Environment

Links to 2014 National Curriculum

Living things and their habitats.

Evolution and inheritance.

Useful equipment

Plastic gloves.

HIAS Learning Journeys

- How animals survive.
- Habitats and how the seasons affect them.
- How do plants grow?
- Making new plants.
- Feeding relationships and the environment.
- How plants reproduce.
- How plants make their food.
- Evolution and natural selection.

Hazards

- Transfer of infections.
- Tetanus and Weil's disease (from contaminated pond water).
- Falling into pond.
- Pupils and staff may experience an allergic reaction.
- Slips, trips and falls.

Actions – in the event of a problem

 Identify cause of an allergic reaction and remove from the pupil.

Precautions – suggested actions

- Before working in a pond, identify pupils with cuts, grazes or broken skin and cover area.
- Check for suitable dipping places that are not slippery or too steep. Choose a spot where the water is shallow round the edge.
- Check areas prior to visit for sharp objects, poisonous plants or contamination by animals.
- Check that pupils are wearing sturdy footwear.
- Limit amount of frogspawn kept and return to the same pond where originally collected wherever possible before metamorphosis is complete.
- Pupils and adults must wash their hands after touching animals or plants.
- Collect small creatures for study using a pooter or fine paintbrush to avoid harming them.
- Return small invertebrates collected from environment as soon as possible.

Actions – in the event of a problem (continued)

 In the event of an animal bite, scratch or sting, encourage bleeding (unless profuse) by squeezing the skin. This will help clean the wound, which should **not** be sucked. Clean with a medical wipe.

Precautions – suggested actions (continued)

 Develop a code of practice for visits into the school environment and local sites.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Symptoms of an allergic reaction include: wheezing, coughing, sneezing, skin rash, skin reddening, itching, sweating, runny noses, runny eyes.
- Some species of animals and plants are protected and should not be taken from their natural habitat.
- Gravel pits often shelve very quickly and the water is very deep.
- Tidal coastal areas come within the definition of open countryside regulations.
- Please see other safety advice from Hampshire Outdoors, found on the EVOLVE website
 (access via: www.hampshireoutdoors.com). Please contact the Hampshire Outdoors team if
 you have any questions or queries regarding outdoor/offsite activities:
 outdoor.education@hants.gov.uk.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496

http://primary.cleapss.org.uk/

PO59 – Planning a pond

PO62 – Model pond policy

PO60 - Pond safety in primary schools

PO63 – Maintaining and restoring a pond

PO64 - Pond dipping

PO51 - Keeping tadpoles

Micro-organisms

Links to 2014 National Curriculum

Living things and their habitats.

HIAS Learning Journeys

Feeding relationships and the environment.

Useful equipment

- Plastic gloves.
- Containers that can be sealed.

Hazards

- Contamination with other food stuffs.
- Allergic reactions.
- Explosion caused by build up of gases when growing yeast.

Actions – in the event of a problem

- Identify cause of an allergic reaction and remove from the pupil – seek medical advice in the event of a severe reaction.
- In the event of a spillage, teachers must cover the surface with a strong disinfectant for 30 minutes and then wipe up wearing gloves.
- Spillages on skin or clothing should be washed immediately with soap and hot water.

Precautions – suggested actions

- Wash hands with soap and water before and after.
- Cover cuts and grazes.
- Keep cultures, such as mouldy bread and other foodstuffs, in sealed containers and dispose of with normal school waste without unsealing when finished.
- Keep away from other foodstuffs (such as in a fridge) to avoid contamination.
- Containers used for growing yeast should only be loosely plugged with cotton wool.
- Wear plastic gloves.
- Tell pupils they **must not** make hand, eye and mouth contact.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Symptoms of an allergic reaction include: wheezing, coughing, sneezing, skin rash, skin reddening, itching, sweating, runny noses, runny eyes.
- There is a legal requirement under the Control of Substances Hazardous to Health (COSHH) Regulations (1999) to carry out an assessment of risks associated with microbiological hazards whenever pupils are involved with microbiology. See page 4 of CLEAPSS L190 for further guidance.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496

http://primary.cleapss.org.uk/

PO06 - Growing fungi on food

PO49 – Glitter germs

G190 – Studying micro-organisms in primary

schools (on CLEAPSS Primary

Legacy site)

Exercise

Links to 2014 National Curriculum

Animals, including humans.

HIAS Learning Journeys

- How animals survive.
- Digestion.
- Circulation.

Useful equipment

- Temperature strips.
- Metal temperature probes.

Hazards

- To pupils with respiratory problems, such as asthmatics.
- To pupils with medical problems who may be affected by vigorous exertion.
- Infection from thermometers.

Actions – in the event of a problem

Should a pupil experience difficulty breathing, especially breathing out:

- reassure and calm the pupil
- ensure good supply of fresh air
- if the pupil has medication, allow them to take it because it may provide relief
- if symptoms persist, seek medical aid.

Precautions – suggested actions

- · Identify any pupils at risk.
- Ensure inhalers are readily available before exercise.
- Judge whether such pupils can play a useful role in the learning without being subjected to undue risk.
- Use temperature strips or metal probes linked to digital sensors rather than glass thermometers.
- Where thermometers are placed in mouth, sterilise them using disinfectant solution, such as *Milton*.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Breathing do not allow pupils to hold breath or hyperventilate.
- Some pupils can be very sensitive about sharing results openly.
- Rules applying to physical activities in physical education may be necessary if the activity is vigorous.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496 http://primary.cleapss.org.uk/

 Ourselves (on CLEAPSS Primary Legacy site).

L245

Food

Links to 2014 National Curriculum

Animals, including humans.

HIAS Learning Journeys

- How animals survive.
- Digestion.

Useful equipment

- Plastic gloves.
- Hygiene posters.
- *Dettox* (or similar) for cleaning work surfaces.

Hazards

- To pupils with medical conditions.
- · Allergic reactions to foods.

