

Pollution and Environmental Conservation

Outcomes and activities

God is Pure and Holy Yr 6

Spiritual Awareness: The effect of sin on God's perfect creation

God's original creation was perfect and unpolluted. With the Fall of man, sin entered the world, and so did imperfection. Instead of caring for the creation, man started exploiting it. God's beautiful world started to deteriorate.

God has provided for us richly through the creation. These resources need to be used wisely. Conservation of soil, water, plants and animals requires wisdom and foresight. Many species of plants and animals are currently endangered because of greed and carelessness. People have changed, polluted and destroyed many of the Earth's ecosystems. Although the creation can never return to its original state of perfection, there are steps we can take to conserve it.

Sin has not only affected the physical environment, but also our hearts. Sin is another form of pollution that can affect people's hearts and minds. Only Jesus, who is perfect and without sin, can forgive us.

Values: Our response to 'God is Pure and Holy'

- **Integrity:** always doing the right thing; showing the Fruit of the Spirit in our lives
- **Civic pride:** looking after our environment
- **Respect** for what is right
- Showing **obedience** to God by doing the things He wants us to do
- **Wisdom** in understanding waste management and recycling
- **Stewardship**, appreciating the beauty of God's creation and desiring to maintain and preserve its resources

Outcomes: Students will

- understand the reasons for environmental pollution (land, air, noise, visual, moral)
- understand the effects of pollution on the environment
- outline steps in cleaning up the environment
- suggest ways to minimize pollution and conserve/preserve the earth's resources
- research ways in which scientific understandings, discoveries and inventions can be used to solve environmental problems
- identify and investigate both local and global pollution problems
- suggest strategies to minimize pollution and preserve resources

Bible stories and passages

Genesis 1-2 The perfect creation

Genesis 2:15 God placed man in the Garden of Eden to work and take care of it.

Genesis 2 - the Fall

Genesis 4 - The sin of Cain

1 Peter 1:18-21 and Hebrews 9:14 Jesus was without sin, a perfect lamb sacrificed for us.

2 Cor 5:18-21 Christ became sin for us, that we might share the righteousness of God.

Romans 8:19-22 The creation groans, waiting to be freed from bondage.

Bible verses

Romans 5:12 - Sin came into the world through Adam, and his sin brought death with it. As a result death has spread to the whole human race: everyone has sinned.

Psalms 18:30 This is God – how perfect are His deeds! How dependable are His words!

Isaiah 1:18 The Lord says, "You are stained red with sin, but I will wash you as clean as snow."

Isaiah 43:25 "I am the God who forgives your sins; and I do this because of who I am."

Romans 3:23-24- Everyone has sinned and is far away from God's saving presence. But by the free gift of God's grace all are put right with Him through Christ Jesus who sets us free.

Psalms 103:12 As far as the East is from the West, so far He removes our sin from us.

Key Questions

What is the meaning of perfect?

What was God's original creation like?

What was Adam's responsibility in the original creation? (Genesis 2:15)

How was it different to our world today?

What effect did sin have upon the world?

What effect does sin have upon today's world?...(environment; people)

How is man directly responsible for pollution?

How can people's minds become polluted?

How does pollution harm man, plants and animals?

What can we do to help clean up the environment?

What is conservation? How can we conserve the resources in God's creation?

Activities

- Identify the types of environmental pollution - land, air, water, noise, space
- Compare today's world with Genesis 1. Discuss reasons for the difference.
- Identify the causes of environmental pollution e.g. chemicals, oil spills, car exhaust fumes, litter, sounds of jets, plastic which makes its way to the sea.
- List the consequences of the different types of pollution, i.e. its effect on human, plant and animal life.
- Draw a picture of your kitchen rubbish bin, showing what goes in it.
- Draw examples of polluted environments.
- Predict the possible effects of pollution on the environment and mankind in the future.
- Identify and investigate local pollution problems and suggest answers.
- Make a poster to promote awareness of pollution/littering problems.
- Discuss ways in which poor waste management can contribute to pollution.
- Find out what happens to dirty water and sewage when it leaves your home.
- Make a compost heap and discuss the benefits of composting.
- Discuss the benefits of recycling. (helps eliminate rubbish and save the earth's resources)
- List ways in which rubbish can be recycled; Name or draw items for recycling.
- Discuss the environmental problems caused by excessive and unnecessary packaging.
- Suggest more environmentally friendly ways of distributing products e.g. recycling glass jars instead of using disposable plastic containers; using less packaging; using your own shopping bags instead of plastic bags from the supermarket.
- Discuss problems caused by bad land management, exploitation of forests and soils.
- Research discoveries and inventions that can be used to help solve environmental problems.

