WWF

*for a living planet*

ONE PLANET SCHOOLS®

“Knowledge does not often inspire action. Feelings like compassion and anger do. Good art generates passion.”

**Stephen Leahy, environmental journalist.**

# Welcome to Learn

## WWF's free termly poster resource for schools

This edition of **Learn** invites schools to explore what more they can do to tackle climate change focusing on the marine environment. It also looks at the challenge of creating effective messages about climate change – messages that will inspire people to take action.

Efforts to safeguard the oceans have reached a particularly crucial stage. The oceans face the global environmental challenge of climate change as well as the continuing impacts of human activities such as unsustainable fishing, oil and gas exploration, the generation of renewable energy, recreation and shipping. The seas around the UK are among the most heavily exploited in the world. WWF's Marine Health Check 2005 revealed that 13 out of 16 key marine species and habitats were found to be in decline or severe decline. By reducing the resilience of our marine ecosystems we are reducing the ocean's capacity to adapt to climate change.

The consequences of climate change include changing weather patterns, warming seas and melting ice. All of these can have a devastating effect on people and the environment, including our seas. Unless we stop average global temperatures from rising more than 2°C above the level recorded in pre-industrial times, we face severe and irreversible changes in the planet's natural systems. The world's oceans have already been affected and marine wildlife is faced with the challenge of having to adapt to rising sea levels, warmer and more acidic waters, larger waves and more frequent storms.

Many thanks to the 1,500 schools across the UK that took part in WWF's Earth Hour 2009. Information about Earth Hour 2010 will be in our next edition.

## INSIDE THIS ISSUE

- A2 full colour poster with inspirational quotation
- Questions to explore the poster image and quotation with pupils
- Starter activity ideas with links to further online activities
- 'In Focus' – an insight into the issues of climate change and the protection of the marine environment and how it relates to school life.

## UK Marine Bill

WWF-UK has been campaigning for a Marine Act for 10 years. In December 2008, the government introduced a UK Marine and Coastal Access Bill into the UK Parliament (progress is being made on similar legislation in the Scottish Parliament, the Welsh Assembly and in the Northern Ireland Executive).

If the Bill becomes an Act, it offers great potential for improving the management of our seas and protecting our valuable marine wildlife.

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# Learn Ideas for the classroom


**Ocean wildlife**
Encourage students to create a display of images and words about marine wildlife that will encourage people to become involved in the conservation of the marine environment.

**Research links**
**whaledolphintrust.co.uk/species.asp**

**kids.nationalgeographic.com/Animals**

**www.wildfilmhistory.org/film/214/Introduction.html**

**arkive.org**

**seawifs.gsfc.nasa.gov**

**The right image**
Students could conduct a survey to find out if people respond most strongly to facts or images about marine environmental issues e.g. bycatch, marine litter and over fishing. You'll need to collect facts and images and create some sort of scale to measure the strength of their response.


**Ocean issues and marine bills/legislation**
**Brainstorm:** Why do humans need healthy oceans? What threatens the health of the oceans?
**Task:** List the main points that should be included in a marine bill designed to protect the oceans and the people and wildlife that depend upon them. Select an image that could be used to generate support for this marine bill.

**panda.org/about_wwf/what_we_do/marine/problems/**

**savescottishseas.org**

**wwf.org.uk/what_we_do/safeguarding_the_natural_world/oceans/index.cfm**

**The oceans and climate change**
With your students, build a mapping diagram or collage showing how climate change affects the oceans. Include these words in your diagram: Fossil fuel, coral, electricity, pH, carbon dioxide, carbon cycle, acidification, carbonic acid, food web, temperature, whale, seal, dolphin.

**epa.gov/climatechange/kids/carbon_cycle_version2.html**

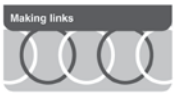
**latimes.com/news/local/oceans/la-oceans-flash-day5,0,7807131.flash**

**Postcards**
Ask students to design and write a postcard that explains one of the following issues and your feelings about it: bycatch, wave power, climate change, tidal barrages, offshore wind farms, marine litter, marine protected areas, toxic pollutants, marine bills, MSC certified seafood.

