theatre & learning

Teacher Resource Pack
2011/12

Contents

Introduction

Welcome to the 'High & Dry' Resource Pack!

These resources are designed to support the Scottish Environment Protection Agency's (SEPA) 'High & Dry' Flood awareness programme. They are primarily designed for post performance use, but some will work well as standalone activities and as a result can be used pre-performance or not in reference to the performance at all.

Curriculum Links *'A Curriculum for Excellence'*

Responsible Citizens is one of the four capacities of 'A Curriculum for Excellence' (ACFE). The strategies for learning and teaching that support education for citizenship also contribute to the other remaining capacities - in that they help to develop children and young people's ability to become *Successful Learners, Effective Contributors* and *Confident Individuals*. This pack aims to support this by raising awareness of important citizenship issues facing communities now and in the future, in particular 'sustainable development' which is defined as: meeting the needs of today without diminishing the capacity of future generations to meet their needs. Learning about the ecological impact our communities have, encourages young people to 'think locally and act globally'.

Flooding & Climate Change

Flooding is a natural process which is happening more often due to many factors including climate change. If your area has been affected in the past by flooding it is very likely that you will continue to be affected, however even if flooding has not affected your area before it is no indication that it will not start to due to our changing climate.

Climate change is one of the most significant environmental issues facing Scotland and indeed the whole world today.

Climate refers to 'typical' weather patterns such as rainfall, wind and extremes of heat and cold that can be found in an area.

All living things depend on the climate they are exposed to. It has taken millions of years for life to become used to these conditions, with most changes to our climate having occurred slowly (over thousands of years); making it easier for living things to adapt. Now that our weather and temperatures are changing more quickly, it is feared that many animals and plants may not be able to cope with the more sudden changes and could die. This could result in loss of some animal and plant species in certain areas of the world or altogether.

Over the last 50 years Scotland's average temperature has risen by 1°C. This may not seem much, but scientists are worried that even this small rise has had a big impact on our climate. It is also predicted that Scotland's temperature may increase by a further 4°C by the end of this century.

The aim of this pack is to create awareness in young people about how flooding and ultimately the climate change that may cause it, can affect them, their families and their homes.

With the information provided in this pack students should feel more equipped to face the challenges and devastation that a flood can cause. With this in mind at no point should the students be scared or frightened about the possibility of flooding, but it should be treated with the respect and attention it deserves.

The student task sheets are designed to be the central focus for each activity with the accompanying notes for the teacher providing a lesson plan, learning outcomes and supporting information. Each activity is a starting point for a lesson lasting about 15 – 20 minutes; there are 6 in this pack and 3 fun experiments which should easily fit into existing schemes of work around weather, climate and responsible citizenship.

All activities in Section 2 of this pack are designed to be introduced by, but not reliant on, the relevant chapters of the High & Dry II presentation - a copy of which is available separately on DVD.

Key Aims

- To raise awareness of flooding and the risks associated without causing unnecessary concern.
- To complement existing programmes within school on weather and environmental issues.
- To give practical advice and help on how to prepare for and act during a flood.
- To give information to help deal with the aftermath of a flood.
- To consider the emotional aspects of dealing with a flood.

Learning Experience Plan:

Activity 1: The Power of Water			
Level	Second	**Duration:**	30 minutes
Curricular Area(s): Sciences – Materials -/Forces, Electricity & Waves			
Experiences & Outcomes (ACFE):			
Having explored the substances that make up the Earth's surface, I can compare some of their characteristics and uses. **SCN 2-17a** I have collaborated in investigations to compare magnetic, electrostatic and gravitational forces and have explored their practical applications**. SCN 2-08a**			

General Aim:
To explore the perceptions of the qualities of water and to develop an understanding of the power of water.
Learning Intention(s)
• We are learning about the power of water.

Success Criteria
• I will be able to carry out an experiment in order to recognise the strength of water.

Key Questions	New Skills/Concepts/Vocabulary	Resources
• What do we use water for? • Can anyone think of ways in which water is destructive? • Can anyone think of ways in which water demonstrates its strength?	Vocabulary -*Destructive, hydroelectric, turbine, generator*	- 2 Ltr paper milk carton (empty and washed out) - 5 Ltrs of water - Nail - Masking tape - Ruler - Marker pen - Pair of scissors - Notepad and pencil to make notes

Time	During Main Activity/Lesson	Resources
Introduction 5 minutes	- The teacher should introduce the idea that water is both surprising and strong and that its qualities are what can make it so destructive when it comes to flooding. **Information:** - Most of the earth consists of water; there is more water than there is land. About 70% of the earth's surface is covered in water, but water also exists in the air as vapour and in aquifers in the soil as groundwater. - Every day each person in Scotland uses on average 140 litres of water for drinking, washing, cleaning the house/car, cooking, flushing the toilet - but just how strong is it? **Discussion Points/Key Questions:** • Can anyone think of ways in which water is destructive? • Can anyone think of ways in which water demonstrates its strength?	
Main Task(s) 20 minutes	**This experiment can be used as a demonstration activity or if resources permit, the pupils can conduct the experiment in groups.** ***Instructions:*** • Cut off the top of the empty milk carton, from the bottom of the milk carton, measure up 1/2 inch and using the nail punch a single hole in the centre of the side of the carton • Measure up one inch from the bottom and punch another hole in the centre. Measure up two inches from the bottom and punch a third hole directly above the other 2 holes. Measure up four inches from the bottom and punch a final hole in the centre of the side. • Take a long piece of tape and tape up all four of the holes. • Put the carton on the edge of the sink with the side with the holes pointing toward the sink. • Mark a line on the carton near the top. Always fill or refill the milk carton with water to that line. • Quickly remove the tape that's covering all the four holes. Watch what happens. Measure how far away each of the streams hits the sink. • Let all the water empty out. Watch what happens as the water level drops. • *What happens to the streams of water?*	- 2 Ltr paper milk carton (empty and washed out) - 5 Ltrs of water - Nail - Masking tape - Ruler - Marker pen - Pair of scissors - Notepad and pencil to make notes

	• Now tape up all holes. • Put the carton back on the sink edge. Refill the carton and remove the bottom tape. • Measure how far out the stream goes. • Re-tape the hole, and un- tape the next hole up; measure how far away the stream goes. • Refill the carton with water. Re-tape the second hole and un-tape the third hole; measure how far away the stream goes. • Refill the carton with water to the same level as before. Re-tape the third hole and un-tape the fourth hole; measure how far away the stream goes.	
Plenary 5 minutes	**Findings:** **Key Questions:** How far away did the streams of water fall from the carton? Was there a difference between the stream of water from the hole at the bottom and at the top? *Why?* Here's why! Water has weight. The closer to the bottom of the carton the more water there is above and the more weight pressing down from above. The more weight, the more water pressure and the more water pressure, the further away the stream will go and the faster it will flow. Hydroelectric facilities are built at the base of dams to take advantage of the power of water. The high pressure of the water at the bottom of a reservoir is funnelled via a tunnel through the dam. The water is then focused on the blades of a turbine. Water pressure turns the turbine and the turbine turns a generator making electricity.	

