

East Aurora Educational Foundation Grant Application

The mission of the East Aurora Educational Foundation is to enhance the educational experience of students in the East Aurora Union Free School District. The foundation is dedicated to working with teachers to bring unique educational experiences to the classroom through grant funding.

Directions:

CLEAR FORM

- Type and complete all sections.
- Review your proposal with your building principal.
- If building principal approves, principal signs Statement of Support (below).
- Building principal sends to District Liaison (Bill Roberts).
- District Liaison reviews any grants that include technology with the Director of Technology.
- If other support is needed, Liaison discusses with other administrator, as appropriate.
- Liaison sends grant proposal application to EAEF Board members electronically.
- Liaison brings 3 - 4 hard copies to next Foundation Board meeting.
- Liaison contacts teacher/staff who wrote application about next steps, including attending a Foundation meeting to discuss their proposal.

1. Name of Applicant: Kimberly Crowley
 2. Position and Title: Kindergarten Teacher
 3. School Building: Parkdale Elementary
 4. Title of Project: Project OWL 2.0 * OWL=Outdoor Wildlife Laboratory
 5. Brief description/summary of the purpose of this project:
Incorporate outdoor educational stations that meet the Next Generation Science Standards in Kindergarten.

6. Date submitted to principal: February 15, 2019
 7. Total dollar amount requested: \$3,350.00
 8. Will you accept partial funding for this project? Sure :)
 9. If partial funding is awarded, what is the minimum amount needed for the project to meet the stated objectives? \$1,000.00
 10. If partial funding requires that the objectives or activities be modified, please attach an explanation.

Project Director's Statement of Understanding: I fully understand that I am participating in a competitive process and that my application does not guarantee funding. I understand that I will be asked to present this proposal in person to the Board of the East Aurora Educational Foundation and that if awarded a grant, I will be responsible for conducting the project as detailed. I further understand that within one year, I will demonstrate the results of this project through a mutually determined presentation.

Kimberly Crowley
 Signature
Kcrowley@ca12.org
 e-Mail Address

3/8/19
 Date
716-997-6396
 Telephone Number

Principal's Statement of Support: I have carefully read this application and fully support the implementation of this project. To the best of my knowledge, the materials are not available in the school at this time.

Jessica Lyons
 Principal Signature

3/8/19
 Date

[Signature]
 District EAEF Liaison Signature

3/18/19
 Date

 Director of Technology Signature (if appropriate)

 Date

 Administrative Contact Signature (if additional support is needed)

 Date

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Attach Additional Pages if Necessary

I. PURPOSE

Why do you seek this grant?

Thirty years ago, I began Project OWL (Outdoor Wildlife Laboratory) in 5th grade. It was a huge hit! Students learned about science, math, art and nature from their outdoor surroundings. Project OWL ran for over 10 years, touching the lives of many East Aurora students.

I hope to continue that enthusiasm with Project OWL 2.0, but this time, starting in Kindergarten! Kindergarten minds are full of questions. I would like to take the learning outside of the classroom to show students what they can learn, and help students answer their own questions, as well as provide the background knowledge they need to solve problems.

All Activity Stations correlate to the NGSS (Next Generation Science Standards) for Kindergarten students. The NGSS Standards are attached.

Who will benefit from the implementation of this grant?

All Kindergarten students and teachers.

In what ways is it innovative and/or enriching?

We have nothing like this in our current curriculum. All lessons are currently taught in a classroom setting. Bringing the studies outside and using real world objects makes a great connection for students.

As the new NGSS have been recently released, we are constantly looking for ways to implement the standards into our Kindergarten curriculum. Project OWL 2.0 would provide a few days of fun June learning correlating to the NGSS Standards.

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II. OBJECTIVES

What will this project accomplish?

All Kindergarten students will be exposed to the NGSS standards in unique outdoor laboratory.

How does this project meet state standards?

The NGSS Standards are attached. All Kindergarten science standards are addressed in the Project OWI 2.0 grant.

** If partial funding granted, we would purchase materials for only 1 or 2 activity stations, and we would not meet ALL of the NGSS standards- but that would still be a great start!

What research supports the implementation of this project?

Research support young minds being exposed to a variety of learning experiences. See attached research articles.

How will this project be shared with colleagues in your school and throughout the district?

I will present at a Faculty meeting, hoping that other grades may want to create their own activities and jump on board :)

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III. METHOD

How do you intend to meet your objectives?

Students will participate in Project OWL 2.0, with activities taking place on school grounds and/or Knox Field.

Parents will be trained to assist in each activity.

Be specific about your activities. Detail the materials and resources you will use.

The attached pages lists the NGSS as well as the name of the Activity Station and all materials needed to complete the tasks.

Activity Stations:

We've Got To Move It!
Leave It To The Birds!
We Can Build It!
Nature/Weather Prints!
Pond Study!
Build A Nest!

What is the time schedule for your activities? Describe, or show a project time line.

Depending on the weather and possible grant approval, we would love to implement Project OWL 2.0 in June 2019 and then add to District Calendar for the future years (June of each school year).

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IV. EVALUATION

How will you judge the success of your project? Please describe in detail.

After stations, ask parents to complete short survey of how station ran, any problems, any suggestions, any other materials needed?

Observe student engagement. Make adjustments as needed.

How will you report your success to the foundation board at the end of your project?

Pictures, and presentation to Foundation Board. Of course- Foundation Board Members are always welcome to come out and visit, or participate running a Project OWL 2.0 activity station.

V. ABSTRACT

Write three sentences that could be used to publicize your project.

