailed Chub- Santa Cruz River, Arizona**

Endocrine disrupting chemicals (EDCs) alter normal functioning of hormones which can interfere with reproductive, neurological, and physical development. These changes may increase chances of fertility challenges, behavioral issues, and chronic disease. In rivers across the country, scientists and naturalists have witnessed an increase in intersex fish and amphibians.

The University of Arizona studied the effect of EDCs on bony-tailed chubs from EDC sources including soaps and detergents, flame retardants, and plasticizers. UA exposed the native fish to wastewater with low levels of endocrine disruptors over the course of the year. They found that within the year, the male bony-tailed chub had as many female hormones as the female fish. The EDCs were strong enough to feminize the male fish. The existence of high levels of EDC’s in the fish suggests continued impacts of these chemicals as they build up in our air and waterways.

**Family Pets and Cancer**

Pets, especially indoor pets, are vulnerable to cancer from the indoor toxics in rugs, furniture, plastics, and other consumer goods that migrate into house dust. Pet collars, lawn care chemicals, and runoff from cars into street puddles may also harm your dog or cat. One study found higher levels of synthetic chemicals in pets than in humans, including newborns.10

**Toxic Chemical’s in Children and Newborns**

One source of harmful chemicals comes from industrial practices. Factories can emit chemicals linked to cancer and birth defects. These chemicals, called endocrine disruptors (EDs), are also used to grow our food, make children’s toys, mattresses, cleaning products, and other goods.

Our bodies can mistake these chemicals for hormones, changing the fundamental mechanisms our bodies use to regulate reproduction, respond to stress, and other basic body functions. Among other concerns, EDs can lead to early puberty in girls and affect the sperm quality in boys. Early puberty is more prevalent in communities of color and it is an early indicator of breast cancer. Poor sperm quality is linked to infertility in men.11

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11 “Puberty Before Age 10: A New ‘Normal’?” articles.mercola.com/sites/articles/archive/2012/04/16/early-precocious-puberty.aspx
We are all fearfully and wonderfully made—and made in God's image. But what happens when chemicals and other environmental contaminants interfere with God's handiwork? Synthetic chemicals in the air we breathe, food we eat, water we drink, and products we use in our homes and houses of worship may interfere with the way that hormones act in our bodies, especially during critical moments of development. No time is more critical than fetal and childhood development. Yet this is also the most fragile moment. As people of faith we are called to create safe environments for them to grow, recognize children as sacred, and respect life on Earth.

Maternal Health
In 2005 we learned that chemicals can actually pass through the placenta and into the body of the developing fetus. In fact, samples of newborn cord blood from the American Red Cross found on average the presence of 200 chemicals.¹²

We now know that the bodies of virtually all pregnant women in the United States carry multiple chemicals, including some banned since the 1970s and others used in common products such as non-stick cookware, processed foods, and personal care products, according to a study done by the University of California at San Francisco and published in January, 2011 in Environmental Health Perspectives. The study marks the first time that the number of chemicals to which pregnant women are exposed has been counted.

Researchers from the UCSF study detected a chemical alphabet soup containing polychlorinated biphenyls (PCBs), organochlorine pesticides, perfluorinated compounds (PFCs), phenols, polybrominated diphenyl ethers (PBDEs), phthalates, polycyclic aromatic hydrocarbons (PAHs) and perchlorate in 99 percent of pregnant women. Bisphenol A (BPA), which is used to plastic hard and clear, and is found in epoxy resins that are used to line the inside of metal food and beverage cans, was identified in 96 percent of the women surveyed.

These chemicals found in pregnant women in the UCSF study have been linked to birth defects in newborn babies and health and behavioral issues that begin during the prenatal period but don't become evident until years later.¹³

The incidence of birth defects to the male reproductive system has also gone up. The evidence that these problems are linked to prenatal exposures and that the same hormone disruption that is linked to these birth defects can also result in impaired male fertility and testicular cancer many years later is also growing. In some highly contaminated communities, fewer baby boys are being born. Prenatal exposure to these chemicals is even being linked to changes in the amount of aggressive behavior in boys and girls. Prenatal exposure to toxic chemicals in the air is also linked to behavioral issues such as depression and ADHD in children.¹⁴

Children’s health
Unlike adults, children's bodies are still developing. This means that their organs, hormones, and other bodily functions may be more susceptible to the negative effects of some chemicals. Pound for pound, children breathe more air, drink more water, and eat more food than adults.¹⁵ They also do not metabolize chemicals as quickly or as well as adults.

