

# Year Care Team Booklet

Year 12 and 13

(Circle Time)

**Objective: To have a deep understanding of environmental issues**



## Topic 1: Air Pollution



### Task 1: What are the consequences of air pollution on your body? How can we create air pollution?

Air pollution: it's what makes your hair smell, your whites turn grey, your eyes burn and your cough even worse. Air pollution is a modern hazard, one that gets worse as we continue to burn fuel and pump out noxious gases. Yet air pollution isn't just something that happens on a global scale and that we have no hand in. Every time we burn

rubbish, start up the car, light a cigarette, use an aerosol spray and send out waste to landfills we are at fault for polluting the air around us. Thankfully, with a little more effort we can all greatly reduce our pollution contribution.

### ***What is Air Pollution?***

Clean air is made up of only a few main ingredients - nitrogen, oxygen, and water (vapour). As we have industrialised, our cities have grown and traffic has increased. With these developments there has come an increase in the number of by-products released into the air, such as particles from burning fuels and noxious gases from the many chemical reactions that occur every day. These gases, including carbon monoxide and nitrogen oxides, are not natural to the composition of air, and so become pollutants.

### ***What is Indoor Air Pollution?***

Indoor air pollution is a growing concern as well. In addition to the pollution in our "fresh" air outside, our lifestyles also result in air pollution inside our very own homes. Many contributing factors to indoor air pollution include:

- Asbestos in the building and insulating materials of the building.
- Carbon monoxide leaking from appliances and/or heating equipment.
- Formaldehyde in furnishings, carpets and panelling.

- Outdoor air pollution that filters in through doors and windows.
- Fumes from cleaning products.
- Chemicals released from cigarette smoke.
- Mould growing in damp areas.
- Particles released from burning wood.
- Lead, particularly from pipes and older types of paint.
- Radon leaking in through floors, walls and even drains.
- Personal and health care products that contain aerosols.
- Air conditioning and heating systems that recycle this polluted air.

### *Why Does Air Pollution Matter?*

Air pollution has direct consequences for all of us. On a large scale, air pollution results in:

- Smog - pollutant particles that often mix with fog and restrict visibility.
- Acid rain - rain, snow, fog and even mist layered with pollution.
- The Greenhouse Effect - a condition in which pollution stops radiation from travelling out of the Earth's atmosphere. This upset to the natural process means that temperatures on Earth may not be maintained within natural ranges.

- Global warming - temperatures on Earth become warmer due to the Greenhouse Effect.
- Holes in the ozone layer - this layer of ozone naturally keeps ultra-violet rays from the sun from reaching Earth. Holes make it possible for the rays to reach us.

### ***But How Does Air Pollution Affect Us?***

The wide-reaching effects of air pollution may seem remote from your own life, but they aren't. Air pollution has local effects as well, and can:

- Irritate your eyes, noses, throats and respiratory tracts.
- Make your hair and clothes smell bad.
- Bring on or worsen asthma attacks.
- Create coughs, runny noses and watery eyes as your body tries to clear pollutants.
- Cause headaches.
- Dull and dirty your clothes, especially white and light colours.
- Contribute to bronchitis and pneumonia.
- Increase your risk of skin cancer from ultra violet rays.
- Increase your risk of lung cancer.
- Change the climate to such a degree that natural disasters may occur.

## *So How Can You Combat Air Pollution?*

Don't let all the bad news about air pollution get you down because the good news is that there are many ways to help combat the problem. Every one of us can employ a variety of air pollution solutions, including:

- Quitting smoking.
- Choosing organic and natural cleaning and personal care products.
- Driving less and carpool more.
- Keeping your heating low and put on a sweater or blanket when you get cold.
- Installing a carbon monoxide detector in your home.
- Saving energy by turning off and unplugging unused appliances.
- Having your house inspected for lead and asbestos.
- Being on guard against damp and mould.
- Nurturing trees and plants.

Recycling as much of your waste as possible, including:

- Paper.
- Cardboard.
- Plastics.
- Glass.
- Metal.

**Air pollution is a major problem for our planet, and it can affect you before you even realise it. Now that you understand more about how air pollution affects both you and the Earth, be on guard against contributing to the problem. Educate those around you, and soon we'll all be breathing easier!**

## Topic 2: Climate Change



It's frightening to think that so much of life is out of our control, including possibly life-altering phenomena such as weather patterns and climate change. Sure we can combat a downpour with an umbrella or a heat wave with a fan, but what about the larger picture? What will we do if icebergs melt and the oceans swell, if crops die out because of scorching sunlight and skin cancer becomes rampant because we've punched too many holes in the ozone layer? Where will our children play if we use all of our grasslands for landfills and what will happen if whole species become extinct if we destroy their natural habitats? If this dire view of the future frightens you, read on for more information on how you can combat climate change.