Kindergarten students at Parkdale Elementary were given the unique opportunity to take their learning outside! Through a grant funded by the East Aurora Educational Foundation, students complete activities that correlate to the Next Generation Science Standards. Lots of learning, and tons of fun for students and adults that participated in Project O.W.L. 2.0 (Outdoor Wildlife Laboratory)!

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Attach Quotes Where Applicable

(*See attached)

VI. BUDGET

Materials

<u>Quantity</u>	<u>Item</u>	<u>Supplier</u>	<u>Cost</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
		Subtotal:	_____

Equipment Purchase

<u>Quantity</u>	<u>Item</u>	<u>Supplier</u>	<u>Cost</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
		Subtotal:	_____

Equipment Rental

<u>Quantity</u>	<u>Item</u>	<u>Supplier</u>	<u>Cost</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
		Subtotal:	_____

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BUDGET Cont.

<u>Quantity</u>	<u>Item</u>	<u>Other</u>	<u>Supplier</u>	<u>Cost</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
			Subtotal:	_____
			Total Amount Requested:	_____

K-PS2-1 Motion and Stability: Forces and Interactions

Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.

Performance Expectation

Grade: K-2

K-PS2-2 Motion and Stability: Forces and Interactions

Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.*

Performance Expectation

Grade:

K-2 K

Project OWL 2.0 Activity Station: We've Got To Move It!

Materials needed:

Lakeshore TT158, STEM Science Station: Motion	\$49.99 per kit
4 kits needed	\$199.96
Lakeshore PP799, Block Play STEM Kit	\$79.50
2 kits needed	\$159.00
Lakeshore PP789, Active Play STEM Kit	\$99.50
2 kits needed	\$199.00

K-LS1-1 From Molecules to Organisms: Structures and Processes

Use observations to describe patterns of what plants and animals (including humans) need to survive.

Performance Expectation

Grade: K-2, K

Project OWL 2.0 Activity Station: Leave it to the Birds!

Materials needed:

Lakeshore- LX600X Science Viewers-Birds	\$16.99 each viewer
5 viewers needed	\$ 94.36

Lakeshore-HH590X-Hands-On Science Specimen Centers-Birds	\$29.99 each
2 kits needed	\$59.98

<u>pellet.com</u> - Elementary Owl Pellet Pak	\$42.95
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<u>pellet.com</u> -30 pack with Kids Science tools (2 year supply)	\$79.99
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Amazon- National Geographic Readers: Hoot,Owl!	\$3.99
10 books	\$39.99

K-ESS2-2 Earth's Systems

Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

Performance Expectation

Grade: K-2, K

Project OWL 2.0 Activity Station: We Can Build It!

Lakeshore: FF998- I Can Build It Construction Planks 3 Kits needed	\$39.99 \$119.97
Lakeshore PP751-Bridge Building Center 3 Kits needed	\$39.99 \$119.97
Lakeshore- PP640X-Fairy Tales Problem Solving Kit-Set 1	\$149.00
Lakeshore-PP630X-Fairy Tales Problem Solving Kit-Set 2	\$149.00

K-ESS3-2 Earth and Human Activity

Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.*

Project OWL 2.0 Activity Station: Nature/Weather Prints

BLICK- Nature Print Kit 12 kits needed (2 year supply)	\$9.88 each \$120.76
Lakeshore-FF966- Seasons and Weather Theme Box	\$59.99
Lakeshore-TT697-Weather & Seasons Learning Center	\$29.99

K-2-ETS1-1 Engineering Design

Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

K-2-ETS1-2 Engineering Design

Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

Project O.W.L. 2.0 Activity Station: Build A Nest!

Baggies
Spoons/trowels
Cups
Rulers
Mud
Sticks
Water jugs
Design Logs
Plastic Eggs

Total cost : \$100

K-LS1-1 From Molecules to Organisms: Structures and Processes

Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.

Performance Expectation

Grade: K-2, K

Project Owl 2.0 Activity Station: Pond Study!

Lakeshore LA444-Hand Magnifiers- set of 12	\$39.99
Lakeshore-FS244-Kid Sized Binoculars, set go 6	\$39.99
Amazon-EGO Floating Bait Net 30 nets needed	\$6.99 each \$209.70
Amazon-DK Eyewitness Book Pond & River	\$43.99
Amazon- AmScope Kids Microscope Kit 2 microscopes needed	\$45.99 \$91.98
Amazon- 3.5 Gallon Heavy Duty Bucket-10 pack	\$33.67
Large Capacity Totes for Storage	\$200

TOTAL \$2524.00
shipping (15%) & tax \$650

Grand Total : approximately \$3350.00

Read the Standards

 nextgenscience.org/search-standards



To learn more about the standards, [click here](#).

To learn more about the NGSS Appendices, [click here](#).

K-PS2-1 Motion and Stability: Forces and Interactions

Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.

Performance Expectation

K-PS2-2 Motion and Stability: Forces and Interactions

Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.*

Performance Expectation

K-LS1-1 From Molecules to Organisms: Structures and Processes

Use observations to describe patterns of what plants and animals (including humans) need to survive.

Performance Expectation

K-ESS2-1 Earth's Systems

Use and share observations of local weather conditions to describe patterns over time.

Performance Expectation

K-ESS2-2 Earth's Systems

Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

Performance Expectation

K-ESS3-1 Earth and Human Activity

and the places they live.

Performance Expectation

K-ESS3-2 Earth and Human Activity

Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.*

Performance Expectation

K-ESS3-3 Earth and Human Activity

Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.*

K-2-ETS1-1 Engineering Design

Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

Performance Expectation

K-2-ETS1-2 Engineering Design

Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

What does the research say about Outdoor Learning?