Values education Year 6

God is Pure and Holy

Integrity

Integrity is...

Having strong moral principles and living by them

Being true to your word

God is pure and holy. He is righteous. That means He only does what is right. He has never done anything wrong.

Activities

1. Choose the best sentence endings.

Act	your things neat and tidy
Keep	your best
Speak	on right principles
Try	others
Help	words that are kind and true

2. Discuss the reasons why we should or should not take the advice of the following:

- Biblical principles
- people who speak and act according to Biblical principles
- the media
- teachers
- government
- friends who are my age

What does the Bible say about doing the right thing?

Galatians 5:22 Goodness is a fruit of the Spirit.

Deuteronomy 6:18 Do that which is right and good.

Ephesians 5:8-11 Live as children of the light.

Philippians 4:8 Whatever is right, whatever is pure...think about these things.

Art Year 6

God is Pure and Holy

Topic: Pollution, conservation and recycling

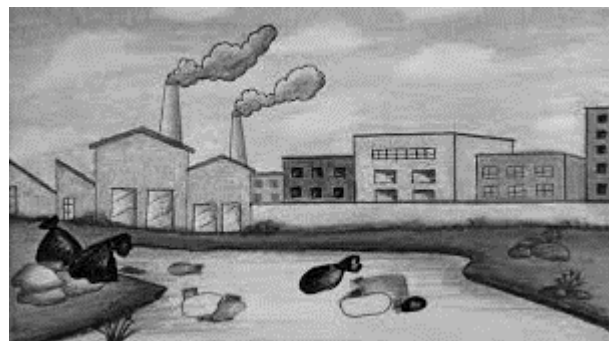
Biblical connection: God has given us instructions to care for the earth.

Bible wall display and text: “The Lord God took the man and put him in the Garden of Eden to work it and take care of it.” Genesis 2:15

“What happened to God’s perfect creation”?

Students can make a ‘pollution’ display through paintings, drawings and posters, or an actual 3D display.

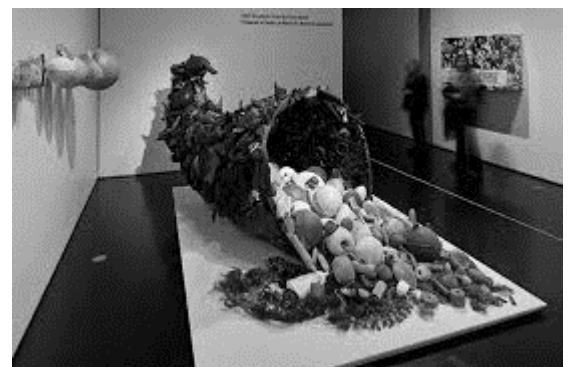
Land



Sea



3D



Practical science Year 6

God is Pure and Holy

Topic: Pollution, recycling and environmental conservation

Recycled Paper Seedling Pots

http://www.madaboutsience.com.au/store/index.php?main_page=page&id=54

It's easy to forget that making paper consumes trees and energy. Recycling paper and cardboard reduces waste and is helping the earth. Make a plant pot from recycled paper and plant a seed in it. When it's time to plant the seedling in the garden, pot and all, there's no need to worry because the pot is biodegradable and will break down quickly in the soil.

CAUTION This experiment requires the use of hot water.