One source of harmful chemicals comes from industrial practices. Factories can emit chemicals linked to cancer and birth defects. These chemicals, called endocrine disruptors (EDs), are also used to grow our food, make children’s toys, mattresses, cleaning products, and other goods.

Our bodies can mistake these chemicals for hormones, changing the fundamental mechanisms our bodies use to regulate reproduction, respond to stress, and other basic body functions. Among other concerns, EDs can lead to early puberty in girls and affect the sperm quality in boys. Early puberty is more prevalent in communities of color and it is an early indicator of breast cancer. Poor sperm quality is linked to infertility in men.¹⁶
Other chemicals of concern are neurotoxins which can affect brain development in a child, contributing to learning, intellectual, and developmental disabilities. Examples of neurotoxins include pesticides, lead, mercury, and cadmium. One study of the effects of pesticides on Mexican children found a startling difference in neurodevelopment when both exposed and unexposed children were asked to draw pictures.

Ideas on how to make your home and house of worship a healthy, toxic-free environment for kids

1. Serve food grown without pesticides or peel and wash all conventional fruits and veggies.

2. Purchase toys that are PVC-, phthalate-, and BPA-free. Or purchase wood toys.

3. Use cleaners free of triclosan or triclocarban, quaternary compounds, chlorine bleach, and ammonia.

4. Regularly vacuum and sweep and leave shoes at the door to reduce exposures to toxics in house dust.

Additional Links and Resources

1. Check toy or personal care product toxicity at healthytoys.org and cosmeticsdatabase.org.


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12 Ewg.org/reports/bodyburden2/newsrelease.php
13 Eph03.niehs.nih.gov/article/infodoi/10.1289/ehp.1002727
15 “Our Children’s Health.” Healthychild.org/about/our_childrens_health/
16 “Puberty Before Age 10: A New ‘Normal?’” articles.mercola.com/sites/articles/archive/2012/04/16/early-precocious-puberty.aspx
17 “Scientific Frontiers in Developmental Toxicology and Risk”. Committee on Developmental Toxicology, Board on Environmental Studies and Toxicology.
18 “An Anthropological Approach to the Evaluation of Preschool Children Exposed to Pesticides in Mexico”. Ncbi.nlm.nih.gov/pmc/articles
TOXIC SCAVENGER HUNT

In this activity we will go through the church and explore different rooms for toxic chemicals. In advance of this activity, consider seeing if your maintenance staff or church administrator is available to answer some questions about the products currently being used in the church. Other great people to have on hand for an interview are the director of children’s education and the nursery to ask questions about items in the nursery and education areas.

Break the large group into four groups. These groups should each tackle a room in the building. While in the room, they can look at what the toxic items might be and read ideas for safer alternatives. If you arranged for the maintenance staff, church administrator, and/or the director of children’s education to be on hand, assign two groups to additionally meet with these two people and use the guiding questions for interviews listed in this guide.

Nursery and Classrooms
Nurseries and classrooms are where most babies and kids spend Sunday morning while their parents are in church. It is important to make this space particularly toxic-free.

Baby wipes—Are there anti-bacterial wipes in the nursery for baby or adults? If so, do they have fragrance? Are they listed with having antibacterial properties with chemicals such as triclosan? Other chemicals of concern go by the hard to pronounce: Benzalkonium chloride, n-Alkyl or alkyl dimethyl benzyl ammonium chloride, Alkyl Dimethyl Ethylbenzyl Ammonium Chloride, and Didecyl dimethyl ammonium chloride. This last group are also known as ammonium quaternary compounds or “quats.”

Diapers—Non cloth diapers contain plastics, glues and adhesives that can build up in God’s Creation.

Toys—Toys made of metal or plastic, or that are painted may contain toxic chemicals such as cadmium, tin, phthalates or PVC (vinyl). In fact plastic vinyl toys can contain all of these chemicals and more. These chemicals are an assortment of neurotoxins, endocrine disruptors, and suspected carcinogens. If you find toys made of hard, clear plastic, they might contain BPA which is linked to ADHD, cancer, infertility, and type II diabetes.¹⁹

Baby mattresses, strollers, and changing table pads—These items, especially those made of polyurethane foam, likely contain chlorinated-tris, a flame retardant that was removed from children’s pajamas in the 1970s in California as a suspected carcinogen or mutagen.