This section provides summaries of key findings from reviews of research and major studies in Outdoor Learning. Each review asks different questions about a different kind of Outdoor Learning. The overall impact of these collections of research studies is impressive. They demonstrate what can be achieved through Outdoor Learning. The outdoors provides a wide array of opportunities for achieving a whole range of outcomes. Some outcomes require careful design and facilitation whereas other outcomes simply arise from being outdoors - as is demonstrated in the first review below.

Health, Well-Being and Open Space (UK)

Literature Review about the benefits of being outdoors., by Nina Morris, OPENspace Research Centre, 2003

Key points from this review of research include:

- Exposure to the natural environment can have a negative effect on human health.
- Exposure and access to green spaces can also have a wide range of social, economic, environmental and health benefits
- Urban green spaces are major contributors to the quality of the environment and human health and well-being in inner city and suburban areas.
- Outdoor recreation provides an opportunity to increase quality of life and heighten social interaction.
- Physical activity in the natural environment not only aids an increased life-span, greater well-being, fewer symptoms of depression, lower rates of smoking and substance misuse but also an increased ability to function better at work at home.
- Health Walk and Green Gym participants cited they stated being 'in the countryside' and 'contact with nature' as key motivating factors to be active.
- Short-term strategies must begin by establishing a clearer link between accessible urban green space and healthy living in the minds of politicians, policy-makers and the general public.

Link to full review: [Health, Well-Being and Open Space](#)

Wild Adventure Space (UK)

Literature Review by Penny Travlou, OPENspace Research Centre (2006)

Experience of the outdoors and wilderness has the potential to confer a multitude of benefits on young people's physical development, emotional and mental health and well being and societal development. Mental health and wellbeing benefits from play in natural settings appear to be long-term, realised in the form of emotional stability in young adulthood."

Link to full review: [Wild Adventure Space](#)

Changing Minds: The Lasting Impact of School Trips (UK)

A study of the long-term impact of sustained relationships between schools and the National Trust via the Guardianship scheme.

by Alan Peacock, Honorary Research Fellow, The Innovation Centre, University of Exeter, February 2006.

We looked at whether school children's learning about their local environment would influence the way they treat it. We found that not only was this the case, but high quality, out-of-classroom learning also influenced how children behave and the lifestyle choices they make. It shows the potential for schools trips not just to change individual lives, but the lives of whole communities.'

- School trips are vital for children to connect with nature.
- School trips influence lives.
- Community spirit is developed from school trips.
- School trips help bond families.
- School trips improve children's learning.

Link to full report: [Changing Minds: The Lasting Impact of School Trips](#)

Review of Research on Outdoor Learning

by Mark Rickinson et al. Field Studies Council, 2004.

This review brought together the findings from 150 studies in the period 1993-2003 and included most kinds of Outdoor Learning.

Key findings

The impact of fieldwork and visits

- Substantial evidence exists to indicate that fieldwork, properly conceived, adequately planned, well taught and effectively followed up, offers learners opportunities to develop their knowledge and skills in ways that add value to their everyday experiences in the classroom.
- Specifically, fieldwork can have a positive impact on long-term memory due to the memorable nature of the fieldwork setting. Effective fieldwork, and residential experience in particular, can lead to individual growth and improvement in social skills. More importantly, there can be reinforcement between the affective and the cognitive, with each influencing the other and providing a bridge to higher order learning.
- See original document for more points and more detail.

The impact of outdoor adventure activities

- Strong evidence of the benefits of outdoor adventure education is provided by two meta-analyses of previous research. Looking across a wide range of outcome measures, these studies identify not only positive effects in the short term, but also continued gains in the long term. However, within these broad trends, there can be considerable variation between different kinds of programmes, and different types of outcomes.
- There is substantial research evidence to suggest that outdoor adventure programmes can impact positively on young people's:
 - attitudes, beliefs and self-perceptions - examples of outcomes include independence, confidence, self-esteem, locus of control, self-efficacy, personal effectiveness and coping strategies
 - interpersonal and social skills - such as social effectiveness, communication skills, group cohesion and teamwork
- See original document for more points and more detail.

The impact of school grounds/community projects

- School grounds/community projects have the capacity to link with most curriculum areas. Two specific examples of benefits stemming from this are positive gains in science process skills and improved understanding of design and technology-related issues.
- In the affective domain, the most important impacts of learning in school grounds/community settings include greater confidence, renewed pride in community, stronger motivation toward learning, and greater sense of belonging and responsibility
- See original document for more points and more detail.

The full summary also includes:

- Factors influencing outdoor learning and its provision

- Key messages for research

link to full report: [A Review of Research on Outdoor Learning](#)

link to: [James Neill's critical overview of this review](#)

Youth Development Outcomes of the Camp Experience

study by Philliber Research Associates and the American Camping Association, 2005.

Between 2001 and 2004 the American Camp Association conducted research with over 5000 families from 80 ACA-accredited camps to determine the outcomes of the camp experience as expressed by parents and children.

Main Findings

Parents, camp staff, and children reported significant growth in: self-esteem, Peer relationships, Independence, Adventure and exploration, Leadership, Environmental awareness, Friendship skills, Values and decisions, Social comfort, Spirituality.

link to full study: [Youth Development Outcomes of the Camp Experience](#)

Why Adventure? The Role and Value of Outdoor Adventure in young people's personal and social development (U

A Review of Research focusing on the more adventurous kinds of outdoor learning, by Jon Barrett and Roger Greenaway commissioned by the Foundation for Outdoor Adventure, 1995.