What you need:

- A cup, yoghurt container or bowl to mould your pot
- Newspaper, or other scrap, used un-wanted paper
- Large bowl or container to hold soaked paper
- Fine sieve
- Potato masher, or mortar and pestle
- Hot water
- Potting mix and seeds

What to do:

1. Tear scrap paper into very small pieces and soak in hot water for at least 3 hours. The longer the better, ideally leave the paper to soak overnight.
2. Pour off excess water and mash up the paper with a potato masher, or a mortar and pestle - even a metal spoon if you don't have anything else. You want a pulpy, liquid consistency.
3. Fill your pot-mould (cup or container) with the pulped-liquid paper using a spoon.
4. Tip the pulped-paper out of the mould and into a sieve. Press as much water out of the paper-mush as possible.
5. Put the drained paper back into the pot-mould, and use your fingers to press the paper into the sides of the mould and hollow out the centre. You're making the shape of your final pot.
6. Place the mould on a window sill or other sunny place so your paper pot can dry. It about a week you'll have a finished paper seedling pot.
7. Fill the pot with potting mix and plant some seeds. In time, plant your seedling and pot in the garden. The post will eventually decompose.

What else can you make out of recycled paper?

Thinking Skills

<p style="text-align: center;">Pollution and waste management 1</p> <p>Many families in South-East Asia exist by collecting recycled material from rubbish dumps.</p> <p>Brainstorm 10 ways of helping these people to have a better life.</p>	<p style="text-align: center;">Pollution and waste management 2</p> <p>What if the world's population doubled.</p> <p>Write down 10 possible consequences.</p>
<p style="text-align: center;">Pollution and waste management 3</p> <p>Brainstorm 5 ways of cutting down on packaging material from the products we buy.</p>	<p style="text-align: center;">Pollution and waste management 4</p> <p>Draw a greenhouse for plants. Now, redesign it by using the following steps:</p> <p>B – bigger</p> <p>I – instead of</p> <p>N – nonsense</p> <p>G – get rid of it</p> <p>O – other uses</p>
<p style="text-align: center;">Pollution and waste management 5</p> <p>How many ways could you clean up oil spills?</p> <p>Give 5 completely different ways.</p>	<p style="text-align: center;">Pollution and waste management 6</p> <p>Think of 3 different types of material in your recycling bin.</p> <p>Now find 5 different uses for each of these.</p>

Thinking Skills

<p style="text-align: center;">Pollution and waste management 7</p> <p style="text-align: center;">The answer is recycling.</p> <p style="text-align: center;">Make up 5 questions.</p>	<p style="text-align: center;">Pollution and waste management 8</p> <p>Large cities are running out of space for rubbish dumps.</p> <p>Brainstorm 3 major solutions and write a description for each.</p>
<p style="text-align: center;">Pollution and waste management 9</p> <p>Draw your own innovative machine for waste management and label the various parts of the machine and what function these perform.</p>	<p style="text-align: center;">Pollution and waste management 10</p> <p>Design a lawn sprinkler which:</p> <ol style="list-style-type: none"> 1. Turns off when it rains 2. Only waters chosen plants 3. Can work indoors or outdoors
<p style="text-align: center;">Pollution and waste management 11</p> <p>Design a serious alternative to: everyone living in their own house on their own block of land.</p>	<p style="text-align: center;">Pollution and waste management 12</p> <p>A strange disease strikes the world's forests, and half of all trees die quickly.</p> <p>Write down 10 consequences of this.</p>

Pollution and Recycling 1

What is pollution?

Student activities

Pollution happens when people leave rubbish or harmful chemicals in the air, soil or water.

Chemicals are the things that everything around us is made from. There can be good or bad chemicals. Bad chemicals are harmful to people, animals, plants and the earth. Bad chemicals are called toxic chemicals. Toxic chemicals can come into our world when factories are not careful about the waste products coming from the things they make.

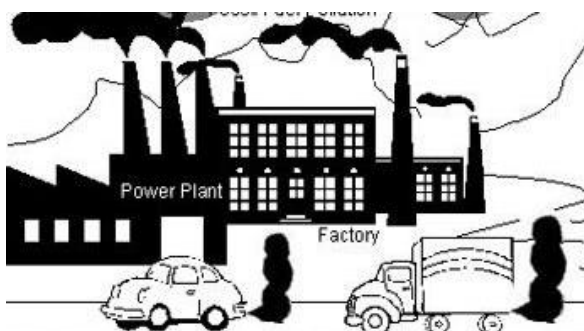
Chemicals can be solid, liquid or gas.