Baby bottles and sippy cups—At the end of 2011, the chemical industry announced that they no longer use BPA in baby bottles or sippy cups, but technically neither the FDA nor Congress has banned BPA as of the summer of 2012. However, ten states have banned BPA in baby bottles and sippy cups. If a bottle or sippy cup says PC on it or perhaps if it says #7 it likely has BPA in it. Additionally, while most of the large manufacturers of canned infant formula have moved to store infant formula in non-BPA devices, a few still do use BPA.

Paint—If the nursery or any room in the church has not been painted since 1976, it likely contains lead- a neurotoxicant that can decrease a child’s I.Q., contribute to learning disabilities, and also cause infertility. Paints with high volatile organic compounds may be harmful for the brain and intellectual development too. Perhaps check with your building administrator about what kind of paint they use.²⁰

Bathroom
Kids get into all kinds of things throughout the day and an awful lot of hand washing goes on. Make sure that bathroom cleaners are non-toxic.

Soap—Does your bathroom have anti-bacterial soap? These soaps should be avoided as they may contain chemicals that can reduce your ability to fight viruses, especially soaps that contain triclosan or triclocarban. Quaternary ammonium compounds or “quats” are also suspected of antibacterial resistance. They go by the hard to pronounce names: benzalkonium chloride, n-Alkyl or alkyl dimethyl benzyl ammonium chloride, alkyl dimethyl ethylbenzyl ammonium chloride, and didecyl dimethyl ammonium chloride. If it contains the word fragrance, it likely contains chemicals linked to cancer, reproductive challenges, and type II diabetes.²¹
Cleaning products—Again, check here for “quats,” fragrance, triclosan, and glycol ethers (which indicates the presence of formaldehyde). Cleaning products can contain chemicals linked to fertility challenges, asthma, cancer, allergies, and other health concerns.

Note: This is an opportunity to speak with the building manager or janitorial staff. Here are some sample questions:

1. What kind of products do you use to clean the building?
2. What criteria exist in your purchasing decisions? Is the health and safety of God’s children and Creation considered?
3. Do cleaning staff use any protective equipment when applying the cleaning agents?

If the cleaning staff currently is not using toxic-free cleaning products, suggest they could look for products that don’t contain the ingredients listed above or that they could try cleaning with vinegar and water.

Kitchen
While children may not spend a lot of time in the church kitchen, they may benefit from some tasty treats coming out of the kitchen. Make sure that food preparation and storage is non-toxic.

Pots and Pans—Do you find Teflon pans, especially ones with scratches on them? Teflon contains perflourinated chemicals. PFCs may harm growth, development, reproduction and some are linked to cancer.22

Saran Wrap—Saran wrap also contains perflourinated chemicals.

Canned food—Most brands of food cans are coated with bisphenol-a (BPA). BPA is linked to early puberty, cancer, type II diabetes, ADHD and heart disease.23

Candles—Do the candles have scent? If the fragrance is from pure essential oils, they are probably fine. However, candles made from synthetic fragrances can contain a host of chemicals that companies do not have to disclose, including chemicals linked to obesity and reproductive harm such as phthalates.24

Foam cushions—The cushions in the pews could be made of polyurethane foam. If so, they likely contain flame retardants. Flame retardants have not been shown to reduce chances of preventing a product from catching on fire any more than a non-treated cushion, but they may contain chemicals linked to cancer and genetic mutation such as chlorinated tris.25

Church Office

Computer—Computers manufactured before 2006 contain PBDE flame retardants linked to thyroid disease, cancer, and ADHD. They are persistent, bioaccumulative and acutely toxic.26

Particle board wood—Particle board products may contain formaldehyde, a known carcinogen. While the rate of formaldehyde emission decreases overtime, it is still dangerous.27

20 “Volatile Organic Compounds in Your Home.” Health.state.mn.us/divs/eh/indooralr/voc/
23 See “Toys”
24 See “Soap”
25 See “Fire Retardants.” Ewg.org/healthyhometips/fire retardants
26 See “Foam Cushions”
Here is a list of common chemicals that children may be exposed to in their church, home, or school. Use this list for the Toxic Scavenger Hunt or as your own personal checklist for auditing your own home.