Learning Experience Plan:

Activity 2: Water Cycle			
Level	Second	**Duration:**	20 minutes + 3 x Fun Experiments
Curricular Area(s): Sciences – Planet Earth			
Experiences & Outcomes (ACFE):			
I can apply my knowledge of how water changes state to help me understand the processes involved in the water cycle in nature over time. **SCN 2-05a**			

General Aim:
To explore and understand the earth's water cycle and become familiar with the scientific terms related to the cycle.
Learning Intention (s)
• We are learning about the earth's water cycle and how it works. • We are learning about the 4 processes of the water cycle: *evaporation, condensation, precipitation and collection.*

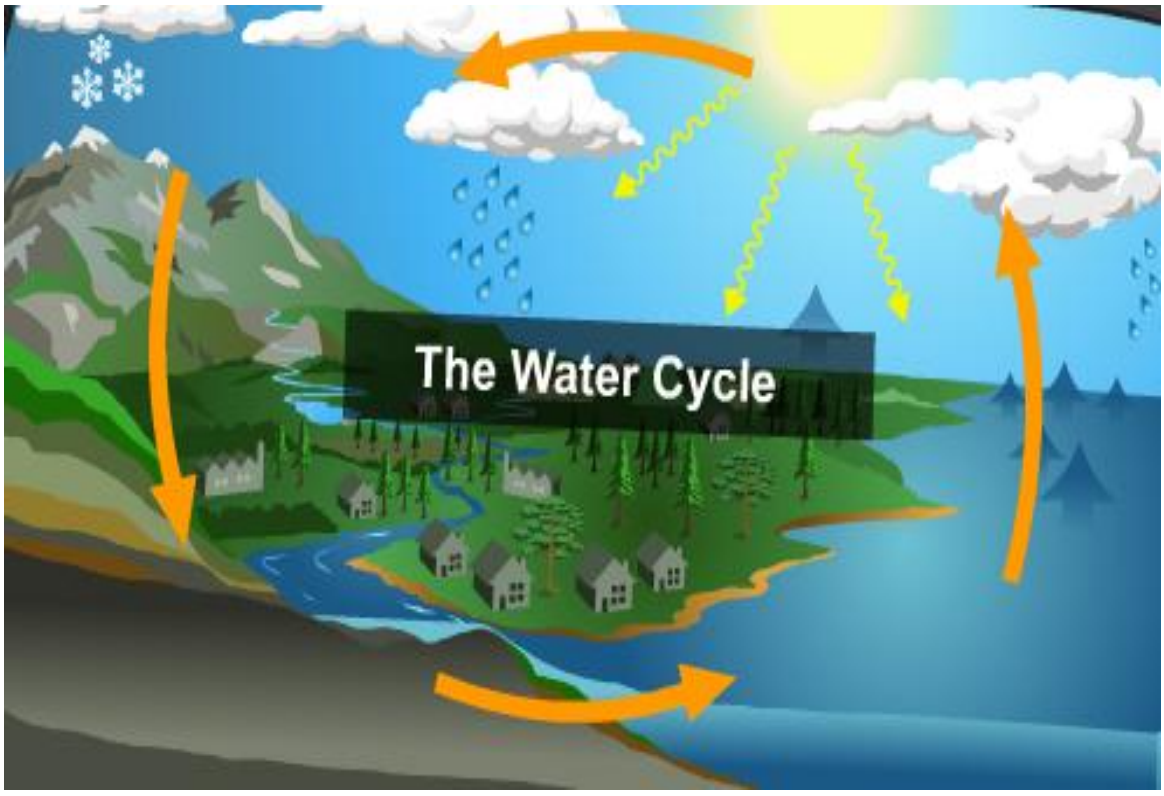
Success Criteria
• I can complete an annotated sheet of the Earth's water cycle, labelling the processes correctly e.g. *evaporation, condensation, precipitation and collection.*

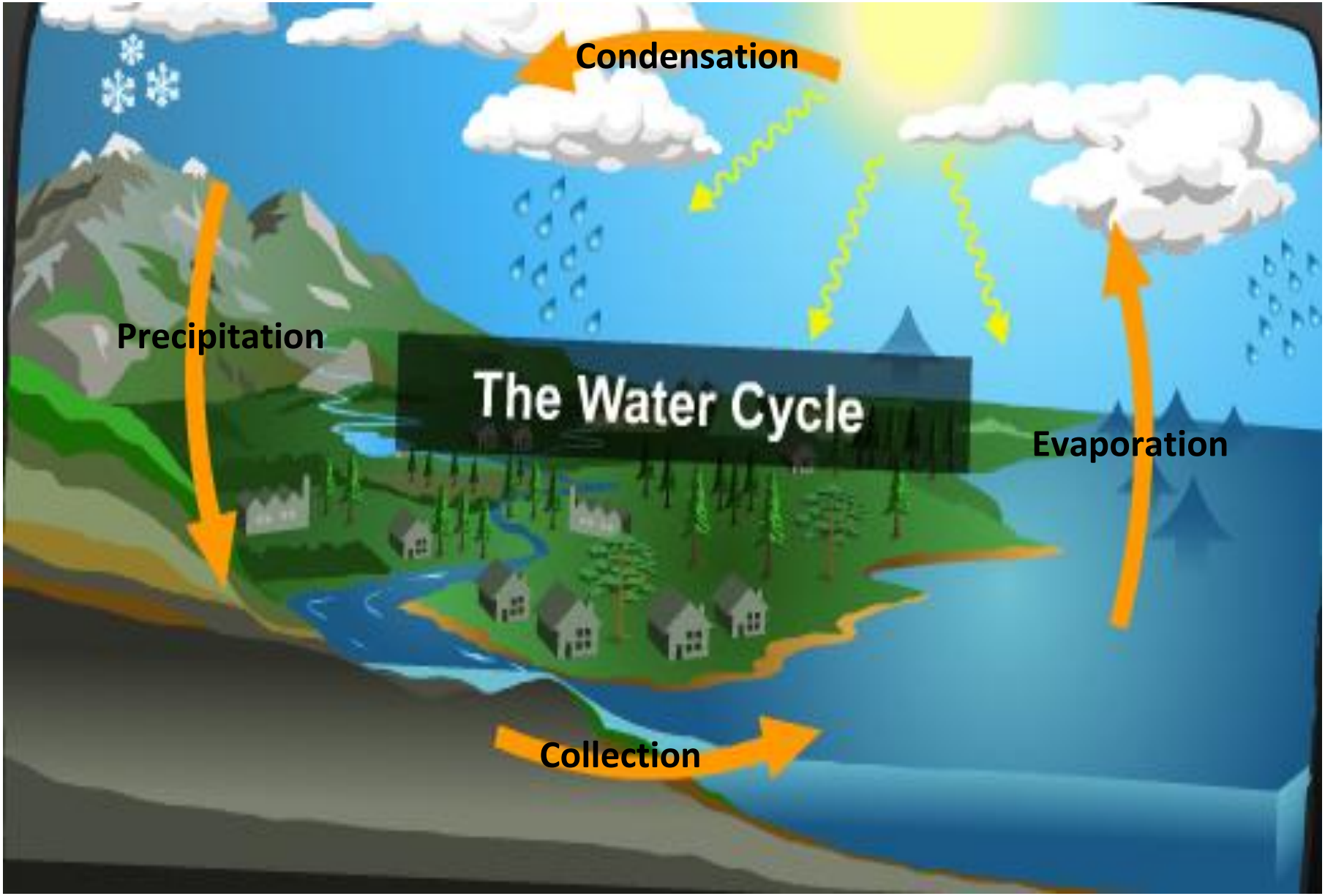
Key Questions	New Skills/Concepts/Vocabulary	Resources
• What is the earth made up of? • Can anyone suggest where rain comes from? • What is a cycle?	Vocabulary: e*vaporation, condensation, precipitation, collection, vapour, condensed, cycle.*	- The Water Cycle (Teacher Copy) - The Water Cycle (Enlarged)

