



Hampshire
County Council

Improvement and
Advisory Service

HIAS MOODLE OPEN RESOURCE

Supporting Primary-Aged Pupils to Understand Science Safety and Risk

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Overview

This document contains...

This document contains strategies and resources to help primary-aged pupils understand how to keep themselves safe during practical science activities. It aims to support the development of responsible scientific thinking and behaviour in UK primary schools.

Points to consider when using this resource

Adapt for Age and Stage

Tailor the language and activities to suit the age and developmental stage of your pupils. Younger children may need more visual prompts and modelling, while older pupils can engage more deeply in discussions about risk.

Contextual Relevance

Ensure the examples and scenarios used are relevant to the specific science topics and practical activities being taught in your setting.

Whole-School Consistency

Align safety messages with whole-school policies and procedures, including behaviour expectations and health and safety protocols.

Staff Confidence and Training

Ensure all staff involved in delivering science have access to appropriate training and understand how to use this resource effectively.

Pupil Voice

Involve pupils in shaping how safety is taught and reinforced. Their insights can help make safety messages more meaningful and memorable.

Parental Engagement

Consider sharing key safety messages with parents and carers, especially when practical activities are part of homework or home learning.

Review and Reflect

Regularly review how the resource is being used and adapt it based on feedback from staff and pupils.

Images used in this resource by [OpenClipart-Vectors](#), by [Cler-Free-Vector-Images](#) from [Pixabay](#)

Supporting Primary-Aged Pupils to Understand Science Safety and Risk

Embed Safety in Everyday Practice

Model Safe Behaviour

Demonstrate correct handling of equipment and materials, explaining the reasons behind each safety step.

Establish Routines

Create consistent procedures for setting up, conducting, and tidying up practical activities.

Use Visual Cues

Display safety posters, use colour-coded labels, and introduce simple hazard symbols (e.g. CLEAPSS symbols) to reinforce safety messages.



Figure 1 CLEAPSS-Explore-13.pdf

Develop Understanding Through Dialogue

Use Child-Friendly Language

Explain risks in simple, age-appropriate terms (e.g. "This liquid can hurt your skin, so we wear gloves").



Encourage Predictive Thinking

Ask questions like, "What do you think might happen if...?" to promote risk awareness.

Reflective Discussions

Use circle time or plenaries to discuss what went well and what could be improved in terms of safety.



Involve Pupils in Risk Assessment

Collaborative Risk Assessments: Involve pupils in identifying hazards and discussing how to manage them safely.

Visual Tools: Use simple templates with columns such as "What are we doing?", "What could go wrong?", and "How can we stay safe?"

Role-Play Activities: Act out scenarios where pupils must choose the safest course of action.

Use Stories and Scenarios

Safety Stories: Share or create stories where characters encounter science-related risks and make decisions.



The image shows three children standing against a light grey background. On the left, a boy in a blue shirt and white shorts holds a white sign that says: "Let's just mix all of them together and see what happens! It'll be fun!". In the center, a girl in a floral dress holds a white sign that says: "Wait... shouldn't we check which ones are safe to mix first?". On the right, a boy in a blue shirt and jeans holds a white sign that says: "I saw a video where this made a volcano! Let's try it!".

What do you think the group should do next?

Who is showing safe science behaviour?

What could go wrong if they mix everything without checking?

How could they find out which combinations are safe?

Link to the Curriculum

Cross-Curricular Links: Integrate safety learning with PSHE (personal responsibility), English (writing instructions), and Art (designing posters).

Working Scientifically: Use this strand to explore how scientists work safely and ethically.

THE CURIOUS CASE OF THE POND WATER



Scenario:

A group of scientists is investigating the health of a local pond. They want to find out if the water is clean and safe for animals and plants.

Safety Focus:

- the scientists wear gloves and goggles to protect themselves from bacteria or chemicals in the water
- they wash their hands after handling samples
- they use clean equipment to avoid contaminating the pond or their samples.

Ethical Focus:

- they make sure not to harm any animals or plants while collecting samples
- they return any creatures they find back to the pond gently
- they share their findings with the local community to help protect the environment.

Discussion Prompts:

Why do you think the scientists wore gloves and goggles?

What would happen if they didn't return the animals to the pond?

How can we be like scientists when we do our own investigations?

Celebrate Safe Practice

Safety Champions: Appoint pupils as "Safety Monitors" during practical sessions.

Positive Reinforcement: Praise and reward pupils who demonstrate good safety awareness and behaviour.



Use CLEAPSS

CLEAPSS Primary Science: Access guidance and model risk assessments.



Website: <https://primary.cleapss.org.uk>

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