



WWF
REPORT
SCOTLAND
2012

One Sun



One World

Conservation

Climate Change

Sustainability

One sun one world
Global approaches to transition
and interdisciplinary working

Learning for
Sustainability

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December 2012

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ONE SUN ONE WORLD

GLOBAL APPROACHES TO TRANSITION AND INTERDISCIPLINARY WORKING

1. Background

Our natural environment is now under greater pressure than ever before: WWF's Living Planet Report shows that people are using about 50% more resources than the Earth can provide; there is a decline in the health of the forests, rivers and oceans that make our lives possible; and emissions of the planet-warming gas carbon dioxide are causing climate change with severe impacts on both people and the planet. This is not sustainable; a shift towards living within the resources of our one planet in a fair and just society is needed.

Schools have a vital role to play in preparing young people for the challenges and opportunities of living more sustainably. Currently in Scotland, the Curriculum

for Excellence's purposes, principles and outcomes are in place with sustainable development, international education and global citizenship integrated throughout all curriculum areas and subjects. There is also clear recognition that these themes provide a context for interdisciplinary working.

The Scottish Government is now implementing the recommendations of its commissioned review of the full continuum of teacher education, Teaching Scotland's Future. The need for professional development for all teachers in the important cross-cutting themes such as international education, sustainable development and citizenship has been highlighted. To put these in place in schools, there is a recognised need to demonstrate innovative practical applications of interdisciplinary working, getting young people really involved in their learning and out of the subject boxes, using real-life contexts.

This report documents work carried out by schools in the Kingussie Associated School Group (ASG) (Kingussie High, Alvie Primary, Aviemore Primary, Gergask Primary, Kingussie Primary and Newtonmore Primary) in 2011-2012 as part of their joint working to support the transition of pupils from primary to secondary school. The work was supported by partners WWF Scotland and the Highland One World Group as part of the Global Learning Project Scotland¹.

2. The Process

2.1 INITIATION

The Kingussie ASG has a strong record of working together to ensure a successful transition between primary and secondary school. In 2009 and 2010, choosing a theme (The Rights of the Child and Climate Change and the Rights of the Child) the primary schools worked with P7 pupils to develop resources which were shared during their transition visits to Kingussie High School in the summer term.

1. The Global Learning Project Scotland (GLPS) is part of the wider Global Learning Programme in the UK funded by the Department for International Development to provide coherence to global learning in Scottish schools.

In 2011-12, the ASG created the opportunity with the Highland Council for the national premiere of WWF's One Sun One World (OSOW) musical, commissioned to mark WWF's 50th anniversary in 2012. OSOW focuses on the sustainability of our planet and its resources, the consequences of climate change upon the habitats of endangered species, and the responsibility that we all must take to ensure a future for the natural world.

Building on their successful joint working on Transition, the ASG Headteachers and Transition Groups decided to use the One Sun One World theme as a springboard for working towards the development of a whole school interdisciplinary approach to global learning throughout the ASG.

Overall Aims

- to promote a whole school approach to global learning in the Kingussie ASG primary and secondary schools
- to join up Eco-Schools, Global Citizenship and International Education work in the ASG schools
- to develop participative approaches to young people's learning
- to foster improved relationships between ASG schools

Communication and agreement between all partners was an important first step. In April 2011, Kingussie High School convened a meeting between WWF Scotland, the Highland One World Group, Transition staff from ASG primary schools and the Highland Youth Orchestra Coordinator to agree the overall aims and joint participation. It was agreed that ASG pupils would take part in the premiere of the One Sun One World musical in Aviemore in November 2011 along with the Highland Choir and Highland Youth Orchestra. ASG schools would use the themes of the musical for interdisciplinary work throughout the year and One Sun One World would be the 2012 Transition theme.

An in-service training session for the staff of all ASG schools was held in June 2011 to initiate the development of a whole school approach in each school. The Curriculum for Excellence context was introduced and the potential for subject-specific and interdisciplinary working offered by the themes in One Sun One World was highlighted. Importantly, the introduction was followed by participative small group sessions to identify how all staff could contribute in their area of work during the coming school year.