Time	During Main Activity/Lesson	Resources
Introduction 5 minutes	**Key Questions:** • What is the Earth made up of? • Can anyone suggest where rain comes from? • What is a cycle? Teacher will explain the water cycle using the task sheet (may be useful to provide pupils with an enlarged copy of this sheet).	- The Water Cycle Task sheet
Main Task(s) 10 minutes	• Split pupils into small groups of 4 or 5. Provide each group with a blank sheet of paper. • Each group will work cooperatively to produce an annotated sheet showing the water cycle. Each group must ensure they have included the 4 processes of the water cycle and that they are labelled correctly.	- The Water Cycle Task Sheet
Plenary 5 minutes	• Bring pupils back together. • Have each group present their annotated sheet to the rest of the class. These will then be displayed in the classroom	

This lesson is followed by 3 Fun Experiments related to the Water Cycle.
This will enable pupils to develop their understanding of the Water Cycle, Rainfall and Wind - key elements which relate to flooding.

The Water Cycle	
The earth has a limited amount of water. This water keeps going round and round in what is called the ´Water Cycle`. This cycle is going on all the time and has four main parts. Below are the names for the four main parts and what they mean. After reading these, label the picture below in the arrows with the four words to describe what is happening. Then create your own picture to show the ´Water Cycle` to be displayed.	
Evaporation	Evaporation is when the sun heats up water in rivers, lakes and the ocean and turns it into steam or vapour (like you get from a boiling kettle). This water vapour or steam is then taken into the air.
Condensation	As the warm water vapour in the air cools it changes back into a liquid and forms clouds. This is called condensation. You can see this at home if you pour a glass of cold water on a hot day there will be beads of water on the glass. This is formed because the water vapour in the air has been cooled and turned back to water.
Precipitation	Precipitation happens when so much water has been condensed that the air cannot hold it anymore. The clouds become heavier until the water starts to fall as rain, hail, sleet or snow.
Collection	When water falls back to earth as precipitation it may fall back into the rivers, lakes or oceans that it came from. Or it will fall on the land and either be soaked up to be used by plants and animals or it will run back into the rivers, lakes and oceans to start the cycle all over again.




Condensation
Precipitation
The Water Cycle
Evaporation
Collection

Learning Experience Plan:

Fun Experiment 1 – Water Cycle in a Bag			
Level	Second	**Duration:**	15 minutes
Curricular Area(s): Sciences – Planet Earth			
Experiences & Outcomes:(ACFE)			
I can apply my knowledge of how water changes state to help me understand the processes involved in the water cycle in nature over time. **SCN 2-05a**			

General Aim:
To carry out a practical experiment to represent the water cycle and the processes which take place during this cycle.
Learning Intention (s)
• We are learning about the Earth's Water Cycle and the processes which take place.

Success Criteria
• I can carry out an experiment to show the process of the Earth's Water Cycle.

Key Questions	New Skills/Concepts/Vocabulary	Resources
• What do you think will happen to the water? • Do you notice anything different about the water in the bowl? • What do you think has happened here?	Concepts – The Water Cycle Vocabulary – *condensation, evaporate*	- Large bowl - Cling film - Small weight (e.g. a lump of blu-tac) - Small plastic pot (yogurt pot) - Water - Bright, well lit area (window sill)

Time	During Main Activity/Lesson	Resources
Introduction 5 minutes	• Teacher will recap on the Water Cycle and the processes which take place; evaporation, condensation, precipitation and collection.	
Main Task(s) 10 minutes	**This experiment can be used as a demonstration activity or if resources permit, the pupils can conduct the experiment in groups.** • Take the large bowl and fill it with several centimetres of water. • Place your small plastic pot in the centre of the bowl. Do not put any water inside the pot. • Cover the large bowl with plastic pot inside and ensure the seal is tight. • Put a weight or lump of *blu-tac* on top of the film above the centre of the small plastic pot, this should result in a dip above the pot. • Place the experiment on a bight window ledge and leave for a few days • ***(Please note: In very warm weather this may only take hours)***	- Large bowl - Cling film - Small weight (lump of blu-tac) - Small plastic pot (yogurt pot) - Water - Bright, well lit area (window sill)
2 days later (track progress of experiment)	*The pupils can observe and write notes detailing the experiment over a couple of days, noting when condensation first appears on the cling film for example.* Over time pupils should find that the water cycle has worked within the small enclosed artificial environment. The heat of the sun will have caused water to evaporate, which will rise and condense on the film. This condensation will cool and run into the centre of the film where the weight is and then drop (as rain) into the pot. **This is the water cycle.**	- Notebook, pencils

Learning Experience Plan:

Fun Experiment 2 – Measure your Local Rainfall – Make a Rain Gauge			
Level	Second	**Duration:**	30 minutes
Curricular Area(s): Sciences – Materials **Technologies – Craft, design, engineering and graphics contexts for developing technological skills and knowledge.**			
Experiences & Outcomes:			
Having explored the substances that make up the Earth's surface, I can compare some of their characteristics and uses. **SCN 2-17a** During practical activities and design challenges, I can estimate and measure using appropriate instruments and units. **TCH 2-13A**			

General Aim:
To develop an understanding of rainfall and how it can vary through the different seasons.
Learning Intention(s)
• We are learning about rainfall in Britain and how it can change throughout the different seasons. • We are learning how to measure rainfall using a rain gauge.

Success Criteria
• I can carry out an experiment to measure the amount of rainfall which occurs throughout the year. • I can make and use a rain gauge correctly in order to measure the amount of rainfall.

