Flood and Landslide

INFORMATION SHEET

What is a flood?

A flood results from days of heavy rain and/or melting snows, when rivers rise and go over their banks.

What is a flash flood?

A flash flood is sudden flooding that occurs when floodwaters rise rapidly with no warning within several hours of intense rain. They often occur after intense rainfall from slow moving thunderstorms. In narrow canyons and valleys, floodwaters flow faster than on flatter ground and can be quite destructive.

What is a landslide?

Landslides take place when dirt, pebbles, rocks and boulders slide down a slope together. Sometimes these landslides are small, and hardly noticeable. Other times however, they can be substantial, involving the entire side of a mountain. These destructive slides can be triggered by a number of different causes. Often rain, which adds additional weight to the side of a slope, can cause slides. Other times they might be caused by erosion, as the base of a slope is slowly removed by a stream, weakening the entire side of the mountain.

As a slide progresses down a mountain slope, it can pick up tremendous speed, and energy. Some slides have been reported to travel at speeds approaching 200 miles per hour. The resulting winds can be so forceful that they are known to strip the leaves off surrounding trees. The momentum of falling material has been known to cause some of the materials to roll several hundred feet back up the other side of a valley.

The amount of material moved in a landslide can be tremendous. In some cases this material is so substantial that it is measured in cubic miles. This much material falling across a stream, can lead to the formation of a new natural lake.

Flood and Landslide

Questions on DVD

1. What happened to the trees that were being cut down in the village at Desa Wanabalu?

_____

2. What happened to the squirrel in the tree?

_____

3. What kind of weather were the people having in their village and for how long was this happening?

_____

4. What did Badu do with his rubbish?

_____

5. What problems will the litter cause?

_____

6. What began to happen as a result of all the dumped litter and the rain?

_____

7. What could happen the hillside?

_____

8. Where was the safe place?

_____

9. What did they use to warn people of the danger?

_____

10. What should the people take with them?

_____

11. What happened Badu's house?

_____

12. Why was it a bad idea to cut down the trees around Badu's house?

_____

13. What did the villagers decide to do in the end?

_____

CASE STUDY

Floods In El Salvador

Hurricanes and floods occur in parts of El Salvador. People have lost their crops, their homes and their loved ones. Here we tell one family's story.

Avela's Story

The village of El Presidio Liberado is on the banks of the River Lempa. The people look out at the torrential rain in dismay.

Avela Martinez de Vazquez is a member of the community emergency committee. She points out the flooded maize fields full of destroyed crops. 'The flooding in this area has become worse in recent years,' she says. 'We now have heavier, more intense rain which falls in a shorter space of time.'

'During Hurricane Stan, we were told we should evacuate. The truck took our children to the storm shelter which is several kilometres away but it could not get back for me and my husband. We were stuck in our house for three days in water that was sometimes almost up to my head. We lost all of our crops but count ourselves lucky. People lost their lives because they couldn't get to the shelter or didn't want to leave their homes.'

As Avela finishes telling this story an emergency truck races past broadcasting a warning that the river is in danger of bursting its banks and advising people to leave the area.

People in different part of El Salvador are now trying to prepare for disasters. Here are some examples of what they are doing with the help of funds from Trocaire:

- The people living in San Francisco Menendez in El Salvador live in a hilly area. Sometimes heavy rain leads to land and mudslides. The local radio station gives information on the environment in the local area. Over the radio, people are trained to monitor rainfalls and to contact the radio station with this information. People are then told over the radio if there may be dangers because of heavy rain. There is also a loud speaker which is attached to local radio station. This is used to tell people about land or mudslides or floods. If people's homes are in danger, sometimes people move into the radio station building for safety.
- The water in the local river, the River Paz is polluted. Flooding can cause this. The children were often sick. Families have learnt how to build a water filter. The water filter removes the bacteria which was making people sick.

Discuss

1. How was Avela's family affected by Hurricane Stan?
2. Why do you think some people did not want to leave their homes and go to the shelter?
3. If you lived in Avela's village, what would you do if you heard the warning that the river banks were going to burst?

Role Play

Devise a role play based on the village of San Francisco Menendez. Allocate roles to the children in the class e.g. radio staff (announcer, trainers, researcher who gather the information), local villagers (who collect information on rain, who live near the river. Encourage them to role play the lead up to a flood, what happens, how they respond and what happens afterwards.

CURRICULUM ACTIVITIES

Flood and Landslide

ENGLISH - Oral Language

Give an account of what happened on the DVD in one minute. Try to highlight as many of the important points as possible on the topic of floods and landslides.