2.2 PLANNING AND PROFESSIONAL LEARNING WITH THE TRANSITION GROUP

Kingussie ASG Transition Group comprised one member of staff from each of the primary schools and two from the High School. A small funding input for development from WWF Scotland gave the Group the opportunity to meet for joint planning and professional learning during the 2011-12 school year. Allowing time and providing the opportunity for face to face collaboration with staff from other schools proved extremely important for taking forward the initiative.

2.2.1 Evaluating impact: the Baseline

As a first step, the Group discussed how to provide evidence of learning and change as a result of the planned activities. As part of the wider Global Learning Project Scotland this was supported by the project's impact evaluator. The Group considered what improvements were aimed for, how to know they had been successful, how this would be assessed and with how many children. The overall aim was for 'young people to achieve increased knowledge and understanding of global citizenship'.

Primary staff agreed a series of ten statements around the theme of 'My World' and Secondary school staff agreed to use statements on the theme 'Why are People Hungry?' (Appendix 1)

At the beginning and end of the school year, pupils were asked to place the statements onto an agree/disagree continuum. As part of the process, pupils were asked to make comments to justify their decisions.

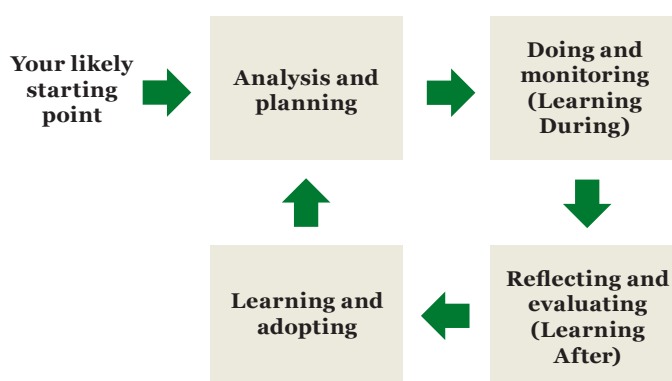
At the outset, teachers involved were asked to rate on a scale of 1-10 their own 'confidence as a global citizenship practitioner'; 'knowledge as a global citizenship practitioner' and 'Are you confident and adequately knowledgeable to incorporate global citizenship into your practice on a sustainable basis' and to make comments on their responses. This was repeated in June 2012.

2.2.2 Agreeing the aims of the interdisciplinary work

At the first half-day professional learning session in August 2011 the following overarching aims of work on the One Sun One World theme were agreed by the Group:

- develop a sense of a living planet shared by all living things
- develop a sense of the forces that create and change the world
- foster a caring attitude to the planet
- support action

In addition the Group explored the action research approach that would be applied throughout the year with a cyclical process of planning, doing and monitoring, reflecting and learning to be fed into the next cycle.



2.2.3 Professional Learning

Three half day sessions were held, in August 2011, September 2011 and March 2012, facilitated by WWF Scotland and the Highland One World Group. At each session there were participatory activities exemplifying teaching approaches (Appendix 2), collaborative action planning activities and whole group sharing and reflection. Activities were partly drawn from the One Sun One World resource for primary and secondary schools, complemented by other well-known resources.

2.3 DEVELOPING TEACHING AND LEARNING APPROACHES

2.3.1 One Sun One World Musical

In the One Sun One World musical, characters, including the Oak Tree, Panda and Cacao Tree, sing of the great wonders of the natural world and the threads of life which link every living creature. The Children of The World highlight the interconnecting human threads of trade and communication, which have produced our modern world. As the musical unfolds the characters begin to doubt the sustainability of our life but it ends on an upbeat note with a powerful reminder that people really do have the power to change the world.

All P7 and S1 pupils from ASG schools and Kingussie High School choir worked on two songs from the One Sun One World Musical which they performed together at the Scottish premiere, November 2012, at the MacDonald Aviemore Highland Resort. They complemented the Highland Youth Orchestra and Youth Choir in an afternoon performance with an audience of more than 400 people. All cross-curricular work built on themes from the musical and display material was produced for the event. Music staff and senior pupils from the High School worked with primary staff and pupils to help prepare for the final performance.

2.3.2 Climate Change as an interdisciplinary theme

All schools decided to work on Climate Change as a theme with endangered species as the primary school Transition focus. It was agreed that on the Transition day at Kingussie High School primary school pupils would share their work on the theme Climate Change and Endangered Species. Examples of activities are below:

In **Newtonmore Primary**, Climate Change was used as a theme throughout the year with links to every subject area. A variety of interesting approaches were used, including newspaper research, a needs/wants discussion; reading the 'Winter Bringers' by Gill Arbuthnott; blogging with VSO Rwanda; and investigating the local and global environmental, social and economic impacts of a cup of coffee (see Appendix 3).