Key Questions	New Skills/Concepts/Vocabulary	Resources
• How often do you think it rains? • How many times a week, month do you think it rains? • How might we measure the amount of rain that falls? • What must we do to the bottle after we have measured the rainfall? Why? *(bottle should be emptied to ensure an accurate rainfall measure next time).*	Vocabulary -*rain gauge.* Skills – measuring rainfall using a rain gauge	- Empty plastic bottle large size (2ltr) - Scissors - Sticky tape - Ruler - Paper and pencil - 3 bricks (optional)

Time	During Main Activity/Lesson	Resources
Introduction 5 minutes	Brief discussion with pupils regarding rainfall in local area. **Key Questions:** • How often do you think it rains? • How many times a week, month do you think it rains? • How might we measure the amount of rain that falls?	
Main Task(s) 25 minutes	**This experiment can be used as a demonstration activity or if resources permit, the pupils can conduct the experiment in groups or make individual Rain Gauges to take home.** ***This experiment can be revisited regularly thought the academic year measuring daily, weekly and monthly rainfall in your local area.*** **Instructions:** • Cut around the plastic bottle approximately two thirds of the way up. • Turn the top part of the bottle upside down and place inside the body of the bottle. This can be fixed using tape. • Make a scale in centimetres on a piece of tape and fix to the side of your bottle. Alternatively the ruler can be fixed to the side of the bottle. • Find a suitable place outside, it should be in the open and away from guttering and trees. • I*deally dig a small hole so that the top of the bottle is sticking out about 5 to 10 cm, this will stop the Rain Gauge blowing over on windy days. Alternatively the gauge can be surrounded by bricks.*	- 2 Ltr paper milk carton (empty and washed out) - 5 Ltrs of water - Nail - Masking tape - Ruler - Marker pen - Pair of scissors - Notepad & pencil to make notes
Everyday/Every week	The pupils can check the Rain Gauge every day or at the end of every week, at approximately the same time, and measure the amount of rain that has been collected. *Pupils should ensure that they empty the bottle after each time the rainfall is recorded.	- Notebook - Rainfall chart

Learning Experience Plan:

Fun Experiment 3 – Make a Wind Vane			
Level	Second	**Duration:**	25 minutes
Curricular Area(s): Social Studies- People, Place and Environment **Technologies – Craft, design, engineering and graphics contexts for developing technological skills and knowledge.**			
Experiences & Outcomes:			
I can investigate the main features of weather and climate, discussing the impact on living things. **SOC 2-13a** During practical activities and design challenges, I can estimate and measure using appropriate instruments and units. **TCH 2-13A**			

General Aim:
To develop pupil interest in the weather and climate, informing their knowledge and understanding in the process.
Learning Intention(s)
• We are learning about weather and climate change. • We are learning to record wind direction using a wind vane.

Success Criteria
• I can carry out an experiment to identify wind direction, recording my findings to show weather patterns. • I can make and use a wind vane to record wind direction.

Key Questions	New Skills/Concepts/Vocabulary	Resources
• How fast do you think wind travels? • How might we record the direction the wind is blowing?	Vocabulary -*Vanes, trends* Skills – Recording wind direction using a wind vane.	- A ruler - A pen top - Card - A knitting needle - Matchsticks - A cork - Sand/earth - Blu-tac - Tape - Glue - Empty plastic bottle large size (2ltr) - Compass - Laminator(optional)

Time	During Main Activity/Lesson	Resources
Introduction 5 minutes	Brief discussion with pupils regarding rainfall in local area. **Key Questions:** • How fast do you think wind travels? • How might we record the direction the wind is blowing?	
Main Task(s) 20 minutes	**This activity can be used as a demonstration activity or if resources permit, the pupils can make individual Wind Vanes to take home.** • Draw an arrow 20/25 cm long on the card and cut it out. • Using the first arrow as a template, create another one. These can be laminated for greater longevity. • Place the pen top between the arrows and glue or tape together. • Push 4 matchsticks into the long edge of the cork at right angles to each other. • Cut out 4 small squares of card and label with the points of the compass (N.S.E.W) and attach these to the end of each matchstick with blu-tac or glue. These can be laminated for greater longevity. • Fill the bottle with sand or earth. • Push the knitting needle into the cork and push the cork into the top of the bottle. • Balance the Wind Vane on top of the knitting needle. • Select an open area away from buildings and trees, perhaps near your Rain Gauge. • Use a compass to identify North and line up the labels accordingly. • The arrow will show the direction the wind is blowing from. **Interesting Information:** *The most powerful low-level wind ever in the UK happened when a storm hit Scotland on February 13, 1989. The wind was measured at 142mph, more than twice as fast as a Cheetah running at top speed.*	- A ruler - A pen top - Card - A knitting needle - Matchsticks - A cork - Sand/earth - Blu-tac - Tape - Glue - Empty plastic bottle large size (2ltr) - Compass - Laminator(optional)
Everyday/Every Week	The pupils can record the wind direction and plot in a note book or on a chart, allowing them to identify any trends in their local weather patterns. This can be checked every day or every week.	- Notebooks - Wind chart

Learning Experience Plan:

Activity 3: How do you prepare for a flood?			
Level	Second	**Duration:**	30 minutes
Curricular Area(s): Social Studies - People, Place and Environment			
Experiences & Outcomes (ACFE):			
I can describe the physical processes of a natural disaster and discuss its impact on people and the landscape. **SOC2-07b**			

General Aim:
To develop pupil knowledge and understanding on how to prepare for a flood and risk reduction. Pupils will be able to take this information and share at home and will have the knowledge and ability to create an emergency Flood Kit at home.
Learning Intention(s)
• We are learning about flooding and the impact that it can have on us. • We are learning to prepare for a flood.

Success Criteria
• I can participate in a group discussion, sharing my thoughts on flooding and the impact a flood may cause. • I can complete a 'Why is it needed' task sheet to help me prepare for a flood.

Key Questions	New Skills/Concepts/Vocabulary	Resources
• What do we mean by a flood? • What do you notice about recent changes in weather? • Is it possible to have a flood in our area? • What might we need in case of a flood?		- 'Why is it needed?' task sheet - Pencils

Time	During Main Activity/Lesson	Resources
Introduction 5 minutes	Teacher led discussion about the realities of flooding and how it is a possibility in your area. Explain that this may be scary as it is something unknown but by preparing for a flood they greatly reduce the impact that a flood may cause.	
Main Task(s) 20 minutes	• Split pupils into small groups of 4 or 5 and provide each group with a 'Why is it needed?' task sheet. • Each group will work together to complete the worksheet 'Why is it needed?' • The group will read the list of items that are recommended for an emergency flood and draw a line to the explanation for that item. • The group can then add an extra item that they would like in the emergency pack.	- 'Why is it needed?' task sheet - Pencils
Plenary 5 minutes	Make a copy of the groups' task sheet for each pupil within the group. Pupils will take the list home to create an emergency plan with their family and create an emergency pack (Flood Kit) in case of flooding.	