WRITING - English Language - Display
(also integrated with Art)

The aim of this activity is to make an English language display for the classroom wall. The display will include features of floods and landslides including clouds, raindrops etc. Each child in the class will be given paper with an outline of a raindrop on it. On this raindrop the children write one word associated with floods and landslides. They then cut out their raindrop and place it on the display. Link with Art by painting a background picture for the display e.g. houses on a hill during a landslide, litter building up causing flooding etc. Children could also add objects to the display to create a 3-D effect or they could collage a section around the words they have written. At the end, discuss the words on the display to develop oral language skills.

GAEILGE - An Aimsir

Ag cur báistí

MATHS - Rainfall

Examining the amount of rainfall in an area. This is linked to the area of capacity in maths. The children do practical work on measuring liquids using millilitres. e.g. Results of rainfall for the week in school using a rain gauge - *see Science/Geography experiment - How to make a rain gauge.*

The children could also do further work in this area by researching rainfall in Ireland over the last few months. This could be researched on the internet. Discuss the amount of rainfall for each week or month and record the results on a bar chart.

This could also be done as a class project over the school year with the results of rainfall in their own rain gauge at school. Record the results weekly or monthly on a chart.

SCIENCE/GEOGRAPHY
Experiment - Making a Rain Gauge
(see separate sheet)

GEOGRAPHY - other activities

Compare Irish weather with that of other countries.

Look at weather that causes floods

Look at weather satellite maps and study these or make a recording of a weather forecast on the television and watch with the children. Talk about the different areas of weather that are discussed e.g wind direction, temperature, types of weather, cloud cover etc. Discuss with the children how the weather is important to different occupations such as farming, fishing etc.

ART - Construction

Invite the children to collect materials from home or at school for this activity. These materials could be recyclable materials or any form of materials that could be used in construction. Use these to plan and create a 3-D construction based on the theme of floods and landslides such as constructing a hillside / a building / a village etc. The idea could be used as a class project. Divide the class into groups and give each group a different part of the finished project: constructing the village of Desa Wanabalu with the hillside next to the village.

SPHE – Media / Myself and the Wider World

While watching the DVD the children have learned about the problem of cutting down trees in areas and how it can lead to further problems in an area. Discuss this problem and organise a debate in the clas: one group are the residents of the village of Desa Wanabalu and the other group are the factory workers who cut down the trees. The children give their opinions and attitudes during this debate.

SPHE – Media Education / Science - Caring for the Environment

The children have seen how dumping litter in the village on the DVD has led to further problems in the area. Discuss how the litter built up in the area and when it rained a flood was caused and the drains were blocked. Explain to the children how important it is to dispose of litter properly and also of the need to recycle materials. The children could design posters to make people aware of the problem of litter and display them in their school or community.

SCIENCE EXPERIMENTS

Make It Rain

Materials:

- glass mayonnaise or canning jar
- plate
- hot water
- ice cubes
- index cards

Process:

Pour about two inches of very hot water into the glass jar.
Cover the jar with the plate and wait a few minutes before you start the next step.
Put the ice cubes on the plate.

Explanation:

What happens? The cold plate causes the moisture in the warm air, which is inside the jar, to condense and form water droplets. This is the same thing that happens in the atmosphere. Warm, moist air rises and meets colder air high in the atmosphere. The water vapor condenses and forms precipitation that falls to the ground.

Make A Rain Gauge

Materials:

- clear jar
- ruler

Process:

Put a jar outside in an open area before it starts raining.
After it stops raining, measure how many inches of rain are in the jar with your ruler.

*You can also use a jar to see how much water is in snow. Put an inch of snow in a jar, then bring it inside and let it melt. Heavy wet snow will have a lot more water in it than dry fluffy snow.

Explanation:

You've just created your own rain gauge and can measure how much water was collected during the storm.

3rd&4th Class/P4&P5 Worksheet
Flood and Landslide

Writing

In your own words explain below how the people of Desa Wanabalu could reduce the danger of flooding and landslides in the future.

_____

_____

_____

_____

_____

_____

_____

Think About It!

Think about how Badu behaved on the DVD and finish the line below!

I think:

_____

_____

_____

_____

True/False *(place a ✓ if true and an ✗ if false)*

1. It was of huge benefit to cut downs the trees in the village of Desa Wanabalu. _____
2. It is better to dispose of rubbish in a safe and appropriate place. _____
3. The village people should try to replant trees in the area in the future. _____

5th&6th Class/P6&P7 Worksheet
Flood and Landslide

Think About It!

At the end of the DVD about floods and landslides the people of Desa Wanabalu decided that they would need to take action to prevent further damage from floods and landslides in the future. Fill in the grid below based on this.

