

The ‘What could hurt you here?’ approach to field safety Teaching how to keep safe during fieldwork and other outdoor activities

Even more important than keeping field parties safe, is to teach them how to keep themselves safe.

Begin by asking this question, and writing down the answers

What could hurt you here?

Give them a clue to the broad thinking they might use, by adding, ‘There is no reversal or ‘flip’ of the Earth’s magnetic field planned for today’ (echoing safety talks you may have heard with, ‘There is no fire alarm test planned for today’).

You could write a list of the answers they give yourself, ask one of the field party to note them down, or ask everyone to write their own list.

Then ask:

Which of these is most likely to hurt you here?

Ask them to add a star, highlight or underlining to the list, showing which are most likely to be a danger in this field area.

Finally ask:

What are we going to do about it?

This is where all the approaches used to increase safety in the field are added to the list – so that everybody knows the high priority given to safety, how they should keep safe themselves, and how safety equipment should be used properly.

You could use a table like this for recording this activity in the field.

What could hurt you here? 1. Make a list of all the different things that could hurt you in this area. 2. Add a star, highlight to or underlining to the list, showing which of these is most likely.	What are we going to do about it? Add all the suggestions to the list, after discussion.

A group of Earth Science Teachers’ Association members recorded this list at their first coastal field site (with asterisks showing the most likely):

<ul style="list-style-type: none"> • Falling off a cliff * • Rocks falling from above* • Tsunamis • Undetected asteroid • Dog • Hypothermia • Lightning • Trees falling* • Car park accident* • Earthquake • Reversing boat trailer* 	<ul style="list-style-type: none"> • Hammers • Crazy human being • Trapped by high tides* • Allergic reaction from a sting* • Heatstroke • Knocking someone off a rock* • Lyme disease* • Weil’s disease • Burns from a giant hogweed
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The responses to ‘What are we going to do about it?’ were:

<ul style="list-style-type: none"> • Falling off a cliff * - first aid kit; stay away from cliff edge
<ul style="list-style-type: none"> • Rocks falling from above* - helmet
<ul style="list-style-type: none"> • Trees falling* - helmet
<ul style="list-style-type: none"> • Car park accident* - safety jacket
<ul style="list-style-type: none"> • Trapped by high tides* - look at tide tables; wear a watch
<ul style="list-style-type: none"> • Allergic reaction from a sting* - first aid (pens)
<ul style="list-style-type: none"> • Knocking someone off a rock* - safety jacket
<ul style="list-style-type: none"> • Lyme disease* - long trousers

Meanwhile a group of geology teachers on a professional development course recorded this list, at an inland site (asterisks = most likely):

<ul style="list-style-type: none"> • Supervolcano • Choking • Sliding/falling on wet grass 	<ul style="list-style-type: none"> • Falling tree • Tripping down a hole* • Being run over • Disused mine shaft*
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<ul style="list-style-type: none"> • Meteorite • Poisonous plant ingestion • Animal hazards, e.g. trampling, bites • Hypothermia or hyperthermia 	<ul style="list-style-type: none"> • Abandoned equipment* • Tetanus (rusty metal) • Steep slope fall/falling off a cliff* • Dehydration • Landslide
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The ‘What could hurt you here?’ discussion. (Duncan Hawley).

The responses were:

<ul style="list-style-type: none"> • Tripping down a hole* - keep to footpath; high-vis vests • Disused mine shaft* - as above • Abandoned equipment* - avoid it • Steep slope fall/falling off a cliff* - stick to footpaths; wear hard hat

Keep the recording sheet(s). The fact that you have held this safety discussion may be important if there are prosecutions or proposed prosecutions on safety issues linked to your fieldwork leadership.

The back up

Title: The 'What could hurt you here?' approach to field safety.

Subtitle: Teaching how to keep safe during fieldwork and other outdoor activities.

Topic: How to introduce fieldwork safety in ways that the group is likely to remember.

Age range of pupils: 5 years upwards

Time needed to complete activity: 10 minutes

Pupil learning outcomes: Pupils can:

- use their imagination to describe a wide range of potential dangers, some fanciful;
- pick out and explain which of these is most likely to be dangerous to them today;
- describe the different ways of increasing safety in potentially dangerous conditions;
- use these methods to enhance their safety and the safety of the group.

Context:

It is often useful to remind the group that not only is the leader responsible for the safety of the group, but that each of the group members is also responsible for the safety of all the members of the group – including the leader!

Issuing group members with high-vis vests or safety jackets not only insures that the group members are more visible to the leader and one another, but also helps everyone to realise that they are in the field to do an important job of work; that this is serious, and not a leisure activity. High-vis vests are available very cheaply.

Notes on particular safety issues:

- A hard hat is only effective against head banging or very minor bits of rock being dislodged. It is no protection against cliff falls.



A recent cliff fall at Charmouth on the south coast of the UK.
(Peter Kennett).

- Weil's disease is spread by rat urine so wash your hands before eating during or after fieldwork.
- Lyme disease is spread by ticks from long vegetation, so wear long trousers, long-sleeved shirts, etc.
- There is no such thing as a freak wave – in all sequences of waves there is an occasional big one, and any approach to coastal waves should only be made after a period of careful wave-watching.

Note that it is because fieldwork leaders are alert to safety issues, that fieldwork is one of the safer outdoor activities that pupils can undertake.

Following up the activity:

Stress potential dangers as they are encountered by using powerful language like, if they want to examine a rock at the bottom of a gully, 'Is it a good idea to go into death gully?' or if they want to go close to wave-covered rocks, 'Do you want to find out which is the killer wave?'

Underlying principles:

- Geoscience field visits are safe when leaders are well trained and alert all members of the group to potential dangers.
- Through fieldwork, group members should learn how to increase their own safety in the field and for life.

Thinking skill development:

Thinking about what might happen in a field area involves building a picture or constructing a pattern of potential dangers; discussing these involves metacognition; applying their safety learning in new contexts involves bridging skills.

Resource list:

- field safety equipment including safety helmets, high-vis vests and a first aid kit carried by a first aid-trained person

Useful links:

The Geologists' Association Geological Fieldwork Code can be found at:

<http://geologistsassociation.org.uk/downloads/Code%20of%20conduct/Code%20for%20fieldwork%20combined.pdf>

Fieldwork safety guidance published by the Barcelona Field Studies Centre is at:

<http://geographyfieldwork.com/GeologyFieldworkRiskAssessments.htm>

Source: Devised by Chris King of the Earthlearningidea Team, inspired by the field safety approaches of Sid Howells and discussions with Pete Loader. Members of the Earth Science Teachers' Association and the Geoscience Summer School 2017 are thanked for their help in devising the lists.



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