Actions – in the event of a problem

Identify cause of an allergic reaction and remove from the pupil – seek medical advice in the event of a severe reaction.

Precautions – suggested actions

- · Identify any pupils at risk.
- Identify any specific food allergies.
- Check food labels very carefully for product content and possible health warnings.
- Blow noses and wash hands before commencing tasks.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Be sensitive to cultural and personal food preferences.
- See design and technology safety guidelines for food hygiene.
- Symptoms of an allergic reaction include: wheezing, coughing, skin rash, skin reddening, itching, sweating, runny eyes, runny noses, sneezing.
- Anaphylactic shock allergy to bananas, peanuts, dairy products, bakery products, etc could require immediate use of an epi pen.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496 http://primary.cleapss.org.uk/

Humans – senses

Links to 2014 National Curriculum

Animals, including humans.

HIAS Learning Journeys

How animals survive.

Useful equipment

- Disposable cups, spoons and lolly sticks.
- Hygiene posters.
- Dettox for cleaning work surfaces or plastic tablecloths.
- Clean paper for covering tables.

Hazards

- To pupils with medical conditions.
- Allergic reactions to foods.
- Chilli pepper and cayenne pepper can cause an allergic reaction.

Actions – in the event of a problem

Identify cause of an allergic reaction and remove from the pupil – seek medical advice in the event of a severe reaction.

Precautions - suggested actions

- · Identify any pupils at risk.
- Identify any specific food allergies.
- Blow noses and wash hands before commencing tasks.
- Smelling pot tests: cover pots with muslin, and make powders into a paste.
- · Cover cuts/broken skin.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Be sensitive to cultural and personal food preferences.
- See design and technology safety guidelines for food hygiene.
- Symptoms of an allergic reaction include: wheezing, coughing, skin rash, skin reddening, itching, sweating, runny eyes, runny noses, sneezing.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496 http://primary.cleapss.org.uk/

L245 – Ourselves (on CLEAPSS Primary legacy site).

Humans – teeth

Links to 2014 National Curriculum

Animals, including humans.

HIAS Learning Journeys

Digestion.

Useful equipment

Disinfectant, such as freshly made diluted Milton solution.

Hazards

Transfer of infections.

Precautions – suggested actions

- Disinfect dental mirrors.
- Use own toothbrushes.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Be sensitive to ethnic and cultural differences when discussing pupils' lifestyles.
- Petroleum jelly can be thinly smeared over lips to prevent staining from disclosing tablets.

Additional guidance from **CLEAPSS**

CLEAPSS Helpline: 01895 251496 http://primary.cleapss.org.uk/

L245 - Ourselves (on CLEAPSS Primary Legacy site).

Humans – drugs

Links to 2014 National Curriculum

Useful equipment

Animals, including humans.

HIAS Learning Journeys

Circulation.

Hazards

 Dangers associated with medicines, tablets, solvent, alcohol, tobacco and everyday substances.

Precautions – suggested actions

- Discuss that pills can look like sweets and solvents like water or everyday drinks.
- Discuss why it is important not to take other people's prescribed medicines.

Involve pupils in the process of agreeing any precautions for the activity.

General information

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496 http://primary.cleapss.org.uk/

L245 – Ourselves (on CLEAPSS Primary Legacy site).

Humans – organs

Links to 2014 National Curriculum

Animals, including humans.

HIAS Learning Journeys

- Skeletons and movement.
- Digestion.
- Circulation.

Useful equipment

• Disinfectant, such as Milton.

Hazards

- Transfer of infections.
- To pupils with medical conditions when carrying out pulse investigations.

Precautions – suggested actions

- Use posters, pictures or video clips.
- After careful consideration, dissection may be used for pupils in upper KS2, but only when following the CLEAPSS guidance highlighted below.
- Disinfect the ear pieces of stethoscopes using, for example, freshly diluted Milton.
- Identify any pupils with medical conditions, including those with respiratory problems.

Involve pupils in the process of agreeing any precautions for the activity.

General information

• Be sensitive to ethnic and cultural differences when discussing pupils' lifestyles.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496 http://primary.cleapss.org.uk/

L245	Ourselve	25
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GL132 – Looking at (dissecting) animal organs in primary schools: health and safety aspects

GL133 – Looking at (dissecting) chicken wings in primary schools

GL134 – Looking at (dissecting) digestive system organs in primary schools

GL135 – Looking at (dissecting) hearts in primary schools

GL137 – Looking at organs inside the chest (known as a "pluck") in primary schools

(All on CLEAPSS Primary Legacy site).

Animals – from the school grounds, visits to farms and zoos

Links to 2014 National Curriculum

Animals, including humans.

HIAS Learning Journeys

- How animals survive.
- Evolution and natural selection.

Useful equipment

- Gloves.
- Trowels.
- · Paintbrushes.
- Pooters.

Hazards

To pupils with respiratory problems, such as asthmatics.

- Pupils and teachers may experience an allergic reaction – contact with fur and feathers are known to induce an allergic reaction in some people.
- Bites and stings.
- To animal welfare.
- Physical risk when entering pens containing farmyard animals.
- Miscarriage in pregnant women when in contact with sheep or lambs.

Precautions – suggested actions

- Identify any pupils with medical conditions, including those with respiratory problems and allergies.
- Ensure inhalers are readily available.
- Warn pupils about hand, eye and mouth contact when handling creatures.
- Any pupil or adult with an open cut on their hands, with infected cuts or suffering from an infection, must not handle the animals or come into contact with them.
- Collect small creatures for study using a pooter or fine paintbrush to avoid harming them.
- Return small invertebrates collected from the environment as soon as possible.
- Limit the amount of frogspawn kept, and return to the same pond where originally collected before metamorphosis is complete.
- Check out facilities for washing hands at farms and zoos.
- Pupils and adults must wash their hands after touching animals or cages.