Chemicals in the air cause air pollution. We often see this in big cities.

Car fumes also cause chemicals in the air.

Chemicals in the air make it hard for people to breathe.

1. *What kind of rubbish do people leave around?*
2. *Draw a busy city and in your drawing, show how air pollution can be caused.*



Pollution and recycling 2

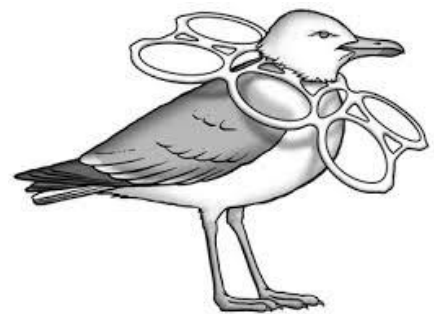
Garbage

Garbage is the rubbish that people leave around.
Garbage in the ocean kills fish, sea animals and sea plants.

Fish can get tangled up in plastic bags.
Dolphins can get plastic rings caught around their necks.
Fish and whales accidentally eat plastic, which makes them sick.

Garbage makes the beach look like a garbage dump. People don't like to swim there because it smells.

- 1. What kind of garbage do people sometimes leave on the beach?*
- 2. Draw some sea creatures tangled up in garbage.*
- 3. Why should we keep our schools and our community free of garbage?*
- 4. How can we stop people leaving rubbish around?*



Pollution and Recycling 3

What happens to garbage?

This is what can happen to the garbage that we put in the bin:

In cities, the garbage gets collected by a garbage collector and taken to a big dump.

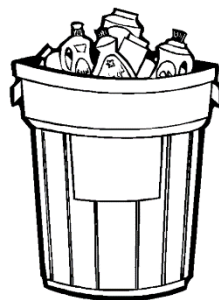
Away from the cities, where there is no garbage collector, people can burn some of their rubbish.

They can only burn paper and cardboard. They must not burn plastic because it makes toxic chemicals when it is burnt.

They can throw plant waste, like vegetable scraps, into a hole and bury it. The plant waste will rot. This is called compost. The plants turn back to soil.

Plastic, glass and metal will not rot. They must go to a big dump.

- 1. What happens to your garbage at home?*
- 2. How can you get rid of plant waste?*
- 3. Why should you not burn plastic?*
- 4. Why could it be a problem if the world uses lots of plastic, glass and metal?*



Pollution and Recycling 4

What is recycling?

Recycling is using things for more than one purpose.
Recycling is turning used things into something that can be used again.

You can recycle plastic, glass, paper and metal. It is good to do this because plastic, glass and metal don't rot like plants do.

Plastic, metal and glass can be melted in a factory and made into other things. In some cities, there are special bins for rubbish that can be recycled.

We can recycle plastic bags at home by using them for other things.

If we recycle things made from plastic, glass, paper and metal, then there will be less garbage in the rubbish dump.

1. *What could you use a plastic bag for?*
2. *What would happen people kept putting plastic, metal and glass in the rubbish dump and never recycled any of it?*



Pollution and Recycling 5

Doing the right thing



- 1. The two people in the top pictures are doing the right thing. What are they doing?*
- 2. The person in the bottom picture is not doing the right thing. Why not?*

Pollution and Recycling 6

Water pollution

Water can become polluted from factories that allow their waste to flow into rivers and the sea.

Water can also become polluted from people throwing rubbish around rivers and beaches.

List all the problems you can think of that polluted water may cause.



Pollution and recycling 7

The rubbish dump

Write about these pictures. What is happening?

Make a list of all the creatures that might live in a rubbish dump.

*Why are some of these creatures a problem?
How can we make less rubbish so that our rubbish dumps don't become too big?*



Pollution and recycling 8

Four ways to recycle

Look at the picture below. Think about what the people are doing. Now draw four pictures and write about how we can recycle:

1. Food scraps and garden waste.
2. Paper
3. Glass, plastic and metal
4. Clothes