**For quick access to these weblinks, please visit our website: wwf.org.uk/learn**


**Carbon footprints**
Purchasing and waste is the largest source of carbon emissions for the average primary school pupil (second largest for secondary pupils). Watch the following film: **storyofstuff.com/**

Students could use storyboards to plan a short film that explains how consumption at your school is linked to climate change and other environmental damage. Create a poster that will encourage people to tackle climate change by reducing consumption and waste at your school.




**Food web mobile**
Carbonic acid is created when carbon dioxide dissolves into seawater as part of the carbon cycle. Carbonic acid dissolves the calcium used in the cell walls or shells of species like coral, plankton, krill and shellfish. Students could create a mobile to show how a threat to one species can affect others.

**whaledolphintrust.co.uk/education-primary.asp?library_id=17**

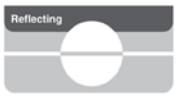
**Wildlife survey**
Organisations like the Hebridean Whale and Dolphin Trust ask people to help their conservation work by telling them about sightings of marine wildlife. Ask students to think about how this helps their work. Look at their sightings and species identification sheets: **whaledolphintrust.co.uk/sightings-report-a-sighting.asp**

Create similar data and identification sheets for other types of wildlife e.g. grey and common seals; birds visiting a feeder or footprints of wildlife visiting a feeding station in the school grounds.


**Art and climate change**
Students could create a piece of 3D art which conveys a message about climate change or the marine environment. Start by looking at examples of 3D art on the following websites:

**coolglobes.com/gallery.php**

**cowparade.com/WorldwideGallery.php**




**What can I do about climate change?**
Students could look at the following video and weblink with a partner and discuss what they could do to stop climate change. They could then create a PowerPoint that uses images and music to present their ideas.

**wwf.org.uk/what_we_do/tackling_climate_change/index.cfm**

**wwf.org.uk/how_you_can_help/change_how_you_live/index.cfm**

## Espresso links

As you maybe aware, WWF has a partnership with Espresso Education. If you are a subscriber to Espresso, you can find WWF's Sustainability Module under the Geography 2 Channel.

Key Stage 1 – Explore the sea animals in the Espresso Zoo (Science 1)

Key Stage 2 – Create a seal or dolphin sculpture (Art 2 – Exploring sculpture – How are sculptures made? – Be a sculptor)

# Learn Question time


Using the poster on the reverse as a stimulus, the following questions will allow students to explore a range of issues:

1. What do you know about the species on the poster?
2. Entanglement in fishing gear kills or injures around 10,000 cetaceans (e.g. dolphins, whales and porpoises) each year in the Celtic and North Seas alone. They're also threatened by noise and disturbance from the oil and gas industry, shipping (e.g. sonar) and by climate change. What can be done to protect them from these problems?
3. Cetaceans are a tourist attraction. What can tourists do to make sure they don't disturb the cetaceans or damage their habitat?
4. Some species of North Sea fish have declined by between 50-98% in the last 100 years. How might a decline in one species be linked to the survival of other species?
5. Climate change has changed the seas around the UK – sea levels are rising (3mm per decade); waters are getting warmer (up 0.2-0.6$^{0}$C per decade) and more acidic; storms are more common and waves are getting higher (up 2% per year). How might marine wildlife adapt to these changes? Many of the changes to the seas are happening very quickly? How does this affect a species' ability to adapt?
6. Climate change means that marine wildlife like whales, dolphins and porpoises are affected by the way we live our lives. What can we do to reduce our greenhouse gas emissions?
7. Offshore wind farms could generate 25% of the UK's electricity. Do wind and wave farms help protect the marine environment or are they a threat?
8. Worldwide, 250 million people earn their living from fishing, up to 70% of humans rely on fish as their major source of protein, 75% of fish stocks are now fished at or beyond sustainable limits and millions of tonnes of bycatch, including 300,000 sea mammals, are caught and killed by accident each year. How can a Marine Act protect the interests of both people and wildlife?
9. WWF want to create a network of marine protected areas around the coast of the UK. What sort of activities do you think should and should not be allowed in a marine protected area?
10. Look at the quote: What do you think the author means? Knowledge might not inspire action but should action be based on knowledge? What sort of action is needed to protect marine wildlife?
11. How might the following emotions inspire people to take action against climate change? Joy, sadness, anger, fear, surprise, anticipation, disgust, acceptance. Do you think that artists try to evoke these feelings in their audience? How might they do it?