Flood Kit - Why is it Needed?

The idea of flooding can be quite scary, but the more prepared you are the less worrying it will be if it does happen.

Below is a list of items that people are advised to have in case of a flood. Read the list below and draw a line to the reason why it would be good to have this item in an emergency pack (Flood Kit).

There is a blank space at the bottom of the list for you to add something you would like and explain why you would like this.

Take the completed list home and work with your parents to create a pack and an emergency plan.

 **Bottled Water**	You should never enter flood water during a flood, but when it is safe the house will still be wet and you will need 'wellies' and rubber gloves when you go into flood damaged areas.
 **Torch**	In case of minor injury it is important to be able to clean and dress wounds.
 **First Aid Kit**	You will want to know what is happening, so will need something that you can listen to which may provide important information without needing to be plugged in.
 **Radio**	Information on how to turn off electricity, gas and water; insurance documents etc.
 **Waterproof Clothing**	If there is a flood at night, your power may be affected and you will need to see where you are and what you are doing.
 **Useful Information**	During a flood electrical equipment becomes dangerous as it is wet and gas pipes may become damaged, water will also become contaminated and undrinkable so all will need to be turned off.
Your idea?	**Why?**

Learning Experience Plan:

Activity 4: Flooded *This lesson can be used within the classroom as a whole class lesson **or** as a homework exercise to be carried out with parents/family, in order to share the learning of this topic and to develop awareness of Flooding and Climate change.*			
Level	Second	**Duration:**	25 minutes + extension
Curricular Area(s): Social Studies- People, Place and Environment **Health and Wellbeing – Mental, emotional, social and physical wellbeing.**			
Experiences & Outcomes:			
I can describe the physical processes of a natural disaster and discuss its impact on people and the landscape. **SOC2-07b** I am learning to assess and manage risk, to protect myself and others, and to reduce the potential for harm when possible. **HWB 2-16a**			

General Aim:
To explore what action should be taken during a flood; what to do and what not to do. Pupils will share this information at home to create an emergency plan and flood kit.
Learning Intention(s)
• We are learning about what we should *do* and *not do* during a flood. • We are learning to prepare for a flood.

Success Criteria
• I can complete a 'What to do' task sheet, identifying what I should do and what I should not do during a flood. • I will create an emergency plan/flood kit at home with my family in order to prepare us in case of a flood.

Key Questions	New Skills/Concepts/Vocabulary	Resources
• What would you do during a flood? • What sort of things must you never do during a flood?	*Creating an emergency plan in case of a flood.* *Creating a flood kit at home in case of a flood.*	- 'What to do' task sheet - Pencils

Time	During Main Activity/Lesson	Resources
Introduction 10 minutes	Begin by explaining to pupils that if flooding happens people can become confused as to what to do. **Key Questions**: • What would you do during a flood? • What sort of things must you never do during a flood? Discuss with pupils gathering their thoughts and ideas.	- 'What to do!' task sheet - Pencils
Main Task(s) 10 minutes	Explain to pupils that having the flood kit and an emergency plan helps a lot but doesn't answer all questions. Pupils will complete the **'What to do!'** task sheet, answering **Do** or **Do Not** to the questions asked.	- 'What to do!' task sheet - Pencils
Plenary 5 minutes	Bring pupils back together and go through the answers and reasons with pupils. Give pupils an opportunity to score themselves (self assessment) or have pupils swap with a partner and carry out peer assessment.	- 'What to do!' task sheet - Pencils
Homework Exercise	Discuss with parents/family what you should do during a flood and what sort of things you must never do. For more information visit the SEPA kids website. **Task 1:** Together, complete the 'What to do!' task sheet and think about the reasons for your answers. Return 'What to do!' task sheet to the classroom the following day to share and discuss answers. **Task 2:** Create an emergency flood plan/flood kit together, in order to prepare the family home for a flood. *For more information regarding flood plans/flood kits, visit the SEPA website.	www.sepakids.com - 'What to do!' task she

What to do!

Congratulations! You and your family have prepared for a flood by creating your emergency flood kit. Continue the good work by preparing an emergency flood plan. Answer the questions below by circling either **Do** or **Do not** to possible choices you or your family might have during a flood. Your teacher will go through the answers with you at the end of the quiz.

1. Stay alert, keep an eye on the weather and listen for warnings on the radio
   Do **Do not**

2. Move people and pets upstairs or to higher ground
   Do **Do not**

3. Drive through a flooded road
   Do **Do not**

4. Play in any flood water in your house
   Do **Do not**

5. Stand on bridges or walls to see what is happening
   Do **Do not**

6. Walk through flood water in the street
   Do **Do not**

7. Be very cautious at night during a flood
   Do **Do not**

8. Make sure your parents know where you are, and follow your emergency plan
   Do **Do not**

9. If told to evacuate, do so immediately
   Do **Do not**

10. Enter flooded buildings to obtain valuables or documents
    Do **Do not**

ANSWERS

Use the answers to the questions to promote discussion and fill in additional information about why they must act in this way. Also allow the group to consider what the experience might be like, make sure the group are not scared about flooding but give it the importance that it deserves.

1. **Do.** You need to be alert and aware of any change in situations. Listen to the radio or contact Floodline on 0845 988 1188 or at www.sepa.org.uk/flooding to find out what is happening. Do not use the television, or any other electrical appliance that needs to be plugged in, if your house is flooding or flooded.

2. **Do.** Being in flood water is not safe, so always remove yourself and others from it. You will need to take care of pets as they will not recognise the danger and may be worried by the flooding.

3. **Do not.** You should never drive in a flood as obstacles such as grid drains that may have been pushed open and debris will not be visible. Two feet of flowing water is enough to sweep your car away.

4. **Do Not.** Flood water is likely to be contaminated and could contain sewage. Don't touch the water or items that have been in contact with it until they have been thoroughly cleaned.

5. **Do Not.** It is tempting to stand on walls but it is unsafe as it is all too easy to slip and fall. If the flooding is particularly bad the wall may have weakened or even been knocked down by the water.

6. **Do Not.** Floodwater can easily knock you off your feet. The water could be covering open grids, road works or other objects you will not be able to see. You could trip and injure yourself.

7. **Do.** As already explained during a flood it is hard to see through flood water for any dangers. This becomes even more difficult during the night when there is reduced light.

8. **Do.** Flooding can be very worrying for your parents and other family members. Make sure you help to keep people calm by being where you should be and letting others know you are safe.

9. **Do.** It is very unlikely but you may be told to evacuate. If you are you must do so immediately quickly, safely and calmly.

10. **Do Not.** Never re-enter a flooded building for any reason until you have been told by the rescue services that it is safe to do so.

