THE COOL CLUB

creating engaging, experimental and creative encounters between young minds and polar researchers

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Paper Number
ED33A-0770

Cool Club 1 – Melting Moments
Ice sheets, shelves, glaciers and bergs - welcome to the cryosphere
Allen Pope, SPRI

Cool Club 2 – Beyond the Rainbow
Remote sensing – how does it work and what can it reveal?
Gareth Rees, SPRI

Cool Club 3 – Surviving Antarctica
Life above and below the sea ice – an up-close look at sensitive creatures that adapt to living in icy seas
Simon Morley, BAS

Cool Club 4 – Marvelous Mapping
Start with a dog team, flask of tea and blank paper – now map Antarctica
Peter Clarkson, SPRI

Cool Club 5 – How do we know who we are?
Finding one's way in Canada's Arctic – talking to people as research
Jackie Price, SPRI

Cool Club 6 – Models & Frozen Mudpies
Understanding Arctic permafrost – modelling changes occurring due to climate warming
Ruth Mugford, SPRI

aims

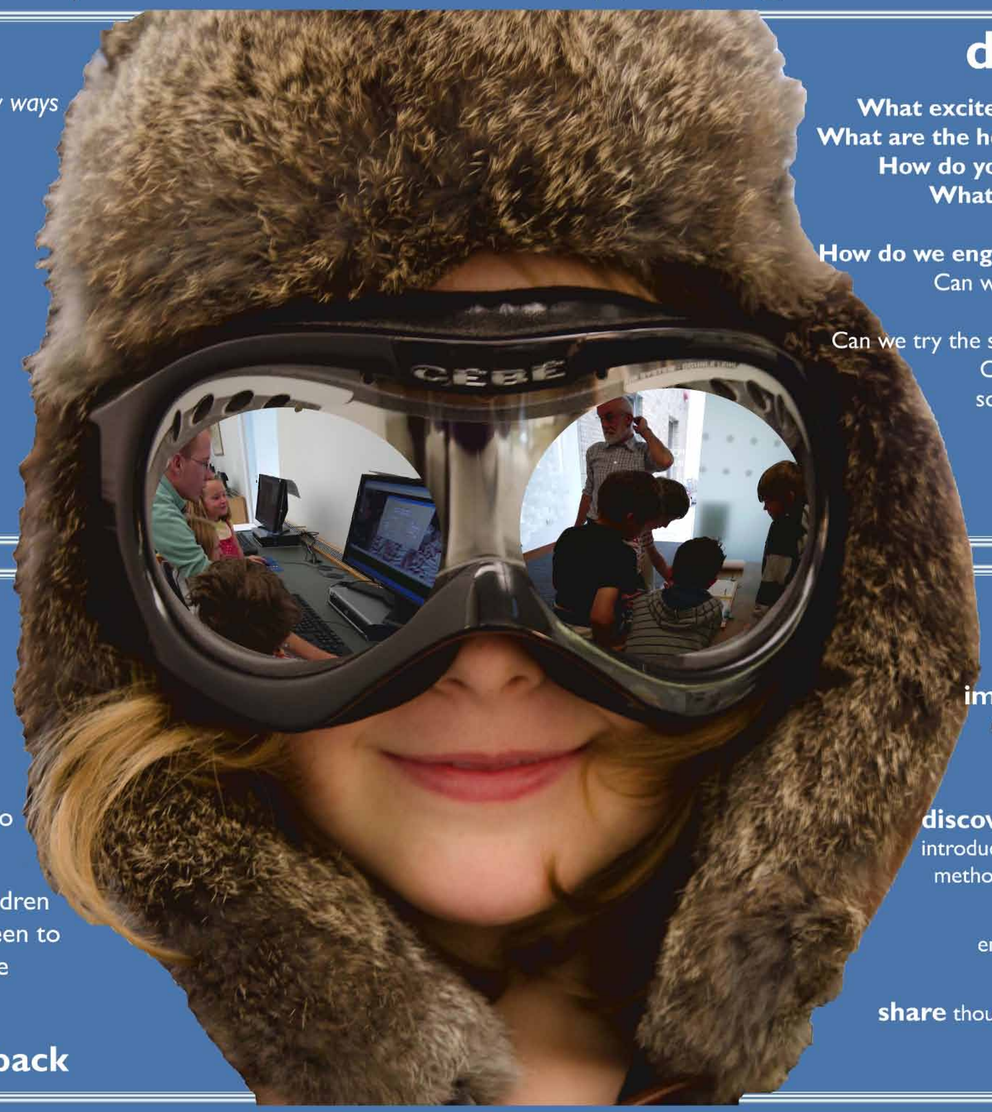
We can offer young minds new ways of thinking about the world