**Bisphenol-A (BPA)**

Found in 92 percent of the U.S. population (Center for Disease Control (CDC)), BPA is commonly found in the linings of aluminum cans, some infant formula cans, hard, clear plastic bottles labeled PC or #7 PC (not all #7 plastics contain BPA) but no longer used in baby bottles or sippy cups. Found also in some tableware and dental sealants, BPA is linked to breast and prostate cancers, cardiovascular disease, behavioral issues in children, delayed puberty, obesity and type II diabetes.

**Chlorinated Tris**

Removed from use in children’s pajamas in 1977 under suspicion to cause cancer and mutations, it remains a top flame retardant in foam used in furniture, baby products and carpet pads. It is a replacement for PBDE flame retardants in nursing pillows, furniture, strollers, playpens, and changing table pads. When possible, seek items without flame retardants by avoiding products that contain polyurethane foam that meets the California furniture flammability standard (TB117).

**Formaldehyde**

Formaldehyde is used as a disinfectant and is found in synthetic resins, wood, dyes, and plastics products. It is used in building materials, fuel-burning appliances, adhesives, and paints. It is a contaminant in some personal care products like some baby shampoos. Associated health effects include cancer, infertility, skin irritations, and respiratory illness.

**Lead**

Lead is used in building construction, batteries, pipes, vinyl PVC, other metals, and some lipsticks and face paint. Although lead has been phased out of paint and gasoline, lead paint in old houses and in toys still poses a threat to children and pregnant women. PVC toys, painted toys, and metal toys manufactured after 2009 are less likely to contain lead. Lead is linked to fertility challenges, cognitive impairment, developmental delays, and chronic renal disease.

**Mercury**

The main sources of mercury include coal-fired power plants, waste incinerators, and industrial boilers with exposure coming primarily through fish consumption once mercury leaves the atmosphere and enters waterways. Mercury is linked to birth defects, heart disease, nervous system disorders, and mental retardation. Women of child-bearing years should limit consumption of fish with high mercury levels especially as sushi.

**Perfluorochemicals (PFCs)**

PFCs are used in food packaging, clothing, furniture, and non-stick cookware to make products water, grease, stain, and heat resistant. PFCs may harm growth, development, reproduction and some are linked to cancer. The CDC found PFC exposure to be widespread across the U.S. population. In 2006, the eight largest users and producers of PFOA, a PFC the EPA designated a likely human carcinogen, signed an agreement with the EPA to virtually eliminate PFOA pollution by 2015.

**Phthalates**

Phthalates are used to make plastics, like PVC (vinyl), more flexible and to enable personal care products and detergents to hold scent. They are found in toothbrushes, automobile parts, PVC toys produced before 2009, personal care products, and food packaging. They are linked to birth defects, hormonal changes, and infertility.

**Polybrominated Diphenyl Ethers (PBDEs)**

Until 2004, PBDEs were used as flame retardants in furniture, carpet, and baby products with foam. One PBDE is still used in electronics but will be phased out by 2013, however items with PBDEs remain in many homes. There is no data to show their use provides fire safety. As PBTs, they persist for a long time, especially in furniture. Low-income households have higher levels of PBDEs. PBDEs are linked to reduced IQ in children, thyroid changes, lowered fertility in women, and lowered sperm count in men. Some replacements are from the same chemical family and may lead to similar health problems.

**Parabens**

Parabens are a common preservative often found in liquid-based personal care products. They are a suspected endocrine disruptor and carcinogen, especially linked to breast cancer. Ammonium Quatenary Compounds ("quats"). Found in disinfectant sprays and toilet cleaners; known cause of occupational asthma. Quats are associated with fertility problems and birth defects.

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28 For more information on these chemicals and many more, visit the Chemical Index of the Environmental Working Group at ewg.org/chemicalindex/list
Our bodies are temples to the Holy Spirit, but where we live, work, play, and pray can expose us to toxic chemicals that are linked to chronic diseases. Some chemicals we are exposed to everyday, sometimes multiple times per day. These chemicals may leave our bodies that day but through continual exposure cause harm. Other chemicals may build up in our bodies over the course of our lifetime and settle in fat tissue. Demographic factors such as age, race and ethnicity, and class can leave some of us more vulnerable to the chronic diseases and health conditions associated with toxic chemicals of all varieties.