In **Aviemore Primary**, work on the Antarctic was linked with the Climate Change theme. The school invited external agencies including John Muir Trust, Scottish Natural Heritage, Highland Wildlife Park and RSPB to help them make comparisons between the impact of climate change on endangered species in the Antarctic and Scotland, with a focus on particular species.

In **Kingussie Primary**, climate change was introduced as part of second level work on Japan. This was followed by a term-long focus on climate change with links to every subject area. For example, experts were interviewed; a whole school approach was taken and all children from nursery to Upper Stages attended related assemblies using WWF material. There was a strong emphasis on learning and understanding the words of the One Sun One World songs in the Upper Stages, linking the local to the global, while in the Early Years, pupils contributed to a collage used at the performance of the musical.

At **Kingussie High**, an audit was carried out to find subject staff that would be interested in working on climate change as a common theme. Geography in S1 and S2, Science in S1 and S2, Drama and Music were keen to work together and did so during the year. The experience highlighted the difficulty in initiating large scale cross-curricular working and a Principal Teacher was appointed during the year to take this forward.

The context of global learning will now be used for sharing standards in Literacy and Numeracy across the ASG.

2.4 EVALUATING IMPACT: THE OUTCOMES

Teachers

A summary of the results can be found in Appendix 1. Six teachers responded to the individual questionnaire and two were interviewed individually. Several of the teachers gave a relatively high score in terms of confidence and knowledge both at the beginning and the end. The same was true of a secondary school teacher. For the remaining teachers there was a significant increase in confidence and knowledge.

'I feel I have increased knowledge but more importantly I know where to get information easily... It has become clearer that global citizenship crosses so many elements of the curriculum that it will be relatively easy to sustain in my classroom practice.'

Primary teacher questionnaire (post initiative)

'...in terms of, perhaps, global sustainability, sustaining lifestyles and the problems with poverty across the world, it has definitely increased my knowledge and therefore confidence to teach it in class and make links. So, for instance, when we are looking at the resources we are using in school or energy- which we all study in science of course - we have to talk about what impact that has, our lifestyle, what impact that has on other countries... the climate change part of it as well- definitely feel more confident talking about these things and encouraging discussion with the pupils.'

Secondary teacher interview (post initiative)

When asked if they felt able to incorporate global citizenship into their practice, one teacher replied

'Yes, I think so and we have kind of gone ahead with that- put more in. Did a project recently on India and Chembakoli with P3-4 and we certainly put more into that and I probably did that in the first place because I was better able to incorporate that. Yes, definitely I would!'

Primary teacher interview (post initiative)

Young People

A summary of the results can be found in Appendix 1. One class was sampled at each of three primary schools. In two classes an increase in knowledge and understanding was suggested by changes in response on the 5 point scale- by a shift towards disagreement with 'What I do has no effect on the weather', for example. In all classes, there was clear evidence of progress from comments made by learners, as exemplified in the table below.

At secondary level, learning about the Millennium Development Goal 1 to eradicate extreme poverty and hunger was measured using the questionnaire Why are people hungry? in three S1 classes (Appendix 1). In two of the classes there was a marginal tendency to agree with the response that 'the best land is used to grow food for other countries', suggesting that knowledge had improved. (For example, in class A, nine learners moved towards agreement whereas six moved towards disagreement.). However, looking at the full range of statements, learner responses on the 5 point scale tended to be very varied in all three classes, so it was difficult to identify evidence of progress. Learners were not instructed to comment as they were in the case of the primary questionnaire, with the consequence that there were very few comments to provide additional information about knowledge and understanding.