## **Task 1: Facilitate group discussions on the followings:**

### ***Climate Change Review***

"Climate change" is a fairly self-explanatory term. When a location experiences changes in its climate over a given period of time, we can technically say that climate change has occurred. More often the phrase "climate change" is used synonymously with the terms "global warming" and "greenhouse effect" to describe the warmer temperatures that result when man-made gases such as carbon dioxide and nitrous oxides build up in the atmosphere. These gases trap the sun's warmth and higher temperatures result. Changes in local pressure, wind patterns, rainfall and sea levels, among other variables, may also follow.

### ***The Dangers of Climate Change***

When weather patterns change they can catch local communities unaware and unable to combat the "freak" disasters that may result. Rapid rainfall can be a factor in rising sea levels and floods, while increased temperatures and winds can contribute to draughts, both of which can wipe out crops, destroy properties and lead to famine. These changes can affect our food and water supplies as well. Water-bourn illnesses flourish in floodwaters, and during droughts insects and animals can contaminate and limit the food supply. In areas of even moderate drought, the lack of moisture is also enough for fires and wildfires to rage out of control, once again leaving a trail of destruction.

## *Combating Climate Change*

With most experts agreeing that climate change and global warming have already begun, there is no better time to take action to combat these processes. To do this, one of the most important steps we can take is to curb the amounts of man-made gas we send into the atmosphere. Leaving behind diesel fuel and embracing clean-burning alternatives will help lower pollution levels, while using less energy, and switching to renewable energy sources, will reduce the amount of carbon dioxide produced. A few easy ways to combat climate change include:

- Turning off and unplugging appliances when not in use.
- Choosing walking, biking or public transport over driving.
- Lowering our thermostats and home heating levels.
- Switching off lights when we leave the room.
- Changing our light bulbs to energy efficient models.
- Boiling only the amount of water we need for one cup of tea at a time.
- Limiting the length of our "power showers."

Climate change is an unfortunate by-product of our modern lives but it is not altogether unavoidable. Becoming conscious of our own energy use, and how we contribute to global warming and the green house effect is our first step towards changing these habits and combating climate change. Good luck!

## Topic 3: Living a Green Life



### Task 1: Ask the students to discuss the following statement “ Living a Green Life”.

Kermit the Frog might not have found it easy being green, but for the eco-friendly there has never been a better time to live the green life. From toothpaste to travel, laundry detergent to light bulbs, clothing to cleaning products, environmentally friendly options abound. If you are concerned about the Earth and those that live on it, then

read through these brilliant tips for living a gorgeous, green life!

## **Task 2: Facilitate group discussions on the followings:**

### ***Enjoy Being Environmentally Friendly***

"Environmentally friendly" is a modern term that applies to any product, action or lifestyle that is designed to keep from harming the environment. Whether it be through recycling, conserving energy, composting, switching from chemical to natural cleaners, using sustainable building materials, preserving wildlife and natural areas or simply purchasing less and reusing more, there are hundreds of ways to live an eco-friendly life. Even just a few small changes in your everyday life can lead to great protection for our planet.

### ***Eco-Friendly Options***

Living a green life needn't require great expense or effort. Simple changes we can all take in order to help protect the environment include:

- Investing in cotton or cloth grocery bags to avoid discarding plastic bags.
- Switching off lights and appliances when we leave the room.
- Turning off the taps as we brush our teeth, shave or wash the dishes.

- Planting and tending a few outdoor trees to help clean the air.
- Recycling as much of our plastic, glass and paper purchases as possible.
- Searching for "natural" or "organic" food that was not treated by chemicals.
- Using natural compost, rather than synthetic fertilizers in our gardens.
- Growing our own herbs on the windowsill.
- Nurturing a philodendron or two to help purify our indoor air.
- Taking showers rather than baths.
- Buying natural shampoos so we won't need to worry about how well the suds biodegrade.
- Using rechargeable batteries in our small electric appliances and accessories.
- Unplugging mobile phone chargers when they are not in use.
- Purchasing glass, rather than plastic, food storage containers.
- Finding specialty recycling facilities for large items like appliances and computers.
- Asking our schools or workplaces to purchase recycled paper.
- Driving less and carpooling or taking public transport more.

Living a green life is not only admirable, but easier than ever before. Have a scout around your local shops for eco-friendly options, and a look at the local notice boards to

find like minded people. If there is no supportive community in your area, turn to the Internet to become a part of the global green community, and pat yourself on the back to taking steps towards a healthier, more aware existence



## **Topic 4: The Importance of Recycling**



### **Task 1: Why is it important to recycle?**

In this day and age there's no excuse for failing to recycle. We all know that the household waste we produce pollutes our Earth in mountainous landfills, lets off poisonous chemicals when it is burned or attempts to biodegrade, and endangers wildlife everywhere it is littered. With such terrible consequence, there is no reason to knowingly let any of this occur. Instead, swot up on the recycling information that will make all of the difference to our standard of living, and our children's, and their children's, and their children's

## **Task 2: Discuss the following questions with the students:**

### ***Recycling Rundown***

In case you've forgotten, recycling is the process by which waste items are collected and sorted, then processed into the raw materials that can later be manufactured into new products. Sometimes the waste being recycled is made into the same product over and over again, resulting in what is called closed loop recycling. Waste may also be recycled into different products, a cycle known as open loop recycling. Regardless of what happens to the materials that are created from recycled waste, the important point is that what already exists is being reused and no new waste need be generated.