Main Findings

OUTCOMES

Most empirical studies of outdoor adventure have concentrated on examining behavioural and psychological outcomes. Some of the most thorough outcome research is found in the youth social work field.

Personal Development

- Some kinds of outdoor adventure can cause short-term enhancement of aspects of self-concept (including gains in self-esteem and self-efficacy), and can cause short-term improvements in internalisation of locus of control. These gains appear to be more significant on longer adventure programmes.
- Various developmental benefits are associated with regular physical exercise (such as regular outdoor adventure experiences can provide), e.g.. humour, patience, energy, optimism, self-confidence, self-esteem, self-assurance, emotional stability, improved body-image, etc.
- Direct experience of the natural environment, such as outdoor adventure may offer, can have significant mental and physical health benefits, can enhance self-esteem and self-confidence, and can provide opportunities for spiritual development.

Social Development

- Strong anecdotal evidence indicates that outdoor adventure experiences can enhance interpersonal relationships and improve socialisation, and can facilitate group bonding and co-operation.
- Outdoor adventure can help to reduce formality in relationships and develop more human relationships and awareness between young people, and between young people and staff.

PROCESS FACTORS

Whilst outdoor adventure can cause the above positive developmental outcomes, it is important to note that these do not automatically arise from outdoor adventure. Studies investigating causal links between processes and outcomes have rarely been conducted. Nevertheless, some process factors have emerged as being of central importance.

- Research about effective leadership styles in adventure generally favours a facilitative style in which personal and social development are emphasised. Research indicates that an effective technique is to encourage and challenge the participant.

- Research about the effects of group experiences on personal and social development emphasises the value of small groups in which group support, co-operation and reciprocity may be facilitated.
- Appropriate selection, group mix and composition are important, particularly with young people experiencing difficulties in their lives.
- Research emphasises the importance of a supportive learning environment where young people are able to (for example) express their emotions, learn collaboratively and take responsibility for their own development.
- The beneficial outcomes of outdoor adventure appear to be most lasting when outdoor adventure experiences are regular and long-term and are linked to community-based follow-up. Research has demonstrated the value of outdoor adventure as an adjunct to community-based developmental and educational provision.

Outdoor adventure programmes working with young people with behavioural and psychological difficulties generally appear to require higher levels of staff facilitation, close attention to appropriate selection and targeting, and reinforcement by long-term community based interventions appropriate to young people's interests and needs.

Link to further information about: [Why Adventure? The Role and Value of Outdoor Adventure in young people's personal and social development](#)

Summary of the Effects of Outdoor Education Programs or "Does Outdoor Education Work?" (Australia)

James Neill, International Education Vol.3, No. 4, 1999 and revised for Wilderdom, 2006.

A meta-analysis of 97 outcome studies from around the world.

Does outdoor education work? The research evidence indicates that the effectiveness of outdoor education programming on average is positive and roughly equivalent to other innovative psychosocial interventions. The overall message from the research is that outdoor education has clear potential, if well designed, to foster enhancements of personal and social aspects of learning and development. In addition, at least 11 factors appear to influence what happens to participants during a program and the overall effects of the program.

Outdoor education programs have been found to be moderately effective in influencing typically measured outcomes, such as self-esteem and teamwork. The most commonly researched outcomes have been self constructs such as self-esteem, self-confidence, self-concept and self-efficacy; social constructs such as teamwork and leadership; and other more applied outcomes such as academic achievement and recidivism.

Link to full summary: [Summary of the Effects of Outdoor Education Programs or "Does Outdoor Education Work?"](#) which will lead you to a meta-analysis of 97 research studies by John A. Hattie, Herbert W. Marsh, James T. Neill, Garry E. Richards. Review of Educational Research, 67, 43-87, 1997.

Learning outside the classroom: How far should you go?

A key report by OFSTED, published in 2008

This is a report that evaluates the impact of learning outside the classroom in 27 schools and colleges across England. Key points from the evaluation are:

- When planned and implemented well, learning outside the classroom contributed significantly to raising standards and improving pupils' personal, social and emotional development.
- Learning outside the classroom was most successful when it was an integral element of long-term curriculum planning and closely linked to classroom activities.

Link to the full report: [Learning outside the classroom: How far should you go?](#)

Outdoor education in Scotland: A summary of recent research

ighlights the support for outdoor provision from the Scottish Governments' Curriculum for Excellence. It is clear from the review that outdoor education is no longer seen as being just about adventure or field studies, or as the remit solely of geography or biology teachers. The possible locations of outdoor learning for schools include schools' grounds, urban spaces, rural or city farms, parks, gardens, woodlands, coasts, outdoor centres, wilderness areas and more. In this context, outdoor education is as much about a teaching approach for all teachers as about discrete specialist provision.

Link to the full report: [Outdoor education in Scotland: A summary of recent research](#)

Children in the outdoors: a literature review

Barah-Anne Muñoz, 2009, Sustainable Development Research Centre

This literature review takes an in-depth look at the link between children's use of outdoor spaces and health outcomes and lists a wealth of findings that show there are many positive influences on health and well being.

Link to the full report: [Children in the outdoors: A literature review](#)

Wellbeing and the natural environment: a brief overview of the evidence

DEFRA, 2007.

There is an increasing emphasis on wellbeing as a key indicator of societal progress – this paper summarises the evidence on the contribution of the natural environment to well being.