Learning Experience Plan:

Activity 5: After the Flood *This lesson can be used within the classroom as a whole class lesson or as a homework exercise to be carried out with parents/family, in order to share the learning of this topic and develop awareness of Flooding and Climate change.*			
Level	Second	**Duration:**	35 Minutes
Curricular Area(s): Social Studies- People, Place and Environment **Literacy & English – Writing** **Health and Wellbeing – Mental, emotional, social and physical wellbeing**			
Experiences & Outcomes:			
I can describe the physical processes of a natural disaster and discuss its impact on people and the landscape. **SOC2-07b** As I write for different purposes and readers, I can describe and share my experiences, expressing what they made me think about and how they made me feel. **ENG2-30a** I am learning skills and strategies which will support me in challenging times, particularly in relation to change or loss. **HWB 2-07a**			

General Aim:
To explore the ways in which pupils can help and what they can expect to happen after a flood. Exploring the impact a flood can have on both people and possessions.
Learning Intention(s)
• We are learning about the impact a flood can have on us and our family, e.g. *losing items and belongings.* • We are learning about what we can do to help after a flood.

Success Criteria
• I can participate is a short discussion about the impact a flood can have on my family and I. • I can complete a 'Back to Normal' task sheet, where I will record my feelings about the impact a flood may have on my family and I.

Key Questions	New Skills/Concepts/Vocabulary	Resources
• What kind of damage can a flood cause? • What could you do to help your family after a flood?		- 'Back to Normal' task sheet - 'Thoughts and Feelings' task sheet - Pencils

Time	During Main Activity/Lesson	Resources
Introduction 5 minutes	**Key Questions:** • What kind of damage can a flood cause? • What could you do to help your family after a flood? Explain to pupils that after a flood their parents will be very busy with cleaning up, insurances, replacing items and food. Whilst parents are busy the students should be prepared for what has happened to their house and belongings. Losing items and the sense of a 'safe house' can be very upsetting but it can help if the students are part of a clean-up, providing it is safe, so they can see things going back to normal.	
Main Task(s) 10 minutes	Pupils will work individually to complete 'Thoughts and Feelings' task sheet to record their own personal thoughts and feelings with regards to flooding. Pupils will work individually to complete the **'Back to Normal'** task sheet where pupils will record their personal feelings with regards to a flood -*how they might feel and what they might do to help after a flood.*	- 'Thoughts and Feelings' Task sheet - 'Back to Normal' task sheet - Pencils
Plenary 5 minutes	Bring pupils back together. Ask pupils to volunteer to share with the rest of the class some of their thoughts and feelings which they recorded on the 'Back to Normal' sheet.	- 'Back to Normal' task sheet
Homework Exercise	Discuss with parents/family the kind of damage a flood can cause. Share your thoughts and feelings about how you and your family might feel if involved in a flood. **Task 1:** Complete the 'Thoughts and Feelings' task sheet. **Task 2:** Complete 'Back to Normal' task sheet, answering questions about what you can do and how you can help get back to normal, after a flood. Share your answers with your parents/family **Extension:** Discuss a plan with parents/family about what could happen after a flood and how they may help so they can feel like part of the solution and see things return to normal. *This will prepare each pupil's house for a flood and its effects.*	- 'Back to Normal' task sheet

Thoughts and Feelings

How might your parents feel?

How might you feel?

What about other people affected by the flood?

What could I do to help?

Back to Normal

After a flood there may be a lot of damage and a lot of work to do. Your parents will be busy cleaning, drying, calling insurance companies, arranging repairs and trying to get your house back to normal. You may be shocked by the damage or feel like there is nothing you can do. Complete the sheet below by answering the questions about what you can do and how you can help to get back to normal.

List 5 things that might be broken or damaged after a flood in your house
1.
2.
3.
4.
5.

How might your house change?

What would you miss most?

How could you protect it?

List 5 things that are important to you that wouldn't be damaged by a flood
1.
2.
3.
4.
5.

Learning Experience Plan:

Activity 6: Pass it On			
Level	Second	**Duration:**	30 Minutes
Curricular Area(s): Social Studies- People, Place and Environment **Literacy and English – Listening and Talking**			
Experiences & Outcomes:			
I can describe the physical processes of a natural disaster and discuss its impact on people and the landscape. **SOC2-07b** I am developing confidence when engaging with others within and beyond my place of learning. I can communicate in a clear, expressive way and I am learning to select and organise resources independently**. LIT 2-10a**			

General Aim:
To work co-operatively with others to create an assembly to share learning about Flooding and climate change with the rest of the school.
Learning Intention(s)
• We are learning to work together to share our learning experiences about Flooding and Climate Change with the rest of the school.

Success Criteria
• I will work with others to plan, prepare and present information and what I have learned about Flooding and Climate change, with the rest of the school.

Key Questions	New Skills/Concepts/Vocabulary	Resources
	Presenting information to the rest of the school.	- Art Materials - Task Sheets from pack *Resources will vary depending on how pupils present their information.

Time	During Main Activity/Lesson	Resources
Introduction 5 minutes	Teacher led discussion about the work completed. Ask for individuals to share information on any action plans or emergency kits they have created at home.	
Main Task(s) 10 minutes	As a class prepare an assembly for the rest of the school focusing on each of the lessons covered in the pack. Split the class so a small group concentrates on each lesson. Allow each group decide how they want to present their lesson, this allows pupils to lead their own learning and develop ownership. This activity will allow pupils to become *Successful Learners* as through planning, preparing and presenting to the rest of the school, pupils will be 'celebrating' their achievements. If you have the opportunity, research using the web for any additional information using www.sepa.org.uk/flooding or the other websites listed at the end of the pack.	- Art Materials - Task Sheets from pack *Resources will vary depending on how pupils present their information.
Extension 15 minutes	Display any art work associated with the assembly within the school to promote continuing thought and attention.	

Learning Experience Plan:

High & Dry II: 'This time it's personal!' Activity 1: Climate Change			
Level	Second	**Duration:**	45 Minutes
Curricular Area(s): Social Studies- People, Place and Environment **Literacy & English – Listening & Talking** **Expressive Arts – Art & Design**			
Experiences & Outcomes:			
I can discuss the environmental impact of human activity and suggest ways in which we can live in a more environmentally- responsible way. **SOC 2-08a** When listening and talking with others for different purposes, I can share information, experiences and opinions. **LIT 2-09a** Inspired by a range of stimuli, I can express and communicate my ideas, thoughts and feelings through activities within art and design. **EXA 2-05a**			

General Aim:
To explore climate change and to investigate what we can do as global citizens to tackle/reduce climate change.
Learning Intention(s)
• We are learning about climate change and the impact it has on our world. • We are learning how we can tackle/reduce climate change.