Actions – in the event of a problem

- In the event of an animal bite, cut or sting, encourage bleeding (unless profuse) by squeezing the skin. This will help to clean the wound, which should not be sucked. Clean with a medical wipe.
- Identify cause of an allergic reaction and remove the pupil from the area, avoiding all further contact – seek medical advice in the event of a severe reaction.
- Should the pupil experience difficulty breathing, especially breathing out:
 - reassure and calm the pupil
 - ensure a good supply of fresh air
 - if the pupil has medication, allow them to take it because it may provide relief
 - if symptoms persist, seek medical aid.

Precautions – suggested actions (continued)

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Symptoms of an allergic reaction include: wheezing, coughing, sneezing, skin rash, skin reddening, itching, sweating, runny nose, runny eyes.
- Terrapins and tortoises may carry salmonella.
- Some species of animals are protected and should not be taken from their natural habitat.

Additional guidance from CLEAPSS

PO55

 Bringing pets and other animals temporarily into schools CLEAPSS Helpline: 01895 251496

http://primary.cleapss.org.uk/

Animals - Pet Day - pets brought into school

Links to 2014 National Curriculum

Animals, including humans.

HIAS Learning Journeys

- How animals survive.
- · Animal life cycles.
- Evolution and natural selection.

Useful equipment

Gloves.

Hazards

- To pupils with respiratory problems, such as asthmatics.
- Pupils and teachers may experience an allergic reaction – contact with fur and feathers are known to induce an allergic reaction in some people.
- Bites and stings.
- To animal welfare.

Important:

If pets are brought into school by pupils from home:

- each pet must be housed separately and never placed in a cage with another animal
- you must check animals are used to being handled, are unlikely to bite, are docile and friendly, and will not be disturbed by large numbers of excited, and possibly noisy, children.

Precautions – suggested actions

- Identify any pupils with medical conditions, including those with respiratory problems and allergies.
- Ensure inhalers are readily available.
- Warn pupils about hand, eye and mouth contact when handling animals.
- Any pupil or adult with an open cut on their hands, with infected cuts or suffering from an infection, must not handle the animals or come into contact with them.
- Pupils and adults must wash their hands after touching animals or cages.
- Limit the time animals are kept in any room where pupils spend long periods of time.
- Ensure room is well ventilated and adequately heated, and keep animals away from direct sunlight and draughts.
- Ensure an adequate supply of fresh food and water if necessary.

Actions – in the event of a problem

- In the event of an animal bite, cut or sting, encourage bleeding (unless profuse) by squeezing the skin. This will help to clean the wound, which should **not** be sucked. Clean with a medical wipe.
- Identify cause of an allergic reaction and remove, or remove the pupil from the area, avoiding all further contact – seek medical advice in the event of a severe reaction.
- Should the pupil experience difficulty breathing, especially breathing out:
 - reassure and calm the pupil
 - ensure a good supply of fresh air
 - if the pupil has medication, allow them to take it because it may provide relief
 - if symptoms persist, seek medical aid.

Precautions – suggested actions (continued)

 Agree beforehand which pets can be brought to school to ensure no unsuitable animals arrive on *Pet Day*.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Symptoms of an allergic reaction include: wheezing, coughing, sneezing, skin rash, skin reddening, itching, sweating, runny nose, runny eyes.
- Terrapins and tortoises may carry salmonella.
- Budgerigars, macaws, parakeets and parrots may be infected with psittacosis.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496 http://primary.cleapss.org.uk/

PO55 – Bringing pets and other animals temporarily into schools

Animals – kept in school

Links to 2014 National Curriculum

Animals, including humans.

HIAS Learning Journeys

- How animals survive.
- Animal life cycles.
- Evolution and natural selection.

Useful equipment

- Gloves for handling animals and their cages.
- Gloves for cleaning animal droppings and litter.

Hazards

- To pupils with respiratory problems, such as asthmatics.
- Pupils and teachers may experience an allergic reaction – contact with fur and feathers are known to induce an allergic reaction in some people.
- Cuts, bites and stings.
- To animals if kept in unsuitable conditions.
- Transfer of infections.
- Transmission of parasites.

Important:

If you are considering keeping small mammals in school you **must** obtain the document *Small mammals* (L52) obtainable free of charge from the CLEAPSS Legacy site. The section on health and safety and legal requirements **must** be read and the guidance followed.

Animals **must** be obtained from accredited or high-quality sources to be confident they are disease free.

Precautions – suggested actions

- Identify any pupils with medical conditions, including those with respiratory problems and allergies.
- Ensure inhalers are readily available.
- Warn pupils about hand, eye and mouth contact when handling animals.
- Any pupil or adult with an open cut on their hands, with infected cuts or suffering from an infection, must not handle the animals or come into contact with them.
- Pupils and adults must wash their hands after touching animals or cages.
- Limit the time animals are kept in any room where pupils spend long periods of time.
- Ensure room is well ventilated and adequately heated, and keep animals away from direct sunlight and draughts.
- Fluctuations of temperature over the weekend and holidays may require animals to be taken home during these periods.

Hazards (continued)

Mammals **must** be kept in scrupulously clean conditions.

Steps **must** be taken to ensure mammals are well maintained and cannot be infected by other mammals.

Food **must** be checked for infestation of beetles and moths.

Actions – in the event of a problem

- In the event of an animal bite, cut or sting, encourage bleeding (unless profuse) by squeezing the skin. This will help to clean the wound, which should **not** be sucked. Clean with a medical wipe.
- Identify cause of an allergic reaction and remove, or remove the pupil from the area, avoiding all further contact – seek medical advice in the event of a severe reaction.
- Should the pupil experience difficulty breathing, especially breathing out:
 - reassure and calm the pupil
 - ensure a good supply of fresh air
 - if the pupil has medication, allow them to take it because it may provide relief
 - if symptoms persist, seek medical aid.