PRE-POST EVIDENCE OF CHANGE- P7 LEARNER						
Put an X in the box to show what you think of each statement					Justify your decision in this column	
What I do affects children in other countries						
strongly agree	1	2	3	4	5	strongly disagree
Post Pre						
Pre: No because we are so far away Post: We drive cars and it make's there country hoter so they cant grow crops (sic).						
I want to learn more about climate change						
strongly agree	1	2	3	4	5	strongly disagree
Post Pre						
Pre: No because we have done it before Post: Yes because I think its imporent (sic) for years to come.						
Pre: June 2011 Post: June 2012						

Head Teachers

‘The process we have gone through as an ASG has highlighted the common ground of primary and secondary teachers, in particular the emphasis on effective learning and teaching. In addition, the process has helped break down the idea of the secondary school curriculum consisting of separate subject specific boxes. We are seeing increasing levels of inter-disciplinary learning.’
 Secondary Head Teacher

3. Conclusions

The successful collaboration between primary and secondary school staff in the Kingussie Associated Group has been developing over several years with the support of senior management, resulting in successful learner Transitions between the primary schools and Kingussie High School. As a result, there are improved relationships between young people arriving in S1 from primary schools. There are also much improved relationships between teachers, in particular those involved in curriculum delivery.

One Sun One World provided an inspiring focus for partnership working between schools in the ASG, which also benefitted from partnership with external agencies. Teachers were able to share new approaches involving active learning, participation and critical thinking that they could build on and use in many parts of the curriculum. This professional learning community approach requires dedicated time and benefits from the application of resources and specialist external support. At secondary level, there is a particular need for staff planning and discussion time to take forward the interdisciplinary aspects and ensure it is fully integrated into Departmental Plans. Senior management commitment and the appointment of a Principal Teacher Curriculum Development: Interdisciplinary Learning and Global Learning will help to take this forward.

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APPENDIX 1

1.1 IMPACT EVALUATION QUESTIONS

Primary Pupils: MY WORLD

1. What I do has no effect on the weather
1. Cycling is good for the environment
2. Flooding won't affect us in the Highlands
3. Wind farms spoil the environment
4. Eating British fruit is better than eating South African fruit.
5. Extreme weather is only happening in other countries.
6. What I do affects children in other countries.
7. Climate change will affect my life.
8. I do all I can to prevent climate change
9. I want to learn more about climate change.

Secondary Pupils: WHY ARE PEOPLE HUNGRY

(from *How do we know it's working*, RISC, 2008 p. 106)

1. There are too many people
2. People in rich countries don't give enough money to charities
3. There is not enough food to go round
4. People can't grow food because of wars
5. Poor farmers are not allowed to sell their food in rich countries
6. Farmers don't use new ways of growing more food
7. The best land is used to grow food for other countries
8. Food is not shared out fairly
9. People are too poor to buy food

What to look for

- Pupils' awareness of our interdependence, that food for the Minority World is being grown on land in the Majority World where many people don't have enough to eat.
- Pupil's awareness that charity is not the answer to world hunger.
- Pupil's awareness that there is enough food in the world, but it isn't shared fairly

1.2 IMPACT EVALUATION RESULTS

TEACHERS	INDIVIDUAL QUESTIONNAIRE	Six teachers stated able to incorporate GC into practice. Of these, two shifted from no in pre to yes in post. Three teachers: rating of personal confidence increased by 2 to 4 points. Two teachers: rating of knowledge increased by 2 and 4 points.
	Six teachers at three primary schools and a secondary in Associated Schools Group (ASG)	
	INDIVIDUAL INTERVIEW	<ul style="list-style-type: none"> • ‘Pretty confident, I mean we are following on from that now (ASG transition project) and I’ve been doing the training for the global footprint project and we are going on to do something with that working between two schools.’ • ‘(Knowledge) Certainly improving, reasonably good I think... I am always looking to expand my knowledge on different areas of things I have had quite a lot of input...’ • (Able to incorporate GC into practice?) ‘Yes I think so and we have kind of gone ahead with that put more in, did a project recently on India and Chembakoli with P3/4...’
	One teacher at primary school in ASG in Highland	
	One teacher at secondary school A in ASG in Highland EA	<ul style="list-style-type: none"> • In terms of... global sustainability, sustaining lifestyles and the problems with poverty across the world it has definitely increased my knowledge and therefore confidence to teach it ... • I have increased my knowledge but it is very much tip of the iceberg. • I do feel confident, I should feel confident because it is a core part of our job now...
INDIVIDUAL QUESTIONNAIRE	Three teachers stated able to incorporate GC into practice (two of these shifted from no in pre). Four teachers- ratings of confidence and knowledge increased by 1 or 2 points. Two teachers- ratings of confidence and knowledge increased by 3 or 4 points.	
YOUNG PEOPLE	INDIVIDUAL QUESTIONNAIRE	<p>Increase in knowledge and understanding e.g. three learners shifted by 4 points towards disagreement with ‘What I do has no effect on the weather’; two shifted by 2 points.</p> <p>Clear trend of improved knowledge and understanding shown in comments. (GLPS evaluation)</p>
	Eleven learners in P7 at primary school A part of the ASG	
	twelve learners in P7 at primary school B part of the ASG	Increase in knowledge and understanding e.g. six learners shifted towards agreement with ‘I do all I can to prevent climate change’ and comments included new examples of action. (GLPS evaluation)
	Six learners in P7 at primary school C part of the ASG	Broader knowledge and deeper understanding clearly shown by comments. (GLPS evaluation)
	Seventeen learners in S1 class A at secondary school A part of the ASG	<p>Knowledge that best land used to grow food for other countries improved. Learner responses to individual questions tended to be very varied.</p> <p>(GLPS evaluation)</p>
	Twenty-two learners in S1 class B at secondary school A part of the ASG	
	Twenty-two learners in S1 class C at secondary school A part of the ASG	Learner responses to individual questions tended to be very varied. Difficult to identify evidence of progress. (GLPS evaluation)