Chemical Exposures among Low-Income African Americans and Latinos

Studies show that toxic waste sites, industries, bus depots, and trash transfer stations are more likely to move into low-income communities, particularly low-income communities of color. Additionally, many discount stores and dollar stores, especially in low-income neighborhoods, carry high numbers of toxic products. Lastly, inner-city apartment complexes may expose low-income residents to greater amounts of pesticides used to control bug and rodent infestations. According to the U.S. Bureau of Labor Statistics, African American men and Latinos are less likely than Whites or Asian Americans to work in management and professional fields. They instead concentrate in service, manufacturing, agriculture, construction, and transportation sectors and likely work more closely with solvents, pesticides, adhesives, and preservatives. Additionally, African Americans are more likely than Whites to live in neighborhoods that have high levels of air pollution.29

The Learning and Developmental Disabilities Initiative examined the Centers for Disease Control and Prevention’s Third National Report on Human Exposure to Environmental Chemicals and found that African Americans and Latinos had higher levels of exposures to toxic chemicals—some chemicals which have been long banned such as DDT. As of the printing of this guide, scientists are just starting to come out with analysis of the CDC’s Fourth Report on Human Exposures to Environmental Chemicals. One study found that PBDE exposure, a class of flame retardants that industry just stopped producing, was higher in African Americans than in Whites. PBDEs are persistent bioaccumulative and toxic chemicals (PBTs). Lead and phthalates are just two other chemicals that are higher among African Americans.30

Chemical Exposures among Alaskan Native Populations

Alaskan Native populations have higher levels of PBTs and rates of birth defects than most people in the lower 48 states. PBTs build up in the bodies of species such as fish, are carried with them into the body of whatever species consumes them, and accumulate in greater quantities as they move up the food chain. Additionally, they migrate through water and air currents to the North and South poles so there are even greater quantities of toxic chemicals here than perhaps even where the chemicals were originally produced. As the arctic ice is melting due to climate change, additional chemicals are melting into the water. PBTs are linked to birth defects, cancers, Parkinson’s disease, and other health concerns.31

Chemical Exposures Related to Age

Children are more vulnerable than adults to toxic chemicals because they eat more, drink more, and breathe more pound for pound than adults. They also cannot process chemicals as quickly as adults and these chemicals can interfere with critical stages of development which can lead to health concerns later in life. Studies already find that chemical exposures are linked to the falling age of puberty in girls and an increase in childhood cancers.32 An emerging field of epigenetics is finding that chemical exposures in the womb can actually change DNA and pass on these gene mutations to seven generations on down.33

Older adults—seniors—carry with them a body burden of chemicals that has accumulated throughout their lifetime, many of which are PBTs. Some of these chemicals are very harmful, such as pesticides linked to Parkinson’s disease and lead and other heavy metals are linked to Alzheimer’s disease. Already on the rise, rates of Parkinson’s disease will triple and Alzheimer’s disease will double by 2030.34

30 For more on both these reports visit: cdc.gov/exposurereport
33 “Epigenetics and Environmental Chemical Exposure.” Enviroblog. org/2009/02/epigenetics-environmental-exposures.html
34 Alzheimer’s and Parkinson’s Disease.” Healthreport.saferchemicals.org/alzheimer’s_parkinsons.html
FOUR STEPS TOWARDS HEALTHY AGING

“Or do you not know that your body is a temple of the Holy Spirit within you, which you have from God, and that you are not your own? For you were bought for a price, therefore glorify God in your body.” 1 Corinthians 6:19-20.

In this scripture, Paul teaches us that our bodies are meant to be temples of the Holy Spirit and we should treat them with care. But our diets and consumer behaviors, chosen or imposed on us, do not always reflect healthy living. Obesity, type II diabetes, and heart disease are three prevalent health concerns in the United States. In addition to genetic factors, studies find that diet, lack of exercise, and chemical exposures can increase the likelihood of someone developing these health conditions. What is perhaps more surprising is that scientists have also discovered a link between these conditions and Alzheimer’s disease, especially in middle age. Incidences of Alzheimer’s disease are expected to triple by 2030. Some of the factors that cause these health concerns also increase chances of developing Parkinson’s disease. Incidences of Parkinson’s disease are expected to double by 2030. But the Good News is that there are things we can do today to prevent these health conditions and even reverse their symptoms. Follow the four steps below. Many of these same factors can help reduce cancer risks too.

**Diet**—Eating a diet rich in whole grains and vegetables that represent the color of the rainbow and not overeating will reduce stress in the body.