Precautions – suggested actions (continued)

- Ensure an adequate supply of fresh food and water.
- · Clean cages and aquaria regularly.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Symptoms of an allergic reaction include: wheezing, coughing, sneezing, skin rash, skin reddening, itching, sweating, runny nose, runny eyes.
- Terrapins and tortoises may carry salmonella.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496

http://primary.cleapss.org.uk/

L52 – Small mammals

L56 – Housing and keeping animals

L71 – Incubating and hatching eggs

L124 – Aquaria in primary schools: electrical

safety

L181 – Cold-water aquaria

L197 - Giant African land snails

L201 – Giant millipedes

L206 - Tadpoles

L213 - Science with minibeasts: snails

L227 - Stick insects

L257 – Science with minibeasts:

earthworms

PS87 - Bees and beekeeping in schools

(All on CLEAPSS Primary Legacy site).

Plants

Links to 2014 National Curriculum

Plants.

HIAS Learning Journeys

- How do plants grow?
- Making new plants.
- How plants reproduce.
- How plants make their food.

Useful equipment

Plastic gloves.

Hazards

- Pupils and staff may experience an allergic reaction.
- · Poisonous berries and fungi.
- Contaminated soil (see General information below).

Actions – in the event of a problem

 Identify cause of an allergic reaction and remove from the pupil – seek medical advice in the event of a severe reaction.

Precautions – suggested actions

- Display common poisonous species and instruct pupils as to hazards.
- · Cover all cuts and grazes.
- Use sterilised soil or potting compost for planting seeds.
- Wash hands after touching plants and soil.
- · Wear plastic gloves.
- Warn pupils of dangers of hand, eye and mouth contact.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Symptoms of an allergic reaction include: wheezing, coughing, sneezing, skin rash, skin reddening, itching, sweating, runny noses, runny eyes.
- Some plants are known to be toxic and have poisonous seeds.

General information (continued)

- Some species of plants are protected and should not be taken from their natural habitat.
- Garden tools can be dangerous if not regularly checked, eg for loose handles and broken parts.
- Soils may be contaminated with pathogens such as toxocara and tetanus.
- Most soils are contaminated with parasites and pathogens, particularly as a result of animal fouling.
- Compost from garden centres is sterilised and should be used in preference to local soils if the risks are thought to be high or to minimise risks.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496

http://primary.cleapss.org.uk/

PO21 – Looking closely at the parts of a flower

Testing materials for strength, hardness and flexibility

Links to 2014 National Curriculum

Everyday materials.

Uses of everyday materials.

Rocks.

Properties and uses of materials.

HIAS Learning Journeys

 Materials, their properties and why we choose materials to do jobs.

Useful equipment

- Goggles British Standard (BS) 2092.
- Strong gloves, eg gardening gloves.

Hazards

- Fragments from brittle plastics causing cuts and eye injuries.
- Dust from polystyrene causing breathing problems.
- Sharp, jagged edges if materials break, causing cuts.
- · Broken glass causing cuts.
- Heavy masses falling and damaging feet.
- · Splinters from wood.
- Whiplash injuries from breaking wires or elastic bands, etc, under tension.

Precautions - suggested actions

- Wear goggles if testing strength or if there is the risk of brittle plastic breaking.
- When squashing rigid materials use a vice or G-clamp.
- Wear strong gardening gloves to protect hands when testing rigid materials.
- Avoid glass.
- Warn pupils of the dangers of breaking wires and elastic bands under tension.

Actions – in the event of a problem

 Wrap broken glass in newspaper and place in a dustbin (not waste paper bin) and liaise with cleaning staff. Involve pupils in the process of agreeing any precautions for the activity.

General information

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496

http://primary.cleapss.org.uk/

PO15 - Levels of supervision

Rocks and soils

Links to 2014 National Curriculum

Rocks.

Properties and uses of materials.

HIAS Learning Journeys

 Materials, their properties and why we choose materials to do jobs.

Useful equipment

- Plastic gloves.
- Goggles.

Hazards

- Fragmenting rocks.
- Contaminated soils (see General information below).
- Injury due to damaged gardening tools.

Precautions – suggested actions

- Wear goggles if there is a risk of rocks fragmenting.
- Wash hands following the handling of soils.
- Use sterilised compost.
- Cover cuts and broken skin.
- Wear gloves when using tools and unsterilised soils.
- Warn pupils of the potential hazard of contaminated soils and the importance of not touching eyes and mouth when handling soils.
- Check for loose handles and broken parts on gardening tools.
- Rinse tools after use and regularly wash with disinfectant solution.

Involve pupils in the process of agreeing any precautions for the activity.

General information

Soils may be contaminated with pathogens such as toxocara and tetanus.

General information (continued)

- Most soils are contaminated with parasites and pathogens, particularly as a result of animal fouling.
- Compost from garden centres is sterilised and should be used in preference to local soils if the risks are thought to be high or to minimise risks.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496

http://primary.cleapss.org.uk/

Water and other liquids

Links to 2014 National Curriculum

Everyday materials.

Uses of everyday materials.

Properties and uses of materials.

HIAS Learning Journeys

- Solids, liquids and gases.
- Making new substances.
- Mixtures and separating them.

Useful equipment

- Plastic gloves.
- Hot water from a tap.

Hazards

- Allergic reaction to substances such as washing-up liquid.
- Swallowing liquids, eg when exploring bubbles.
- Slippery surfaces.
- Scalding.
- Water and electricity.
- Chemical reaction when mixing substances with liquids.
- Oil must not be heated unless in a water bath.

Actions – in the event of a problem

 Identify the cause of an allergic reaction and remove from the pupil – seek medical advice in the event of a severe reaction.

Precautions - suggested actions

- Identify any pupils with skin allergies wear gloves.
- Blow through straw or use shaped bubble blowers.
- Use absorbent material to cover area to avoid slipping. Warn pupils of the dangers of spilt liquids.
- To avoid spillage, encourage pupils to carry small containers of water within a larger one such as in a bucket.
- If hot water is required other than from sink, ensure adult supervision.
- Restrict other liquids to cooking ingredients such as vinegar, cooking oil, syrup.
- Site activities away from electrical appliances and mains supply.
- For mixing purposes, use only cooking ingredients.