Success Criteria
• I can listen and talk with others to exchange and share information about climate change and record our ideas in a KWFL grid, *What do I know?, What do I want to Know?, How can I Find out More?, What have I Learned?.* • I can work within a small group to create a poster which shows how we can reduce climate change in our world.

Key Questions	New Skills/Concepts/Vocabulary	Resources
• What is climate change? • Why is climate change happening? • What can we do to help reduce climate change?	Vocabulary – *reduce, reuse, recycle, carbon footprint, environment, climate, greenhouse gases*	- KWFL grids - pencils - sugar paper - range of arts and crafts materials

Time	During Main Activity/Lesson	Resources
Introduction 10 minutes	Begin by recapping on chapter 1, where pupils watched *Jack and Sophie* discover all about climate change. Ask pupils what they can remember. **Key Questions:** • What is climate change? • Why is climate change happening? Discuss this further with pupils.	
Main Task(s) 15 minutes	• Arrange pupils into small groups of 4 or 5. Explain to pupils that in order for them to explore climate change further, they will work in groups to complete a KWFL grid. '***What do I know? What do I Want to Know? Where can I find out more? What have I learned?*** Groups will only fill in the first 3 sections if the grid. '*What have I learned*' section can be completed at the end of the lesson or on a later date. • Before pupils begin, assign one person within the group to be a 'scribe' where they will be responsible for recording their group's ideas and thoughts. • Bring pupils back together to allow them to share their thoughts and opinions about climate change with the rest of the class.	- KWFL grids - Pencils
Extension 20 minutes	Discuss with pupils the ways in which we can reduce/tackle climate change. **Key Questions:** • What can we do? • What can we, as a community, do? • What will happen to our world if things don't change? Ask pupils to go back into their groups. Pupils will work together to create a poster, which will show how we as global citizens can help reduce/tackle climate change; *save electricity, recycle, bus, bike, walk, save water, plant trees.* Pupils can use a variety of different arts and crafts materials, depending of what is available. These posters can be displayed throughout the school.	- Sugar paper - Range of arts and crafts materials

K	W	F	L

K - What do I know?
W - What do I want to know?
F - How can I find out more?
L - What have I learned?

Learning Experience Plan:

High & Dry II: 'This time it's personal!' Activity 2: Flooding			
Level	Second	**Duration:**	40 Minutes
Curricular Area(s): Social Studies- People, Place and Environment **Literacy & English - Writing**			
Experiences & Outcomes:			
I can discuss the physical processes of a natural disaster and discuss its impact on people and the landscape. **SOC 2-07b** I can convey information, describe events, explain processes or combine ideas in different ways. **LIT 2-29a**			

General Aim:
To investigate flooding and flood warning and how to successfully prepare for a flood, through a writing experience activity.
Learning Intention(s)
• We are learning about flooding, flood warnings and how to successfully prepare for a flood.

Success Criteria
• I will convey information through writing and drawings, describing how to successfully prepare for a flood.

Key Questions	New Skills/Concepts/Vocabulary	Resources
• What is a flood warning? • Can you name the 4 flood messages? • How might we prepare ourselves for a flood?	Creating a *Flood plan* The Flood Messages: Flood Watch Flood Warning Severe Flood Warning Warning no longer in force	- SEPA Flood Warning table - Paper - Pencils

Time	During Main Activity/Lesson	Resources
Introduction 10 minutes	Begin by re-capping on chapter 2, *What is a flood warning,* where pupils watched Jack and Sophie take on a secret mission to find out about flood warnings and how they work. **Key Questions:** • What is a flood warning? • Can you name the 3 flood warnings? Discuss these questions with pupils to determine how much they can remember. Show pupils the 'Levels of Flood Warning' table.	- SEPA 'Levels of Flood warning' table
Main Task(s) 25 minutes	Set the scene: Explain to pupils that an alien has come to planet Earth to visit Jack and Sophie. He wants to find out information about flooding, flood warnings and how to prepare for a flood as his home planet has been involved in a great flood. Explain to pupils that they will take on the role of either Jack or Sophie. Their mission is to write a short report for the alien on flooding and flood warnings, including instructions on how to successfully prepare for a flood. This will include *Floodplans*. ***Differentiation: Pupils may work in pairs for this activity to help support the learning.***	- Paper - Pencils
Plenary 5 minutes	Bring pupils back together. Ask pupils to volunteer to read out some of their reports/instructions that were written for the alien to the rest of the class. *Peers can offer some feedback/assessment through '2 stars and a wish' in order to help improve their writing.	

FLOOD ALERT

FLOODING IS POSSIBLE. BE PREPARED.

FLOOD WARNING

FLOODING IS EXPECTED. IMMEDIATE ACTION REQUIRED.

SEVERE FLOOD WARNING

SEVERE FLOODING. DANGER TO LIFE.

Learning Experience Plan:

High & Dry II: 'This time it's personal!' Activity 3: Personal Safety			
Level	Second	**Duration:**	40 Minutes
Curricular Area(s): Social Studies- People, Place and Environment **Health & Wellbeing – Mental, emotional, social and physical wellbeing.** **Literacy & English - Writing**			
Experiences & Outcomes:			
I can discuss the physical processes of a natural disaster and discuss its impact on people and the landscape. **SOC 2-07b** I am learning skills and strategies which will support me in challenging times, particularly in relation to change and loss. **HWB 2-07a** I can convey information, describe events, explain processes or combine ideas in different ways. **LIT 2-28a**			

General Aim:
To explore the consequences of flooding and how to effectively prepare for a flood.
Learning Intention(s)
• We are learning about the consequences of flooding and how we can prepare for a flood. • We are learning to write an imaginative piece of writing, describing the consequences of flooding and how we can better prepare for a flood.

Success Criteria
• I will write a detailed imaginative piece of writing, describing the *consequences* of a family who are NOT prepared for a flood. • I will write a detailed imaginative piece of writing, of a family who ARE prepared for a flood.

Key Questions	New Skills/Concepts/Vocabulary	Resources
• How would you feel if you're house was flooded? • Has it affected you? • What local problems may arise from a flood? • How can you prepare for a flood?	Vocabulary – consequences, Floodline warnings, flood plan, flood kit.	- Paper - Pencils

Time	During Main Activity/Lesson	Resources
Introduction 10 minutes	Begin by recapping on chapter 3, where pupils watched the performance on time travel between the past and what can be achieved in the future with regards to flooding. **Key Questions:** • How would you feel if you're house was flooded? • How might a flood affect you and your family? • What local problems may arise from a flood? • How can you prepare for a flood? Discuss these questions with pupils in detail, focusing of the consequences of a flood.	
Main Task(s) 25 minutes	Divide the class into two groups. Explain to pupils that they will all be writing an imaginative piece of writing based on flooding and the consequences. Group1: All pupils will write an imaginative piece of writing about themselves and their family during a flood. Their family were NOT prepared for a flood. Group 2: All pupils will write an imaginative piece of writing about themselves and their family during a flood. Their family WERE prepared for a flood. (FLOOD PLAN/FLOOD KIT) In each piece of writing pupils must refer to emotions and feelings, how the flood affected their family and how the flood affected the local area.	- Paper - Pencils
Plenary 5 minutes	Bring pupils back together and select some pupils from each group to share their piece of writing. Discuss with pupils the importance of Flood plans/flood kits in order to be prepared for a flood.	