### ***Recycling Reminder***

If you haven't investigated recycling recently, you'll be amazed by the many products that can now be recycled. Remember that all materials should be clean and dry, and sorted as much as possible. Create piles for:

- Plastics.
- Aluminium cans.
- Glass bottles.
- Plastic bags.
- Plastic cutlery.
- Styrofoam.
- Polystyrene.

- Milk and juice cartons.
- Newspapers and magazines.
- Greeting cards.
- Paper.
- Cardboard.

### *Rare Recycling*

There may be some household waste that you generate that is not easily catered for by your standard recycling service. This does not mean that you should toss these items into the nearest rubbish bin, because specialty services do exist for rare recycling items. Many charities also accept donations of these items, including:

- Eyeglasses.
- Desktop computers.
- Computer keyboards.
- Laptop computers and batteries.
- Mobile phones and chargers.
- Televisions.
- Cars.

### *Recycling Research*

If you don't live in an area where household recycling is collected, you'll need to do a little research to find the recycling bank nearest you. Contact your local council for full information on recycling services near you.

Unfortunately here in the UK we lag far behind many of our European neighbours in our recycling habits. The good news is that the amount of household waste recycled every year in the UK has steadily risen and 2005 saw the highest recycling rates yet. If we all do our part to recycle what we can, the next few years will certainly continue this trend. In addition to recycling what you can, try to reduce the number of products and packing that you purchase, and reuse those that you already own.

If you haven't started already, begin reducing, reusing and recycling your household waste and urge your family and friends to follow suit. Good luck!



## Topic 5: What You Need To Know About Global Warming



Global warming is an environmental issue that affects everyone in the world. Rising temperatures and changing climate patterns have reached every corner of the world and without a dedicated effort they will continue to affect every nook and cranny of the Earth and everyone that lives in them. Sadly few people truly understand climate change and global warming, so few people are able to act efficiently to stop it. Don't be one of the uneducated - find out answers to frequently asked questions about global warming right now.

## **Task 1: Facilitate group discussions on the followings:**

### ***What is Global Warming?***

Global warming is a phenomenon by which temperatures are rising all over the world. In fact, the ten hottest years ever recorded have all occurred since 1990, and experts predict that in the next century average temperatures around the world will continue to rise. These rising temperatures are the result of a more general climate change, or literally the changes in the climate of a given area including changes in its average temperatures, wind patterns and amounts of rainfall. Taken together, climate change and global warming are the ingredients for an environmental disaster the likes of which the world has never seen.

### ***What Causes Global Warming?***

Though some people may still debate the causes of global warming, scientists are now confident that greenhouse gases such as carbon dioxide and methane which released into the atmosphere heavily contribute to the problem. The United Nations has attempted to limit these harmful greenhouse gases with the Kyoto Protocol, a set of guidelines that asks countries to meet a target to reduce greenhouse gases to a level that will not interfere with the climate or cause further damage. Since signing the Kyoto Protocol, the UK's greenhouse gas emissions have indeed

been reduced, but unfortunately there is still a long way to go.

### ***How Does Global Warming Affect the UK?***

The UK is relatively well protected from the effects of climate change and global warming, but we have been and will continue to experience warmer year round temperatures, more rainfall in the winter and less in the summer, less snow in the winter, and higher surrounding sea levels that could lead to flooding in the coastal areas. This may not seem like a rosy picture, but as compared to the many areas of the world which remain vulnerable to effects such as floods and droughts, the UK is actually in a rather enviable position regarding the effects of climate change and global warming.

### ***How Can You Help Stop Global Warming?***

In order to truly make a dent in global warming the UK must still cut their greenhouse gas emissions and reduce their carbon footprint to lower levels, so calling or writing to your MP and stating your support for such a reduction is a great start to fighting climate change and global warming. While you are contacting your MP, be sure to urge him/her to back a law that will also require greenhouse gas reductions each year - just for good measure.

On a smaller scale, you can also fight climate change and global warming in your own home. Lower your own carbon footprint. Be sure to turn off lights and unplug electrical

equipment when not in use as well as reduce the number of spray products you use for personal care. Recycling as many items as you can everyday is another important step towards fighting global warming, as is using trains, boats or efficient cars when traveling rather than flying in order to limit carbon emissions from planes. Even with small steps such as these you will be fighting the good fight and limiting your own carbon footprint, thus fighting global warming each and every day. No one could ask for more than that!