Precautions – suggested actions (continued)

Involve pupils in the process of agreeing any precautions for the activity.

General information

• Many liquids and solutions found in the home and at school are hazardous, eg bleach, oven cleaners. Warn pupils of the dangers.

Additional guidance from CLEAPSS

PO34 – Separating inks

PO04 – Safe heating

PO05 – Investigating soaps and

detergents

PO77 – Double Bubble

PO02 – Investigating heating and melting

CLEAPSS Helpline: 01895 251496

http://primary.cleapss.org.uk/

Thermal conductors and insulators

Links to 2014 National Curriculum

States on matter.

Properties and uses of materials.

HIAS Learning Journeys

- · Solids, liquids and gases.
- Making new substances.

Useful equipment

- Plastic covered thermometers.
- Thermosticks.
- Digital thermometers.
- Hand-held sensors and dataloggers.

Hazards

- Scalding.
- Broken thermometers.
- Allergic reaction to insulating materials such as fibreglass and loft insulation materials.

Actions – in the event of a problem

- Wrap broken thermometers in newspaper and place in a dustbin (not waste paper bin) and liaise with cleaning staff.
- Identify the cause of an allergic reaction and remove from the pupil – seek medical advice in the event of a severe reaction.

Precautions - suggested actions

- Restrict hot water to that from a tap.
- Ensure adult supervision.
- Only adults should pour hot water into containers in a tray.
- Place an elastic band around the thermometer to prevent rolling.
- Use plastic covered thermometers, thermosticks, digital thermometers, computer or hand-held sensors.
- Mercury thermometers must not be used.
- Identify any pupils and adult helpers with skin allergies.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Symptoms of an allergic reaction include: wheezing, coughing, sneezing, skin rash, skin reddening, itching, sweating, runny noses, runny eyes.
- Mercury thermometers should not be used. This is because liquid mercury vaporises at a low temperature and can therefore get into the body easily. Mercury is poisonous.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496 http://primary.cleapss.org.uk/

- Investigating heating and melting PO02

PO04 Safe heating

Testing properties of materials – magnetic, squashing, bending, twisting and stretching

Links to 2014 National Curriculum

Everyday materials.

Uses of everyday materials.

Properties and uses of materials.

Useful equipment

- Goggles.
- Gloves.

HIAS Learning Journeys

- Materials, their properties and why we choose materials to do jobs.
- Magnets and their effects.

Hazards

- Young children swallowing magnets.
- Sharp edges and broken fragments, eg from springs, splinters from wood.
- Loose iron filings can irritate the skin and eyes.
- Trapped skin when compressing springs.
- Injury from springs or elastic bands when released after compression or stretching.
- Expanded polystyrene must not be used to test bending or twisting since the polystyrene dust released is hazardous.

Precautions - suggested actions

- Warn pupils not to put magnets near or in mouths.
- Wear goggles if testing strength.
- When squashing rigid materials use a vice or G-clamp.
- Wear strong gardening gloves to protect hands when testing rigid materials.
- Avoid glass.
- Iron filings must be used in sealed containers.
- Warn pupils to release compressed or stretched materials slowly to avoid injury.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Frequent bending and unbending of metal may cause fractures which give sharp edges and produce heat.
- Pupil-sized gardening gloves may be purchased from Hampshire's County Supplies.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496

http://primary.cleapss.org.uk/

Heating materials – using electrical sources

Links to 2014 National Curriculum

States of matter.

Properties and changes of materials.

Useful equipment

- · Safety signs.
- Oven gloves.
- Edge safety guard for cookers where possible.

HIAS Learning Journeys

- Solids, liquids and gases.
- Mixtures and separating them.
- Making new substances.

Suitable heating sources

- Cookers and microwaves.
- Electrical hot plates and kettles.

Hazards

- Burns or scalds.
- Tripping over wires and leads.

Actions – in the event of a problem

 Run the burn under cold water for a minimum of 10 minutes.

Precautions – suggested actions

- Use oven gloves to remove containers from heat sources.
- Use adult supervision.
- Turn handles inwards.
- Indicate when cooker is switched on, such as large hot sign.
- Turn off appliance immediately after use.
- Teach pupils to pull clingfilm from the furthest edge of the container towards themselves so as to allow the steam to escape.
- Avoid re-heating liquids that have already been boiled in microwave ovens. Let heated liquids stand in the microwave before use.
- Melt materials such as foods or wax indirectly, such as over a saucepan of hot water.

Precautions – suggested actions (continued)

- Teach pupils the procedure for dealing with burns.
- Ensure leads are tucked out of the way to prevent accidents.
- Consider the height of the cooker in relation to height of pupils when assessing whether a pupil can remove containers from cooker, etc.
- Use low melting point wax, such as blocks sold for the treatment of arthritis, or low melting point paraffin wax.
- A bucket of cold water should be readily available in case of a burn.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- See the design and technology safety guidelines on use of cookers and microwaves.
- A fire blanket must be located next to the cooker.
- See Be safe by The Association for Science Education.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496 http://primary.cleapss.org.uk/

PO04 – Safe heating

Heating materials – using candles and night lights

Links to 2014 National Curriculum

States of matter.

Properties and changes of materials.

HIAS Learning Journeys

- Solids, liquids and gases.
- Mixtures and separating them.
- Making new substances.

Useful equipment

- Sand trays.
- Safety matches.
- Bucket of cold water.
- Hot water from a tap.
- Goggles.

Hazards

- To pupils with respiratory problems, such as asthmatics.
- Burns.
- Fire.
- Plastics of unknown origin must not be heated as many plastics form harmful vapours, eg polystyrene, acrylics, resins and polyurethane.

Actions – in the event of a problem

- In the event of a burn flood affected area with cold water for at least 10 minutes.
- If a pupil suffers an asthma attack ensure they keep taking their inhaler until symptoms subside (it can be taken up to 30 times if necessary).