Link to the full report: [Well being and the natural environment: a brief overview of the evidence](#)

Links to other research about the value of Outdoor Learning

- [Positive Activities for Young People National Evaluation – End of Year 2 Report, 2005](#) (pdf file)
These evaluations of PAYP programmes for thousands of young people in the UK (141,000 in 2005) are generating valuable evidence about the value of outdoor learning (and other kinds of activity-based learning).
 - [Evidence of Success: What the Research Shows about Expeditionary Learning Schools Outward Bound \(ELS\)](#)
Summaries of studies from 1994-2002, USA.
 - ["What the research really says" about the impact of an Outward Bound experience on participants.](#)
Meta-analysis overview, James Neill, Australia, 1998.
 - [Corporate Adventure Training studies \(CAT\)](#)
Simon Priest's summary of 25 studies carried out during 1989-1997, Canada.
-

Next: [Where to find more research about Outdoor Learning](#)

Index to this Brief Guide to Outdoor Learning

[What is OL?](#)

[Why does OL Matter?](#)

[What are the Benefits of OL?](#)

[How safe is OL?](#)

[Who supports OL and why.](#)

[Examples of benefits gained from OL](#)

[Where to find OL research](#)

[How much OL is going on?](#)

[Campaigns for OL](#)



Evidence supporting the benefits of learning outside the classroom

Index:

1. Education, Wellbeing, Health & Environment
2. Education and Culture
3. Inclusion, alienation, social deprivation, youth crime, social mobility
4. School Grounds
5. Other reports, surveys, books and journals

Education, Wellbeing, Health and Environment

1. Natural England (2010) Great Outdoors: How our natural health service can use green space to improve wellbeing
This paper argues that green space can play an important part in tackling a range of health and social problems - obesity, cardiovascular disease, mental ill-health, anti-social behaviour and health inequalities..
2. De Vries, S.(2001) "Nature And Health; The Importance Of Green Space In The Urban Living Environment"
3. Henwood K, (Feb 2001), Exploring linkages between the environment and health: is there a role for environmental and countryside agencies in promoting benefits to health?
This report responds to increasing interest in the 'health benefits' of natural surroundings and the extent to which they contribute to the provision of public goods and services.
4. Peacock A, (Feb 2006) Changing Minds, the lasting impacts of school trips,
A study of the long-term impact of sustained relationships between schools and the National Trust via the Guardianship scheme
5. Malone, K. (2008) Every Experience Matters: An evidence based research report on the role of learning outside the classroom for children's whole development from birth to eighteen years, Report commissioned by Farming and Countryside Education for UK Department Children, School and Families, Wollongong, Australia
The report draws on research from around the world and provides evidence that children engaged in LOTC achieve higher scores in class tests, have greater levels of physical fitness and motor skills development, increased confidence, self esteem, show leadership qualities, are socially competent and more environmentally responsible.
6. Barrett J. and Greenaway R. Dr, (1995) Why Adventure? The Role and Value of Outdoor Adventure in Young People's Personal and Social Development: A Review of Research, The Foundation for Outdoor Adventure*.
Literature review: Its scope covering youth and community work, education, youth social work and youth training, both in the UK and abroad.
 - What is the value to young people of adventure activities?
 - Can such activities contribute to young people's development?
 - What constitutes an effective outdoor adventure?
 - How might the quality of young people's experiences be improved?
 - What are the tools for effective evaluation?

*Research now out of print - Reprint is due through the Institute of Outdoor Learning.

7. Countryside Alliance Foundation, Outdoor education: the countryside as a classroom, (2010)
Research showing the considerable health and well-being benefits of spending time in natural green spaces is growing
8. Rickinson M. et al. FSC (2004), A Review of Research on Outdoor Learning (UK)
Literature review of 150 studies in the period 1993-2003.
9. Philliber Research Associates, et. al. (2005) Youth Development Outcomes of the Camp Experience (USA)
Major study involving over 5000 families from 80 youth camps..
Report found significant growth in young people's
 - Self-esteem
 - Peer relationships
 - Independence
 - Adventure and exploration
 - Leadership
 - Environmental awareness
 - Friendship skills
 - Values and decisions
 - Social comfort
 - Spirituality
10. Morris N, (2003) Health, Well-Being and Open Space, OPENspace Research Centre, Edinburgh College of Art.
Literature Review about the benefits of being outdoors.
11. Hattie, J. et al (1997) 'Adventure education and Outward Bound: out-of-class experiences that make a lasting difference' Review of Educational Research
Examines the effects of adventure programmes on young people's self concept and awareness, leadership skills, etc.
12. Ward Thompson C., Travlou P. & Roe J., Free range teenagers: The role of wild adventure space in young people's lives,
Undertaken on behalf of Natural England (formerly English Nature and parts of the Countryside Agency and Rural Development Service) to investigate how the "wild adventure space" can play an important role in meeting the developmental needs of young people (12-18yrs) across England. Evidence supports social development, physical health, educational development, community development etc.
13. Rees G. et al., Understanding Children's Wellbeing: a national survey of young people's well being, Children's Society
Research trying to determine what factors have the greatest impact on a child's well-being. It looks at the components of well-being as: relationships; environments; self; freedom, choice and safety. "Young people who described themselves as having difficulties with learning were less happy with all aspects of their lives"
14. Lester, S. & Maudsley, M., (2006) Play, naturally: A review of children's natural play, Children's Play Council
Reviews the substantial evidence that supports the wide-ranging values and benefits arising from children's play in natural settings.
15. Muñoz, S-A. (2009) Children in the outdoors: a literature review

This literature review examines existing research on health and the outdoors - highlighting the key ways in which researchers have, thus far, examined the links and reported causality and effects.