Source: Mark Merrell, GLPS impact evaluation report July 2012.

APPENDIX 2

2.1 PROFESSIONAL LEARNING- EXAMPLES OF TEACHING APPROACHES EXPLORED

Asking Questions based on a single image (cup of chocolate) from social, economic, environmental and political angles. (*Get Global*, page 94).

Climate Change Issue Tree (Sterling, S., *Linkingthinking* Toolbox).

Circles of influence (Sterling, S., *Linkingthinking* Toolbox).

'We need water' Diamond Ranking (WWF-UK, *One Sun One World*, page 40).

'We need water' Using photographs (Oxfam *Getting Started with Global Citizenship*, page 9).

Climate Change: Thinking about Solutions (*Stride* Autumn/Winter 2011/12, page 10).

APPENDIX 3

3.1 EXAMPLES: DEVELOPING A CROSS-CURRICULAR THEME

LANGUAGE

Read factual info about specific aspects of Cairngorm Mountain, tundra and endangered species, and collect relevant details. LIT 2-13.

Create a fact sheet about Cairngorm ptarmigan, musk-ox. LIT 20-25.

Use variety of forms to write poetry illustrating the beauty and harshness of the environment. (Cairngorm, tundra) LIT 2-30.

Write a report about the effect of climate change on the musk-ox and its habitat. LIT 2-28, 2-29.

Create a poster highlighting the plight of change on animal habitats. LIT 2-24a, LIT 2-26a, LIT 2-29a.

EXPRESSIVE ART

Create a tundra palette.

Create an abstract tundra collage/weaving.

Use skills developed in term 3 to paint a picture of ptarmigan/musk-ox EXA2-02a.

Mime/re-enact a climate change poem.

Frozen pictures of 'Outside Access Code'.

Through mime demonstrate effect of climate change on animal habitats EXA2-13a EXA2-14a.

RME

Develop a moral responsibility towards climate change attitudes. Understand why people behave differently towards 'world' issues. RME 2-09b, 2-09d.

SCIENCE/HEALTH ED

Describe the main stages in flowering plant reproduction. SCN 2-01a.

Describe human impact on the environment. SOC 2-08a, SCN 2-20b.

Give examples of plant and animal adaptation. SCN 2-02, SCN 2-12b.

Discuss/research how adaptation increases chances of survival. SCN 2-12b, SCN 2-14b.

CLIMATE CHANGE AND ENDANGERED SPECIES

Kingussie High School
ASG Transition Topic
Term 4 Aviemore
Primary School.

MATHS

Research and create timeline illustrating the increased use of fossil fuels/climate change. MNU 2-10, SOC 2-02a, 2-06.

Create graph to show decline of population of orangutan. MNU 2-20, MTH 2-21a.

Highlight on map countries with largest carbon footprint, and countries most affected by climate change. Compare and contrast. MTH 2-12. MNU 2-20, MTH 2-21a.

Compile a list of mathematical facts about climate change and endangered species. MNU 2-12.