by facilitating face to face encounters

by bringing children into the research environment

by combining real science & creativity

by educators & researchers working collaboratively



development

What excites you about your research?
What are the hot topics and key concepts?
How do you collect and analyse data?
What difference does this make?

How do we engage children in these ideas?
Can we have a two way conversation about our research?
Can we try the same equipment or techniques?
Can we play a game, do or make something to explore a concept?
to express how we feel?
to communicate an idea?
to imagine something we dont know?

evaluation

Cool Club is a holiday-time activity for children ages 7-11, lasting 2 hours

Sixty-nine places were filled out of a possible seventy-two over six cool club sessions

Just under a third of the children who participated had not been to **The Polar Museum** before

all of them said they would come back

delivery

images & dialogic learning
meet the researcher and find out who they are, where they go what they do and why

discover by doing and making
introduce science concepts and research methodology through hands-on activity

experiment
encourage children try it out using authentictools and equipment

share thoughts and go home with a fact sheet

case study

beyond the rainbow

Exciting? remote sensing can reveal the invisible
Hot topic? impact of pollution and climate change on plants and ice
Key concepts? waves - visible and invisible (e.g. near infrared), colour and temperature, acid rain
Data collection? field work in the Arctic and analysis of multi-channel digital images
Making a difference? work with international colleagues to gather data and reveal changes in the tundra (which make a difference to the animals and people who live in the Arctic)

'There is something beyond the rainbow - ultra violet and infrared - and I can see it'

children say what they can see in an image
researcher describes what they are doing
educator ask questions to establish level of understanding and makes links with the familiar

acid rain changes things - vinegar shines a penny

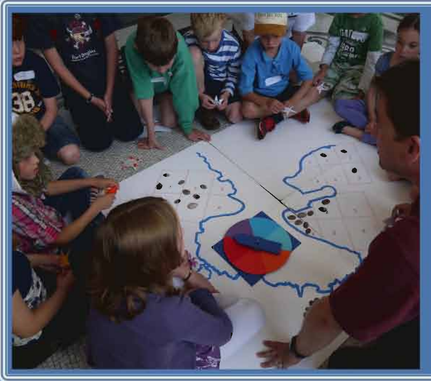
children see the science happening
educator ask what children think is happening
researcher explain how it's important in your work

The world looks different depending on the wavelength
I see yellow through tinted sweet wrappers

children plan and do experiments, explore and extend ideas through creative activity
researcher interact informally one to one
educator facilitate activity

We can measure colours and spot the difference between real and fake grass
Use a multiband radiometre

On computer play with rgb channels to see what is revealed in a landsat image



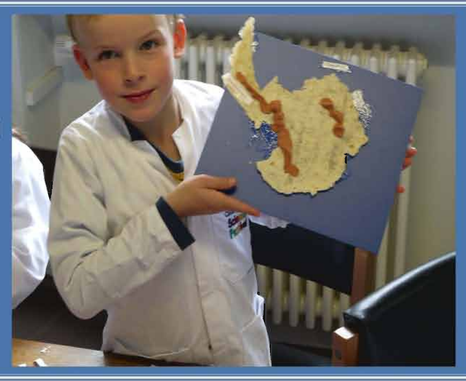
key ingredients?

- build in movement and creativity to each activity

'Oliver came home and photographed the remote control infrared on a digital camera and we were all amazed!'

'It took all of lunch at the local French cafe for him to run out of things to tell me and then his father wanted a full explanation of events when we got home'

'It increased their confidence and enthusiasm to learn new things - it was very different to what they have done at school'



lessons learnt

everyone involved should agree it's an important thing to do

'Paring down what I do to its most direct and engaging form, ready to be scrutinised by 7 year old, is good for my own understanding of science'

'I recently applied for post doc funding and built in the Cool Club as a way of engaging the wider public in my research'