16. Gleave J, (2008) Play Day, Give us a go! - Risk and Play, a literature review; Play England
A study commissioned for Playday, shows that 51 per cent of children aged seven to 12 years are not allowed to climb a tree without adult supervision. It also showed that children's experiences of adventure are now confined to designated areas such as playgrounds, their homes or theme parks. Play Scotland, the body which works to promote the importance of play for all youngsters in Scotland, responded to the research by backing the call for a re-think of the risk-averse culture when it comes to children's' play.
17. Statistics on Obesity, Physical Activity and Diet: England, The Information Centre, January 2008
A statistical bulletin which presents a range of information on obesity, physical activity and diet, drawn together from a variety of sources. It shows how obesity and inactivity in young people is on the rise.
18. Passey, R., Morris, M. and Reed, F. (2010). Impact of School Gardening on Learning: Final Report submitted to the Royal Horticultural Society. London: RHS,
Shows how the use of gardens as a natural sustainable resource can support schools in addressing the curricular, social and emotional development of young people. Findings show improved literacy and numeracy, greater scientific knowledge, positive attitudes to healthy eating
19. Pretty J, Angus C, Bain M, Barton J, Gladwell V, Hine R, Pilgrim S, Sandercock S and Sellens M. 2009. Nature, Childhood, Health and Life Pathways. Interdisciplinary Centre for Environment and Society Occasional Paper 2009-02. University of Essex, UK.
Looks at activity in green places (in the presence of nature) has positive health outcomes and promotes ecological knowledge, enhances social bonds and influences behavioural choices. Recommends children should be given opportunities to learn in outdoor settings.
20. England Biodiversity Strategy group on Education and Public Understanding
The Vision: A society in which people recognise, value and take action to maintain and enhance biodiversity as part of their everyday lives – in the same way that they might address health issues, the community in which they live, or their economic circumstances.
21. BTCV, Inspiring People, improving places: the positive impact and behavioural change achieved through environmental volunteering.
Although this focuses on volunteering there is a link with learning outside the classroom and shows being outdoors has a direct impact on young people and societal targets including social cohesion, health, mental well being etc. 'Nine out of 10 young volunteers said they learnt something new'. The report also Looks at social return on investment.
22. Environmental Socialization: Quantitative Tests of the Childhood Play Hypothesis. Environment and Behaviour 34:795-818.
Two studies with adolescent youth (N = 1,376, N = 450) help clarify the relationship between childhood play experiences in wild environments and later environmental preferences in the life domains of work, leisure, and school. Respondents reporting having played in wild environments had more positive perceptions of natural environments, outdoor recreation activities, and future indoor/outdoor occupational environments. No significant differences were found for preferences for

environmental sciences activities conducted in schools. Results suggest that childhood play in wildland environments is related to environmental competencies and preferences but not necessarily an intellectual interest in environmental sciences or environmentalism.

Full text not available online without subscription

23. Parsons, G. (2007) Heading Out - Exploring the impact of outdoor experiences on foundation stage children, Learning through Landscapes.
Explores the impact of outdoor opportunities upon the development of foundation stage (3-5 year old) children and in particular the provision provided by early years settings. It includes the findings from published research and the impact of positive intervention at two case study early years settings.
24. Amos R. Reiss M, (2009) London Challenge Residential Initiative Main Phase Evaluation 2005-2008, Field Studies Council
An evaluation of the 2005-2008 London Challenge Residential Experience offered to all schools in 33 London boroughs. Schools were given the opportunity to take groups of Key Stage 3 students on a fully or partly funded residential course at a designated rural field study centre.
25. Bell, A. Dymont, J. (2006) Grounds for action: promoting physical activity through school ground greening in Canada, Evergreen
Examines the ways that greening initiatives can promote physical activity in schools.
26. Natural England (2009) Childhood and nature: a survey on changing relationships with nature across generations
27. Bird, W. (2007) Natural thinking: investigating the links between the natural environment, biodiversity and mental health.
This report, commissioned by the RSPB, looks at the evidence linking wildlife-rich areas and green space with mental health. Past generations have intuitively understood this relationship, perhaps better than we do, yet the evidence needed to quantify the health value of the natural environment is still evolving.
28. Newton, J. (2007) Wellbeing and the natural environment: a brief overview of the evidence, DEFRA.
Explores the link between well-being and the natural environment
29. Countryside Recreation Network (2005) A Countryside for Health and Wellbeing: The Physical and Mental Health Benefits of Green Exercise
Research exploring the how physical activity and nature can affect wellbeing with evidence indicating that nature can contribute to health and reduce stress.
30. RSPB (2010) Every Child Outdoors.
RSPB's new research report into the crucial relationship between children and nature – The report draws together findings from the wide range of existing research into the positive impacts contact with nature has for children, as well as the environment. These include the educational benefits, contributions to physical health and mental wellbeing, as well as development of personal and social skills. It also explores some of the consequences of the reduction of such experiences and the increasingly used term of Nature Deficit Disorder to describe the phenomenon.
31. Sustainable Development Commission (2010), Improving Young People's Lives: The role of the environment in building resilience, responsibility and employment chances

This report proposes a green thread through policy and practice, where the impact of the environment is considered alongside social and economic factors – the building blocks of sustainable development. To date, this has been the missing element in most policy making for young people, and is only sporadically evident in local delivery. It demonstrates how taking this broader approach can improve outcomes for young people, whilst supporting the Government's aims for a Big Society and being the 'greenest Government ever'.

32. Hougie P. (2010) Can family outdoor and countryside recreation help reconnect children with the outdoors? Affluent middle childhood perspectives of countryside recreation in the United Kingdom. *Journal of Outdoor Recreation, Education and Leadership*. Vol 2, No 2, pp. 217-244
This study explores whether countryside recreation has a role in reconnecting children with the outdoor environments.