## Interesting facts about dolphins

Whales, dolphins and porpoises are part of a group of mammals called cetaceans. They evolved from land mammals and have fore-flippers with a bone structure similar to a human hand. They feed on small fish and squid; live in groups and use co-operative methods of hunting. They have no hair – blubber keeps them warm. They can't breathe underwater – dives last between 10 seconds and two minutes. They give birth to live young that must be lifted to the surface by their mother to breathe – other females may offer assistance in lifting, protecting and even feeding newborn calves. Dolphins surf on waves, play-fight, use objects like seaweed as toys and sponges as tools. There are lots of tales of dolphins protecting swimmers from sharks. Onlookers on Mahia Beach, New Zealand are convinced they watched a dolphin rescue two stranded sperm whales.

# Learn In Focus

The activities in this edition of **Learn** focus on the problem of turning awareness into action.

Persuading people to take action is one of the biggest challenges faced by organisations working for change in areas like education, health, social justice and the environment. Factual accounts, persuasive writing and argument may provide people with a wealth of information – but that still won't be enough to make some of them budge! In the words of the environmental journalist, Stephen Leahy:

*"Knowledge does not often inspire action. Feelings like compassion and anger do. Good art generates passion."*

## The power of images

On a similar theme, many of us will have heard sayings such as "A picture is worth a thousand words", "Every picture tells a story" or "A good sketch is better than a long speech". The central concept is that the visual image can be incredibly powerful. Books like *Voices in the Park* by Anthony Browne use images to provide an additional level to the storytelling; paintings like "Guernica" by Picasso or "Starry Night" by Van Gogh evoke a strong emotional response in many people; millions can recall images of David Attenborough relaxing with the mountain gorillas or the killer whales snatching sea lions from the beach; images of suffering in Michael Buerk's news reports about famine in Ethiopia in 1985 led to the birth of Live Aid and a massive response from the public.

## Bringing it back to the classroom

The activities within this edition of Learn (both online and on the 'Ideas for the classroom' page) involve pupils in the creation and communication of messages about climate change – messages that will inspire people to take action. Pupils should be encouraged to explore the importance of connecting with issues on an emotional level. The activites also put particular emphasis on the role that the visual image can play in helping people to make such connections.

It is hoped that pupils will be able to explore a variety of different artistic techniques to present their messages via visual images. They might also explore a wider interpretation of "Good art generates passion" by looking at the scope for generating passion through the use of music, drama, fiction, narrative, poetry or the spoken word.

## WWF's learning cycle

Each activity is presented as part of a five stage learning cycle – Motivating, Building Knowledge, Making Links, Taking Action and Reflecting. Making Links often involves linking different areas of knowledge to provide an awareness of the 'bigger picture' – understanding how the standby button on a television is linked to coral bleaching, how recycling can reduce greenhouse gas emissions or how species are linked via food webs. The challenge in these activities is to explore 'Making Links' in an additional way – by encouraging pupils to think about how the information makes them feel; by exploring how they might convey those feelings to others and by creating messages that inspire action.

## About WWF

WWF works with schools, communities, businesses and governments in the UK and around the world to create the solutions that will create a One Planet Future where people and nature thrive within their fair share of the planet's natural resources.

WWF has identified three key environmental challenges that must be addressed if we are to secure the vision of a One Planet Future:

- Safeguarding the environment
- Tackling climate change
- Changing the way we live

**Visit WWF's website for more information: wwf.org.uk/oneplanetschools**