Precautions – suggested actions

- Identify any pupils with medical conditions, including those with respiratory problems.
- Ensure inhalers are readily available.
- Ensure room is well ventilated.
- Use a snuffer to extinguish candles.
- Fix candles or night lights on a stable base and place in a sand tray.
- Use safety matches.
- Secure loose clothing, such as at the wrist.
- Tie back long hair.
- Limit quantities of materials to be melted.
- Wear goggles.
- Ensure a bucket of cold water is readily accessible in the event of a burn.
- Pupils should be taught not to sit down during heating activities, so they can move more quickly if there is an accident.

Precautions – suggested actions (continued)

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Symptoms of an allergic reaction include: wheezing, coughing, sneezing, skin rash, skin reddening, itching, sweating, runny noses, runny eyes.
- The following unsuitable heating sources **must not** be used:
 - spirit burners
 - oil lamps
 - portable bottled gas burners
 - picnic stoves
 - methylated spirit burners
 - electric paint strippers
 - solid fuel burners.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496

http://primary.cleapss.org.uk/

PO04 – Safe heating

Burning materials

Links to 2014 National Curriculum

Properties and changes of materials.

HIAS Learning Journeys

- Solids, liquids and gases.
- Mixtures and separating them.
- Making new substances.

Useful equipment

- Tongs.
- Bucket of cold water.
- · Goggles.
- Candle snuffer.
- Sand trays.

Suitable heating sources

· Candles and night lights.

Hazards

- To pupils with respiratory problems, such as asthmatics.
- Burns.
- Fire.
- Toxic fumes. Man-made materials, such as polyurethane, polystyrene, foams and plastics, must not be used in burning tests.

Actions – in the event of a problem

- If any pupils or adults suffer an allergic reaction remove from the area until the air has cleared.
- In the event of a burn flood affected area with cold water for at least 10 minutes.
- If a pupil suffers an asthma attack ensure they keep taking their inhaler until symptoms subside (it can be taken up to 30 times if necessary).

Precautions – suggested actions

- Ensure room is well ventilated.
- Identify any pupils with medical conditions, including those with respiratory problems.
- Ensure inhalers are readily available.
- Use a snuffer to extinguish candles.
- Fix candles or night lights on a stable base and place in a sand tray.
- Use safety matches.
- Secure loose clothing, such as at the wrist.
- Tie back long hair.
- Only use small samples of materials to burn.
- Use tongs for holding materials.
- Conduct flammability tests outside prior to activity with pupils.
- Wear goggles.

Precautions – suggested actions (continued)

 Ensure a bucket of cold water is readily accessible in the event of a burn.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Symptoms of an allergic reaction include: wheezing, coughing, sneezing, skin rash, skin reddening, itching, sweating, runny noses, runny eyes.
- The following unsuitable heating sources **must not** be used:
 - spirit burners
 - oil lamps
 - portable bottled gas burners
 - picnic stoves
 - methylated spirit burners
 - electric paint strippers
 - solid fuel burners.

Additional guidance from CLEAPSS

PO04 – Safe heating

PO18 – Investigating burning

CLEAPSS Helpline: 01895 251496

Mixing materials

Links to 2014 National Curriculum

Properties and changes of materials.

HIAS Learning Journeys

- Mixtures and separating them.
- Making new substances.

Useful equipment

- Plastic gloves.
- Dust masks.
- · Goggles.

Hazards

- Pupils and staff may experience an allergic reaction to different substances.
- Lemon juice and vinegar will sting if it gets into a cut.
- Because carbon dioxide is released during the reaction between vinegar and sodium bicarbonate, and between lemon juice and baking powder, placing a thumb over the end of a container and shaking may lead to the container breaking or exploding.
- Mixing unknown substances.
- Inhalation of dust or powders.

Actions – in the event of a problem

 Identify cause of an allergic reaction and remove from the pupil.

Precautions – suggested actions

- Cover cuts.
- Mixing materials together may produce materials with unknown hazards, therefore use common combinations when doing this: lemon juice and baking powder, vinegar and sodium bicarbonate, cement and water, plaster of Paris and water.
- Use cooking ingredients when mixing substances.
- Use small quantities of powders to minimise the need for dust masks and safety goggles.

Involve pupils in the process of agreeing any precautions for the activity.

General information

• Symptoms of an allergic reaction include: wheezing, coughing, sneezing, skin rash, skin reddening, itching, sweating, runny noses, runny eyes.

General information (continued)

- Because a gas is often produced when substances are mixed, the contents in a container may overflow, so have paper towels to hand.
- Washing powder and dishwasher powder are often highly irritant and would not be recommended for mixing. Look for hazard symbols on packs.
- Plaster of Paris generates heat when mixed with water.
- Some children have an allergic reaction to some food colouring/colourants.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496

Forces – pushes and pulls, forces and movements

Links to 2014 National Curriculum

Forces and magnets.

Forces.

Useful equipment

Goggles.

HIAS Learning Journeys

- · Pushes, pulls and their effects.
- Magnets and their effects.
- Forces that oppose motion.

Hazards

- · Young children swallowing magnets.
- Flying objects hitting pupils.
- Cuts from changing the shape of objects by squashing, bending or twisting.
- To pupils with respiratory problems when blowing bubbles, balloons, etc.
- Inhalation of bubble mixture.
- Trips and falls due to moving objects.
- Wash any small cuts and cover.

Actions – in the event of a problem

 Adults dealing with cuts should wear protective gloves, use disinfectant to clear spillages and thoroughly wash their hands after contact.

Precautions – suggested actions

- Warn pupils not to put magnets near or in mouths.
- Teach pupils to look out for others when exploring moving objects and also know how to carry out the activity safely.
- Consider whether activities using flying objects would be best carried out indoors or outdoors.
- Avoid using brittle materials to test.
- Wear gloves if there is a risk of cuts when changing the shape of objects.
- Identify pupils with medical conditions, including those with respiratory problems.
- Ensure inhalers are readily available.
- Teach pupils to blow rather than suck when exploring bubbles.
- Ensure that you choose a bubble mixture that will not harm pupils.