Education & Culture [\[back to top\]](#)

1. Watson, S, Dodd, J. and Jones, C. (2007) Engage, Learn, Achieve: The impact of Museum visits on the attainment of secondary pupils in the East of England 2006-2007, Renaissance East of England/RCMG
Research investigating the impact on attainment of secondary-age pupils completing a piece of assessed work as a result of a museum visit.
2. Hooper-Greenhill, E. (2007) Museums and Education: Purpose, Pedagogy, Performance London: Routledge.
3. Changing behaviour: In 2009 Engaging Places commissioned a survey of almost 2,000 11-14 year olds throughout England Research aimed to see whether young people thought that learning about the buildings and places around them had an impact on how they and their peers behaved.
4. Hooper-Greenhill, Dodd, J, E., Creaser, C., Sandell, R., Jones, C. and Woodham, A., 2007 Inspiration, Identity, Learning: The Value of Museums, Second Study. An evaluation of the DCMS/DCSF National/Regional Museum Partnership Programme, DCMS/RCMG,
Research to explore the impact of learning for schools and community groups across 12 projects. A large amount of evidence was collated. Contact with 29,701 school pupils and 503 teacher questionnaires were completed. The twelve projects worked towards social inclusion and community cohesion.
5. Hooper-Greenhill, Dodd, J, Phillips, M, Gibson, L. & Jones, C. 2006 What did you Learn at the Museum Today Second Study. An evaluation of the outcomes of learning through the implementation of the education program delivery plan across nine regional hubs (2005) MLA/RCMG
A report on the evaluation of the outcome and impact of learning as a result of the Education Programme Delivery Plans in 69 museums. 19% of the school visits in the study came from Super Output Areas (SOAs) classified as being amongst the 10% most deprived in England; 32 % of visits were made by schools located in 20% most deprived SOAs.
6. Hooper- Greenhill, E., Dodd, J., Moussouri, T., Jones, C., Pickford, C., Herman, C., Morrison., Vincent, J. & Toon, R. (2003) Measuring the Outcomes and Impact of Learning in Museums Archives and Libraries. The Learning Impact Research Project End of Project Paper
7. Hooper Greenhill, E. Dodd, J., O'Riain, H., Selfridge, L., Clarke, A., Swift, F. (2002) Learning Through Culture- The DfES Museum and Galleries Education Programme: a guide to good practice. DfES London.

8. Ofsted (2008), Learning outside the classroom - how far should you go?
At a time when the government is actively promoting learning outside the classroom, this report evaluates the importance of such learning in primary and secondary schools and colleges.
9. Aked, J. Marks, N. Cordon, C. Thompson, S (2008) Five ways to well-being: the evidence, New Economics Foundation.
A report presented to the Foresight Project communication the evidence base for improving people's well-being. "physical activity protects against cognitive decline in later life and against the onset of depressive symptoms and anxiety.
10. The Countryside Agency (2003) Capturing richness
11. Higgins, P., Nicol, R. and Ross, H. (2006). Teachers' approaches and attitudes to engaging with the natural heritage through the curriculum. Scottish Natural Heritage Commissioned Report No. 161 (ROAME No. F04AB04).
This report, from Scottish Natural Heritage, examines the educational drivers which encourage teaching about the natural heritage outdoors; the factors to which teachers have responded when they made a decision to use the outdoors as a teaching aid; and the barriers which have prevented them from doing so.
12. DeWitt, J. and Hohenstein, J. (2010), School Trips and Classroom Lessons: An investigation into Teacher-Student Talk in Two Settings, *Journal of Research in Science Teaching*, 47: 454–473. doi: 10.1002/tea.20346
The museum setting affords many experiences not available in a classroom—does it also afford different types of discourse? Transcripts from one secondary and three primary school classes provide evidence of the extent to which teachers' talk conformed to a triadic pattern, with discourse during the pre- and post-visit lessons more closely adhering to this pattern than that during the visit. However, a closer look at teacher–student discourse revealed further complexities, including greater use of open-ended questions during triadic than during non-triadic discourse. Overall, the findings from this research indicate that museum visits may enable pupils to assert more authority temporarily and provide insight into processes by which such experiences may contribute to learning
13. Sharp C. *et al* (2008) The longer-term impact of Creative Partnerships on the attainment of young people: Results from 2005 and 2006. Commissioned by the Arts Council England.
A study to investigate the longer term impact of the Creative Partnerships programme using attainment data for 2005 and 2006.

Inclusion, alienation, social deprivation, youth crime, social mobility [[back to top](#)]

1. Sutton Trust (2010) The Mobility Manifesto, A report on cost-effective ways to achieve greater social mobility through education.
The report assesses the relative cost benefit of a number of the Trust's existing projects. Improving levels of social mobility for future generations in the UK would boost the economy by up to £140 billion a year by 2050 in today's prices – or an additional 4% of Gross Domestic Product (GDP) over and above any other growth. The Manifesto notes that summer camps that mix learning with fun: "have shown substantial improvements in participants' reading scores ... which disproportionately impacts on those from lower socio-economic groups"