**Exercise and Activity**—Regular activity such as walking, yoga, and cycling can produce antioxidants to reduce stress in your body and burn fat and calories to maintain a healthy body weight.

**Chemical Exposures**—By doing what we can, within reason, to reduce chemical exposures from heavy metals, solvents, pesticides, and some chemicals found in plastics or food cans such as BPA, phthalates, and PVC, we can reduce risk factors related to obesity, Alzheimer’s disease, and Parkinson’s disease. See the *Chemical Alphabet Soup* fact sheet for more specifics on chemicals to avoid and where to find them.

**Community**—By spending time with others, especially among people of different generations, you can keep your mind alert and perhaps even find opportunities to be a mentor or receive mentorship.

HEALTHY AGING BIBLE STUDY #1

“Where two or more are gathered, there I am among them.” Matthew 18:20.

What is the importance of building a community of faith? What kind of community should we strive to build?

Now consider this:
Many seniors live in isolation yet studies have found that social engagement can help improve brain functions. In particular, one study found that intergenerational activities can improve the brain functions of both children and seniors such as tutoring sessions.

What is the value of an intergenerational community with intergenerational activities? Do you think your congregation provides opportunities for intergenerational engagement? In what ways? How could this effort be strengthened?
“One of the dinner guests, on hearing this, said to him, ‘Blessed is anyone who will eat bread in the kingdom of God!’ Then Jesus* said to him, ‘Someone gave a great dinner and invited many. At the time for the dinner he sent his slave to say to those who had been invited, ‘Come; for everything is ready now.’ But they all alike began to make excuses. The first said to him, ‘I have bought a piece of land, and I must go out and see it; please accept my apologies.’ Another said, ‘I have bought five yoke of oxen, and I am going to try them out; please accept my apologies.’ Another said, ‘I have just been married, and therefore I cannot come.’ So the slave returned and reported this to his master. Then the owner of the house became angry and said to his slave, ‘Go out at once into the streets and lanes of the town and bring in the poor, the crippled, the blind, and the lame.’ And the slave said, ‘Sir, what you ordered has been done, and there is still room.’ Then the master said to the slave, ‘Go out into the roads and lanes, and compel people to come in, so that my house may be filled. For I tell you, none of those who were invited will taste my dinner.’” Luke 14:15-24

What does this parable teach you? In what ways does your church reach out to the broader community around your church or provide ministries that help people in need?

Older adults have the highest poverty rates of any age group in the U.S. People of color are also more likely to live in poverty as often times economic and racial disparities are uniquely bound. Poverty, as well as lack of access to health care, the presence of toxic waste and industrial facilities in communities where older adults live, lack of access to fresh, healthy produce, and walkable, safe streets are all social stressors that can contribute to health outcomes. How might your church break down some of these barriers to help improve the health of seniors in or around your congregation, neighborhood, or city?
“Then Jesus, filled with the power of the Spirit, returned to Galilee, and a report about him spread throughout all the surrounding country. He began to teach in their synagogues and was praised by everyone.

When he came to Nazareth, where he had been brought up, he went to the synagogue on the Sabbath day, as was his custom. He stood up and read, and the scroll of the prophet Isaiah was given to him. He unrolled the scroll and found the place where it was written: ‘The Spirit of the Lord is upon me, because he has anointed me to bring good news to the poor. He has sent me to proclaim release to the captives and recovery of sight to the blind, to let the oppressed go free, to proclaim the year of the Lord’s favor.’

And he rolled up the scroll, gave it back to the attendant, and sat down. The eyes of all in the synagogue were fixed on him. Then he began to say to them, ‘Today this scripture has been fulfilled in your hearing.’ All spoke well of him and were amazed at the gracious words that came from his mouth. They said, ‘Is not this Joseph’s son?’ He said to them, ‘Doubtless you will quote to me this proverb, ‘Doctor, cure yourself!’ And you will say ‘Do here also in your hometown the things that we have heard you did in Capernaum.’ And he said, ‘Truly I tell you, no prophet is accepted in his hometown.’” Luke 4:14-24

“He who passively accepts evil is as much involved in it as he who helps to perpetrate it. He who accepts evil without protesting against it is really cooperating with it.” Martin Luther King, Jr.