Create codes and maths puzzles to reinforce facts and data about climate change and endangered species. MNU 2-13, 2-15.

SOCIAL STUDIES

I can understand and explain the water cycle SCN2-05a.

To reinforce knowledge and understanding of climate change, and its future effect on a unique climate such as Cairngorm. SOC 2-08a, SCN 2-20b.

Recap on fossil fuels and how they contribute to climate change. SOC 2-08a, SCN 2-20b.

To understand how rainforests (and flora in this country) can help offset our carbon footprint SCN2-02.

Become more informed about the plants and animals that live in the Cairngorms and arctic tundra. SCN 2-01a, 2-02, 2-14.

Become aware of the effect of human lifestyle on the environment. SOC 2-08a, 2-20b.

Become aware of famous historical figures and their connections to science. SOC 2-01a, 2-20a, 2-06a, SCN 2-20a.

OUTDOOR EDUCATION

Climate change and biodiversity, Saranne Bish, Highland Council Ranger.

Climate change in the Cairngorms and the Ptarmigan, Chris Andrews, SNH, Inchriach NNR.

Climate change and animal adaptation/evolution, Jasper Hughes, Highland Wildlife Park. SCN 2-01a, 2-02, 2-14, 2-20b, SOC 2-08a.

LANGUAGE

- Note-taking – facts on renewables/non-renewables
 - Report on visit to hydro power station/wind farm
 - Research report on threatened species
 - Response to *When the Oil Ran Out*, a play by Hopscotch Theatre Co.
 - Learning and understanding the words to the OSOW songs
- ENG 2-30a, LIT 2-26a, 2-28a, 2-29a.

RME

- Explore the need for ethical trading (e.g. Fair Trade)
 - Look at how climate change has affected others around the world and its impact on the Rights of the Child
- RME 2-02b, SOC 2-20a.

SOCIAL SUBJECTS

- Research and share information on the Industrial Revolution and its impact on sources, trade and creation of waste
 - Link with China's and India's rapid growth
 - Identify 'First News' newspaper articles for reports linked to climate change. Also consider articles about natural disasters and if they have links to climate change
- SOC 205a, 2-08a, 2-07b.

TECHNOLOGIES

- Linking with food air miles (and extending to holiday/business travel) discuss how lifestyles may have to change to aid sustainability.
 - Make wind/wave/solar power models
 - Trip to Foyers Power Station and Wind Farm.
- TCH 2-02a, SOC 2-09a.

CLIMATE CHANGE ONE SUN, ONE WORLD

Kingussie High School
ASG
Newtonmore Primary
Second Level

SCIENCE

- Research energy sources (non-renewable and renewable), their impact/advantages/disadvantages
- SCN 2-04a, 2-04b, TCH 2-02b.
- Research how plants are used and their importance (food/drugs)
- SCN 2-02b
- Experiment with fertilisers/ investigate effects and risks. benefits (Risk Assess)
- SCN 2-03a
- Explore food chain/webs while researching an endangered species. Consider actions needed to save that species
- SCN 2-02a.

EXPRESSIVE ARTS

- Learn songs for OSOW performance with appropriate dynamics
 - Groups each create a scene to illustrate how a specified renewable produces electricity
 - Response to Hopscotch Play, *When the Oil Ran Out*
- EXA 2-16a, 2-12a, 2-15a.

MATHS

- Use supermarket information to estimate/calculate foods' air miles. Make graphs
 - Create a graph to show decline of number of chosen endangered species
 - Look at the economics which make organisations such as Fair Trade necessary.
- MNU 2-21a.

HEALTH AND WELL-BEING

- Local supermarket visit to identify countries of origin of a variety of fresh food. Carry out seasonally to establish availability of UK foods.
 - Chef's adopt-a-school visits – exploring foods – consolidates above.
- HWB 2-35a.

100%
RECYCLED



One sun one world in numbers

6

Schools win the Kingussie Associated School Group working on 'One Sun One World' themes.

9

Teachers exploring global approaches to transition and interdisciplinary learning.



400

People attended the Scottish premier of musical 'One Sun One World' in Aviemore.

1

Cross-curricular 'One Sun One World' resource available for primary and secondary schools.

	<p>Why we are here To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.</p> <p>wwf.org.uk</p>
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