2. Nunn, A. Johnson, S. Monron S. Bickerstaffe, T. & Kelsey, S. (2007) Factors influencing social mobility – a literature review. Department for Work and Pensions, Leeds
 'Education appears to be on of the most important factors influencing social mobility.' Improvements in the education system/offer hasn't improved social mobility. The report suggests this is due to the more well-off being able to capitalise on the educational offer.
3. Mannion G.(2003) Children's participation in school grounds developments: creating a place for education that promotes children's social inclusion, International Journal of Inclusive Education
 You need to be a subscriber to download this paper
4. Sodha, S. Guglielmi, S. (2009) A stitch in time: tackling educational disengagement, DEMOS
 Outdoor education teachers and adventure therapists have argued that a systematic approach to experiential learning through challenge can develop participants trust, social competence and group cohesion. Thereby, facilitating a real engagement with school and family. This study supports this claim, demonstrating significant gains in social competence for 22 Year 8 students participating in the three stage Adventure Based Learning Experience (ABLE) program as compared to the control groups.
5. Danby Outdoors Able Project (2006): The Effect of Adventure Based Learning on social competence, group cohesion and emotional regulation

A research project studying the effect Adventure Based Learning, delivered within a social constructivist framework by an Outdoor Educational Centre, has on the social emotional learning of Key Stage 3 students attending a state comprehensive secondary school in England. This paper found a 14% increase in self-esteem over an 8 week period against a control group with no Adventure Based learning intervention. This paper has been peer-assessed and is an independent finding by an academic.
6. Gaseley L. Dunne M., (2005) Addressing Working Class Underachievement, Commissioned by Multiverse
 Research exploring ways in which working class underachievement is addressed in schools and in Initial Teacher Education.

School Grounds [\[back to top\]](#)

1. School Grounds of the Future - DfES & LTL
 Evaluation of the 3year programme demonstrating how school grounds can be managed to benefit children's learning and development, and provide an asset for the whole community, through the use of devolved capital.
2. O'Brien, L. Murray R. (2006) A marvellous opportunity for children to learn: a participatory evaluation of Forest School in England and Wales. Forest Research
3. Chillman, B. Do school grounds have a value as an educational resource in the secondary sector? Sussex University and LTL
 Review of research relevant to secondary school grounds development.
4. Learning through Landscapes (2005), Early Childhood Education Outdoor Play Survey
5. Dymont, J. (2005) Gaining Ground, The Power and Potential of School Ground Greening in the Toronto District School Board
 Identifies benefits of hands-on outdoor learning on student engagement, achievement, behaviour, health, safety and environmental awareness. It argues for greater institutional support of green school grounds.

6. Sanders D. White, G. Burge, B. Sharp, C. (2005) The transition from Foundation Stage to Key Stage 1. National Foundation for Education Research (on behalf of Sure Start)
Comparison of children's experiences and expectations whilst in the Foundation Stage and Year One. "The amount of time children in Year 1 spend sitting still and listening to the teacher should be reduced. Year 1 teachers should be encouraged to increase opportunities for active and independent learning and learning through play"
7. McKendrick, J. (2005) School Grounds in Scotland research report, The Scottish Poverty Information Unit
The first national survey of state sector school grounds in Scotland sought evidence on the current attitudes toward and use of school grounds to inform national debate on how to target resources more effectively, support new initiatives and establish best practice in Scottish education.
8. Nicol, R. et. al (2007) Outdoor education in Scotland: a summary of recent research
This report is the culmination of an extensive research programme on outdoor learning in Scotland supported by SNH and LTS to provide the background to allow key government agencies and their partners to stimulate appropriate outdoor learning development.

Other reports, surveys, books and journals [\[back to top\]](#)

1. Gill, T. (2010) Nothing ventured - balancing risks and benefits in the outdoors, English Outdoor Council.
2. Cambridge Primary Review (2008) Learning and teaching in primary schools: insights from TLRP
3. Alexander, R. et. al. (2009) The Cambridge Primary Review Research Surveys, Routledge
The outcome of the Cambridge Primary Review – England's biggest enquiry into primary education for over forty years. Fully independent of government, it was launched in 2006 to investigate the condition and future of primary education at a time of change and uncertainty and after two decades of almost uninterrupted reform. Ranging over ten broad themes and drawing on a vast array of evidence, the Review published thirty-one interim reports, including twenty- eight surveys of published research, provoking media headlines and public debate, before presenting its final report and recommendations.
4. QCDA (2010) The aims of the curriculum
5. New Economics Foundation (2009) National accounts of well-being: bringing real wealth onto the balance sheet
6. New Philanthropy Capital (2009) Getting back on track
7. DCSF (2005) Residential opportunities available for young people through schools
This research maps out the nature of residential opportunities available for young people aged 7 to 16 while at school. The survey was drawn from 100 schools from each of the nine government regions in England and Wales, making a total of 900 contributing schools
8. DCSF (2009) Attitudinal barriers to engaging young people in positive activities: literature and communications review

9. Risk and Regulation Advisory Council (2009) Response with responsibility: policy-making for public risk in the 21st century
10. Furedi, F. (2002) Culture of fear: risk-taking and the morality of low expectations, Continuum International Publishing Group; 2 Revised edition (May 2002)
Frank Furedi argues that the greater danger in our culture is the tendency to fear achievements representing a more constructive side of humanity.
11. Power S. et al (2009) 'Out of school learning: variations in provision and participation in secondary schools' Research Papers in Education 24(4): 439-460
There is overwhelming evidence of the benefits of out-of-school learning. It is likely to be particularly important for disadvantaged students who have fewer material and cultural resources in the home to supplement their classroom work. However, despite the research evidence and political moves to promote out-of-school learning, it would appear that the provision of such activities is increasingly threatened by resource constraints, regulation and risk aversion. The research reported here set out to investigate how schools experience these and other difficulties and how they differentially affect the provision of and participation in out-of-school learning activities.
12. DCSF (2007) Early years foundation stage: effective practice: outdoor learning
13. House of Commons Children, Schools and Families Committee (2010) Transforming education outside the classroom