Precautions – suggested actions (continued)

Involve pupils in the process of agreeing any precautions for the activity.

General information

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496

Forces – magnetism and springs

Links to 2014 National Curriculum

Useful equipment

Forces and magnets.

Forces.

HIAS Learning Journeys

- Pushes, pulls and their effects.
- Magnets and their effects.
- Forces that oppose motion.

Hazards

- Irritation of skin and eyes when using loose iron filings.
- Damage to toes from falling objects such as kilogram masses.
- Injuries to eyes and face from snapping materials when overstretched.

Precautions – suggested actions

- Iron filings must be placed in a sealed container.
- Wash hands after contact with loose iron filings.
- Raise pupils' awareness of effect of falling objects. Place a box containing soft, absorbent material to cushion falling objects.
- Eye protection must be worn when there is a risk of snapping or overstretching materials.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Loose iron filings are difficult to remove from magnets.
- Iron filings can be purchased in sealed containers.

General information (continued)

- Spring-based instruments, including home-made Newton meters, can be dangerous if suddenly released under tension.
- Stronger meters, which might be used to measure a pupil's strength, must be firmly anchored with plenty of clear space around the pupil.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496

Forces

Links to 2014 National Curriculum

Useful equipment

Forces.

HIAS Learning Journeys

- · Pushes, pulls and their effects.
- · Magnets and their effects.
- Forces that oppose motion.

Hazards

- Friction burns.
- Injury to fingers if exploring bicycles.
- Injury from moving or flying objects.

Actions – in the event of a problem

 In the event of a burn – flood affected area with cold water for at least 10 minutes.

Precautions – suggested actions

- Tell pupils that friction generates heat.
- Allow plenty of space for activities involving moving objects.
- Ensure hanging structures, such as pulleys, are firmly fixed.
- Limit the size and load of moving objects.
- Teach pupils to aim away from each other when testing flying objects and projectiles.
- Naked flames must not be used for hot air balloons.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- When releasing objects from a height, ensure pupils stand on secure structures, such as physical education boxes, rather than classroom furniture.
- It is dangerous to use hand-held electrical appliances near water. When testing movement of boats, use battery powered fans.

General information (continued)

- Activities involving flying things, such as kites, hot air balloons, catapults, water rockets, paper aeroplanes, etc, often require a large space and require close supervision.
- Hot air balloons should be filled with hot air from a hairdryer.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496

Electricity – appliances

Links to 2014 National Curriculum

Electricity ... and other parts of the curriculum where electrical appliances may be used.

HIAS Learning Journeys

Electricity ... and other parts of the curriculum where electrical appliances may be used.

Useful equipment

- Residual Current Devices (RCDs) to be used with electrical appliances.
- · Safety signs.
- Oven gloves.
- Edge safety guard for cookers where possible.

Hazards

- Electricity can kill.
- · Overloading.
- Hot extension leads.
- Burns from heating appliances.
- Tripping over extension leads.

Actions – in the event of a problem

- Switch off appliances at mains.
- In the event of electrocution switch off mains before touching victim.
- Ensure airway is open.
- If a burn is sustained flood affected area with cold water for at least 10 minutes.

Precautions - suggested actions

- Tell pupils never to experiment with mains electricity.
- Use RCDs when operating mains appliances.
- Check equipment visually (see General information section overleaf).
- Fully extend extension leads to prevent overheating.
- Cover extension lead wires with mats.
- Display a hot warning sign when heating appliances in use and follow safety procedures.
- Use oven gloves.
- Turn saucepan handles inwards.
- Fit guard edges.
- Check height of the cooker is appropriate for pupils.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Electrical appliances should have a BEAB (British Electrical Approvals Board) safety standard mark.
- All portable equipment must be inspected visually and tested at intervals as described in the Hampshire County Council Health and Safety Procedures and Children's Services Department Guidance document – Electrical Safety at work, available via: https://www.hants.gov.uk/business/servicesportal/signin.
- Set out below are the basic visual checks that you can make on electrical appliances as recommended in the Hampshire County Council Health and Safety Procedures and Children's Services Department Guidance document – Electrical safety guidance (version 2), available via: https://www.hants.gov.uk/business/servicesportal/signin.

Electrical safety visual checklist:

- Check the plug for cracked casing, bent or missing conducting pins, signs of scorching/ overheating, ensure cable is effectively secured by the cable grip of the plug, and that the correct fuse is fitted.
- Check the cable to ensure all connections are sound and that there are no cuts or abrasions (light scuffing is acceptable).
- **Check the equipment** for damage to external casing, missing or loose screws, missing guards/inspection panels, overheating and whether it is located near a water source.

Action required:

If there is any doubt as to the potential safety of electrical equipment, take the equipment out of use immediately and clearly label the equipment:

DANGER. Unsafe electrical equipment. DO NOT USE.

Report any defects.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496

Electricity – safety code when using mains electricity

Links to 2014 National Curriculum

Electricity.

HIAS Learning Journeys

Any Learning Journey where mains appliances are being used.

Useful equipment

Poster displaying electrical safety awareness.

Hazards

- Electric shock.
- Burns.
- Tripping over trailing wires.

Actions – in the event of a problem

- Treat victim of electric shock for unconsciousness first, before treating burns.
- If a burn is sustained flood affected area with cold water for a minimum of 10 minutes.

Precautions – suggested actions

Teach pupils the following:

- electricity can kill
- wires and plugs may become hot and cause minor burns
- never touch electrical appliances, plugs or sockets with wet hands
- keep electrical appliances away from water
- inform an adult if plugs or equipment appear to have a fault, are damaged, or the lead is frayed or burnt, and do not switch on
- switch off at the socket before plugging in or unplugging a piece of equipment
- remove a plug from a socket by holding the plug itself and not by pulling the lead
- check that there are no trailing wires; if there are, tuck them out of the way to prevent accidents.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Posters about the dangers of electricity can be obtained from Switched on Kids: www.switchedonkids.org.uk/.
- Damaged plugs and frayed leads are the commonest sources of injuries.
- Mains leads should never be joined or repaired damaged leads should be replaced by a suitably qualified person.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496

Electricity – batteries

Links to 2014 National Curriculum

Electricity.