Learning Experience Plan:

High & Dry II: 'This time it's personal!' Activity 4: Dangers			
Level	Second	**Duration:**	25 Minutes
Curricular Area(s): Social Studies- People, Place and Environment **Literacy & English - Writing**			
Experiences & Outcomes:			
I can discuss the physical processes of a natural disaster and discuss its impact on people and the landscape. **SOC 2-07b** By considering the type of text I am creating, I can select ideas and relevant information, organise these in an appropriate way for my purpose and use suitable vocabulary for my audience**.** **LIT 2-26a**			

General Aim:
To explore possible the dangers of flooding *(hazards, illness/infection, pets in flood water)* and to explore the recommended contents of a *Flood Kit.*
Learning Intention(s)
• We are learning about the possible dangers of flooding. • We are exploring the recommended contents of a *Flood Kit, i.e. important documents, water, first aid kit, torch etc.*

Success Criteria
• I will create a poster which shows the possible dangers of flooding and the contents of a Flood Kit.

Key Questions	New Skills/Concepts/Vocabulary	Resources
• Can you think of any dangers of a flood? • How can we stay safe during a flood? • What sort of items would be inside a *flood kit?*	Vocabulary – *flood kit, hazards, dangers*	- Paper - Pencil's, coloured pen's, pencil's etc. ICT – 'paint' programme (optional)

Time	During Main Activity/Lesson	Resources
Introduction 5 minutes	Begin recapping on chapter 4, where the pupils explored the dangers of flooding through *'The Legend of Dick and Dom'* ***Key Questions:*** • Can you think of any dangers of a flood? • How can we stay safe during a flood? • What is a *flood kit*? What items should be included inside a *flood kit*? (water, first aid box, torch, important documents, battery radio, mobile phone, waterproof clothing and blankets)	
Main Task(s) 20 minutes	Ask pupils to create a poster in order to highlight the dangers of flooding and how flooding can be dangerous if not equipped with a *flood kit.* These posters can be displayed throughout the school to highlight this information to other pupils and staff. Once complete the posters can also be emailed to the SEPA kids website and displayed within their gallery*:* *(If pupils have access to computer software, pupils could also create posters using the 'paint' programme, to enhance learning)* This will encourage pupils to become global citizens and will enable pupils to become Responsible Citizens, one of the four capacities of *A Curriculum for Excellence.*	- Paper - Variety of coloured pens, pencils www.sepakids.com

Flooding & Climate Change – Assessment

Assessment of pupil learning and engagement:

In order to put a very positive outlook on how we all have our part to play and to leave pupils feeling enthused and prepared for what may come, it is important to re visit all of the show's key messages at the end. This is also a useful way to assess pupil learning of the topic.

Provided overleaf is a set of multiple choice questions (also on the disc in PowerPoint Format) based on the performances and lessons on the topics of Flooding & Climate Change. The questions are in the format of a 'Quick Quiz' in order to keep pupils engaged and enthused throughout the learning. This 'Quick Quiz' can be carried out manually or if resources permit, pupils can take the quiz using *'Voting Handsets*'.

Quick Quiz

1. Which of these should be included within a Flood Kit?

   Sunglasses **Torch**

   Newspaper **Map**

2. Where can most of the Earth's water be found?

   In rivers **Under the ground**

   In the clouds **In seas and oceans**

3. Where should you keep your flood kit?

   In the attic **With a neighbour**

   In a safe place **Outside**

4. Which of the following messages mean that flood waters have gone down?

   Flood watch **Severe flood warning**

   Flood Warning **Warning no longer in force**

5. What is the name of the process by which the Earth recycles its water supplies?

   The Water cycle **The Life cycle**

   The Recycle **The Bicycle**

6. What is one of the most important environmental issues facing Scotland and the world today?

Hurricanes **Earthquakes**

Climate Change **El Nino**

7. Which of the following does not save water?

Turning off the tap whilst brushing teeth **Fixing leaky taps**

Shower instead of bath **Using Dishwasher to wash one cup**

8. What is the name of the process by which water falls back to Earth in the form of rain and snow?

Evaporation **Condensation**

Precipitation **Collection**

9. Which of the following warnings means that severe flooding is expected and that there is a danger to lives and property?

Flood Warning **Flood Watch**

Warning no longer in force **Severe Flood Warning**

10. What is the name of the service you can contact to get flood warnings and advice?

Helpline **Floodline**

Waterline **Flood Emergency Line**

How Well Did You Do? _____/10

Answers

1. Which of these should be included within a Flood Kit? **Answer: Torch**
2. Where can most of the Earth's water be found? **Answer: Seas and Oceans**
3. Where should you keep your flood kit? **Answer: In a Safe Place**
4. Which of the following messages mean that flood waters have gone down? **Answer: Warning no longer in force**
5. What is the name of the process by which the Earth recycles its water supplies? **Answer: The Water Cycle**
6. What is one of the most important environmental issues facing Scotland and the world today? **Answer: Climate Change**
7. Which of the following does not save water? **Answer: Using the dishwasher to wash one cup**
8. What is the name of the process by which water falls back to Earth in the form of rain and snow? **Answer: Precipitation**
9. Which of the following warnings means that severe flooding is expected and that there is a danger to lives and property? **Answer: Severe Flood Warning**
10. What is the name of the service you can contact to get flood warnings and advice? **Answer: Floodline**

Further Information

Useful Websites

www.sepa.org.uk/flooding	Website with official information about flooding in Scotland.
www.sepakids.com	Website focused on information and activities for young people in Scotland.
www.bbc.co.uk/schools/whatisweather	BBC website with quizzes and useful information aimed at students of all ages.
www.metoffice/education/primary	Website aimed at primary age students with a large selection of quizzes, experiments and puzzles to assess online.
www.ltscotland.org.uk/climatechange	A climate change website for Scotland explaining what is happening and how this is affecting the earth. With links to resources and activities.
www.carbontrust.com	A useful website with up to date information on climate change.
www.actonco2.direct.gov.uk	UK Government website with information and advice on climate change.
www.ltscotland.org.uk/weatherandclimatechange/index	This online resource has been developed for practitioners and learners from early level onwards and contains essential background information about climate change as well as easy access to topical news and video resources.

Contact Information

Theatre& always welcome feedback on our materials and performances please send comments to:

Russell Watters - **Theatre& Learning** Development Director
Church Hall
St James's Road
Huddersfield
HD1 4QA
Email: rwatters@theatreand.com