“The nice thing about Benedict is that he knew the value of public witness. So many times we do good as if it were evil, quietly, silently, so no one will see it, so we don’t cause a stir. Not Benedict, he made a public act out of what was at first a Beneficence but then became a moral teaching. Have you ever taken part in a public demonstration? Why not? If you really believe in an issue, why deal with it only in private?” Sister Joan Chittister. The Radical Christian Life: A Year With Saint Benedict.

1. Jesus spoke out about resisting oppression. He was brave to do so, knowing he would be rejected. In this passage, Jesus has just brought healing and prophecy to other places, and he has made a name for himself. He is speaking the words of Isaiah 61 to the people of his hometown. What makes it harder to speak difficult truths to those you have known a long time? What barriers might prevent someone from speaking out in general?

2. Focus on the scroll from Isaiah in the first reading. What is our responsibility as Christians? How can we tackle hard conversations or move past barriers that prevent us from speaking up when our faith calls us to action?

3. The words of Sister Joan Chittister and Reverend Martin Luther King, Jr. both speak of evil. King says that by not speaking up that we are complacent with the evildoing. Sister Joan echoes this and encourages us to be bold with our actions for good. Can you think of a time when you acted boldly for a cause you cared about in your church, school, community, or world? Did your moral values play a role in that decision?
U.S. House of Representatives

Dear Representative

I urge you to protect children’s health, God’s Creation, and low-income communities from unregulated toxic chemicals. As a Christian, my faith teaches me that we have a mandate to protect all Creation for the generations to come after us. My religious values also call me to help those in poverty who are disproportionately exposed to toxic chemicals. Lastly, children, our nation’s future, are most vulnerable to the threats of toxic chemicals. They can harm their neurological, hormonal, and physical development.

Please join me and people of faith across the country in calling for stronger protections from toxic chemicals in the products in our homes, workplaces, schools, and houses of worship.

Sincerely,

U.S. Senate

Dear Senator __________________________________________,

I urge you to protect children’s health, God’s Creation, and low-income communities from unregulated toxic chemicals. As a Christian, my faith teaches me that we have a mandate to protect all Creation for the generations to come after us. My religious values also call me to help those in poverty who are disproportionately exposed to toxic chemicals. Lastly, children, our nation’s future, are most vulnerable to the threats of toxic chemicals. They can harm their neurological, hormonal, and physical development.

Please join me and people of faith across the country in calling for stronger protections from toxic chemicals in the products in our homes, workplaces, schools, and houses of worship.

Sincerely,
A LITANY OF HEALING

Loving God, we invite your healing Spirit to work in and through us in all aspects of our lives.

We ask you to heal us of our most profound injury—the pain of being separated from you. Bind up our soul’s old wounds. Remove from us our sense of failure or inadequacy, our guilt or shame, our smugness, pride, or anger—anything that keeps us from throwing ourselves into your sustaining arms. We pray for others who do not yet know, love, or trust you. (Silence) Lord, in your mercy,

**People:** Hear our prayer.

Loving God, we ask you to heal the suffering of your people. We pray for the relief from pain in the bodies, minds, and spirits of ourselves and those we name now. . . . . . We pray that you would restore all to health and relationship, as seems best to you. We pray for those who have died, especially _______, and for those who mourn. (Silence) Lord, in your mercy,

**People:** Hear our prayer.

Loving God, we ask you to heal our communities. Be active in your churches, and pull us into union with you and one another, on fire with the Gospel of love and transformation. Bring resurrection into our towns, cities, and countries, that these may become more just, more compassionate, and more sustainable places. (Silence) Lord, in your mercy,

**People:** Hear our prayer.

Loving God, we ask you to heal our planet. Change our hearts and our habits, that we may value and cherish what you created, from the largest ocean to the tiniest cell. Give us courage to challenge the consumptive way of life and be satisfied with what we have, trusting in you to provide all we need. (Silence) Lord, in your mercy,

**People:** Hear our prayer.

We thank you for all your blessings, especially. Hold our hearts in a place of gratitude, that we may never forget that in you we live and move and have our being. (Silence) Lord, in your mercy,

**People:** Hear our prayer. **Amen.**
The National Council of Churches Eco-Justice Program develops materials and reports to help congregations celebrate and care for God’s Creation. For more information about the Program, to make a donation, or for additional resources, visit www.nccecojustice.org or email info@nccecojustice.org. For more information on how your congregation can practice stewardship of God’s Earth or for fact sheets on the topics covered in this report visit www.nccecojustice.org or contact info@nccecojustice.org