Useful equipment

· Battery tester.

HIAS Learning Journeys

- Making electrical circuits work.
- Controlling electrical circuits.

Hazards

- Minor burns.
- Damaged skin from leaking batteries (acid burn).
- Short circuiting and fire.

Actions – in the event of a problem

 If a burn is sustained, including acid burns – submerge affected area in cold water for a minimum of 10 minutes.

Precautions - suggested actions

- Teach pupils how to prevent short circuiting batteries.
- Ask pupils to disconnect wires from the battery during breaks in the lesson.
- Avoid mixing different types of batteries in investigative work.
- Dispose of batteries when the voltage has dropped below the level at which they can be used, as they may begin to leak.
- The contents of batteries may be corrosive and toxic. Avoid cutting open.
- Store batteries so that the terminals do not touch to avoid the danger of short circuiting, overheating and fire.
- Do not use rechargeable batteries or car batteries.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Dry batteries are the safest to use for investigative work. It is not possible to get an electric shock from a 1.5 volt battery (cell) unless many of them are joined together.
- Rechargeable batteries pose a greater hazard when short circuited as they discharge very quickly, causing batteries and wires to become extremely hot.
- The heavy metals, nickel and cadmium, found in rechargeable batteries are environmental pollutants.
- Car batteries are capable of producing extremely high current flow and could cause severe burns or explosion. They must not be used for investigative work.
- It is dangerous to try to extend the life of a dry battery by heating or by recharging in a charger.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496 http://primary.cleapss.org.uk/

PO17 – Batteries for practical circuit work

Electricity – circuits

Links to 2014 National Curriculum

Electricity.

HIAS Learning Journeys

- Making electrical circuits work.
- Controlling electrical circuits.

Useful equipment

· Battery tester.

Hazards

- Minor burns.
- Cuts from broken bulbs.
- Batteries (hazard card no 27 must be read).

Actions – in the event of a problem

- Wrap broken bulb(s) in newspaper and place in a dustbin (not waste paper bin) and liaise with cleaning staff.
- If a burn is sustained flood affected area with cold water for a minimum of 10 minutes.

Precautions – suggested actions

- Teach pupils how to prevent short circuiting batteries.
- Ask pupils to disconnect wires from the battery during any breaks in the lesson.
- Include a component in a circuit when using lengths of wire to make a resistor or an electromagnet.
- Warn pupils that steel wool and aluminium foil may become hot or burn when conducting electricity.

Involve pupils in the process of agreeing any precautions for the activity.

General information

When wires are connected directly from one terminal of the battery to another without a
component such as a bulb or buzzer, the battery will discharge very quickly. This is called a
short circuit. This can generate heat and burn fingers.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496 http://primary.cleapss.org.uk/

- Batteries for practical circuit work PO17

Light

Links to 2014 National Curriculum

Light.

Earth and space.

HIAS Learning Journeys

- Light.
- How light behaves and how we see.
- Earth and space.

Useful equipment

- Candle holders.
- Sand.
- Long safety matches.

Hazards

- To eyes when looking at very bright light sources.
- Burns from naked flames.
- To pupils with respiratory problems, such as asthmatics.
- Skin burns from focusing lens on the skin in sunshine.

Actions – in the event of a problem

- In the event of a burn flood affected area with cold water for at least 10 minutes.
- If a pupil suffers an asthma attack ensure they keep taking their inhaler until symptoms subside (it can be taken up to 30 times if necessary).

Precautions – suggested actions

- Make pupils aware of the dangers of looking at very bright lights.
- Teach pupils that they should never look directly at the sun, or through binoculars, telescopes, prisms or lens.
- Ensure there is sufficient supervision.
- Tell pupils to keep away from naked flames.
- Identify pupils with medical conditions, including those with respiratory problems.
- Ensure inhalers are readily available.
- Ensure room is well ventilated.
- Use a snuffer to extinguish candles.
- Fix candles or night lights on a stable base and place in a sand tray.
- Use safety matches.
- Tie back long hair and secure loose clothing, such as at the wrist, when using candles or night lights.

Precautions – suggested actions (continued)

 Pupils should be taught not to sit down when using candles, so they can move more quickly if there is an accident.

Involve pupils in the process of agreeing any precautions for the activity.

General information

- Symptoms of an allergic reaction include: wheezing, coughing, sneezing, skin rash, skin reddening, itching, sweating, runny noses, runny eyes.
- A bucket of cold water should be easily available in case of a burn.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496 http://primary.cleapss.org.uk/

Sound

Links to 2014 National Curriculum

Sound.

HIAS Learning Journeys

How sound is made, travels and can be changed.

Useful equipment

Milton solution for disinfecting equipment.

Hazards

- Damage to hearing from excessive sound close to ear.
- Injuries caused by breaking or flicking materials.
- Damage to teeth from vibrating tuning forks.
- Cross-infection from shared equipment.

Precautions – suggested actions

- Instruct pupils not to shout into the trumpet or diaphragm ends of stethoscopes or tubes.
- Use robust materials or those designed specifically for musical activities which are unlikely to fracture when exploring sources of sounds.
- Teach pupils to avoid contacting a vibrating tuning fork with their teeth or glass objects.
- Any equipment which is placed into the mouth or ear should be disinfected after each use by a pupil.

Involve pupils in the process of agreeing any precautions for the activity.

General information

Thin glass shatters if a wet finger is rubbed around the rim.

Additional guidance from CLEAPSS

CLEAPSS Helpline: 01895 251496 http://primary.cleapss.org.uk/



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