What is happening at present	What could be planned for the future

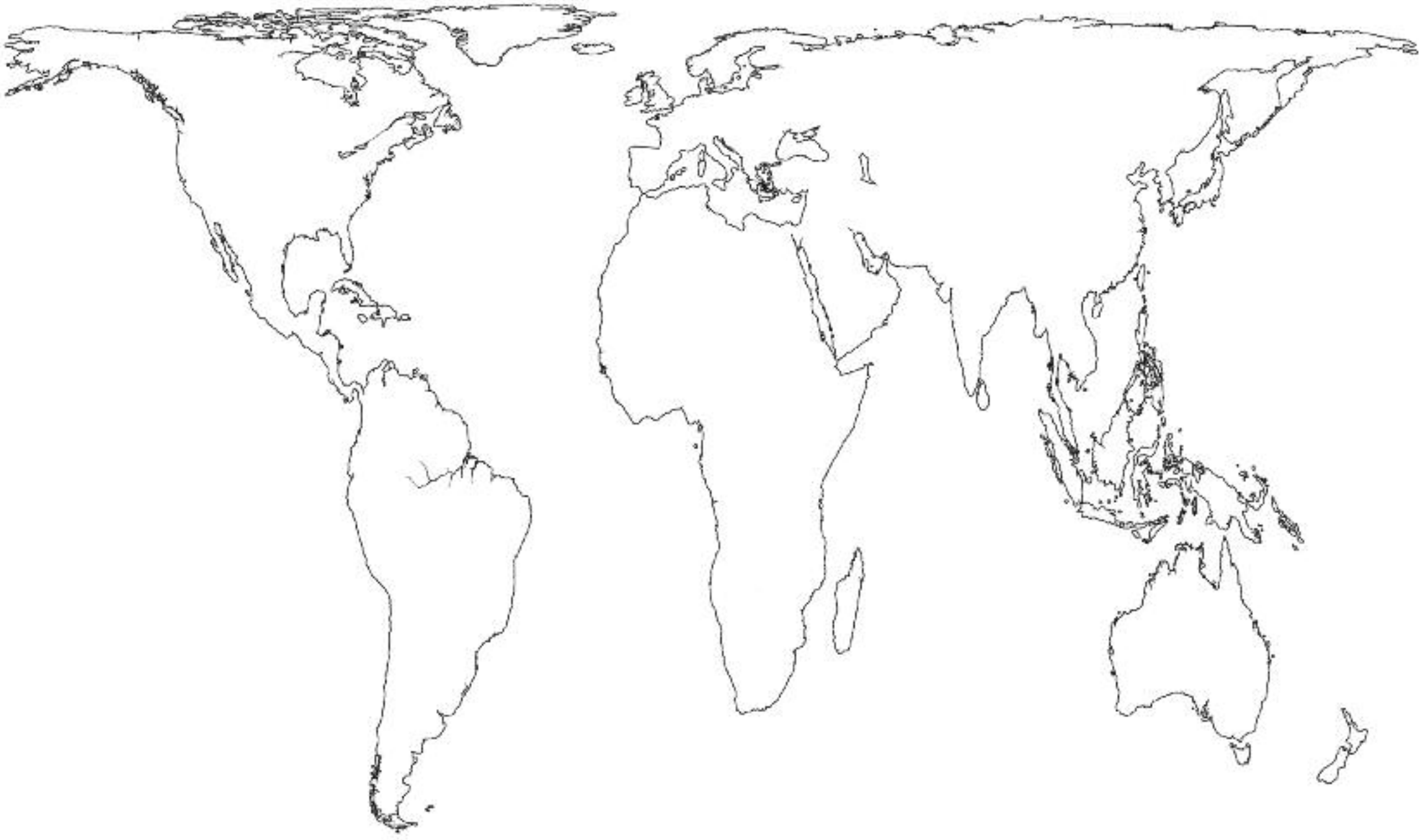
Which of these statements are correct? *(place a ✓ if correct and an ✗ if incorrect)*

1. Monitoring rainfalls helps people prepare for flooding. _____

2. Landslides occur when dirt, pebbles, rocks and boulders slide down a slope together _____

3. A flashflood is a flood that is accompanied by lightning _____

RESOURCE MAP



Earthquake

INFORMATION SHEET

What is an earthquake?

Earthquakes are the shaking, rolling or sudden shock of the earth's surface. They are the Earth's natural means of releasing stress. More than a million earthquakes rattle the world each year. About 90% of the world's earthquakes occur in the area surrounding the Pacific Ocean. It extends from Chile northwards along the south, central and north America coasts to Alaska, Japan, The Phillippines, New Guinea and New Zealand. Earthquakes can be felt over large areas although they usually last less than one minute. Earthquakes cannot be predicted - although scientists are working on it!

What causes an earthquake?

There are about 20 plates along the surface of the earth that move continuously and slowly past each other. When the plates squeeze or stretch, huge rocks form at their edges and the rocks shift with great force, causing an earthquake. Imagine holding a pencil horizontally. If you were to apply a force to both ends of the pencil by pushing down on them, you would see the pencil bend. After enough force was applied, the pencil would break in the middle, releasing the stress you have put on it. The Earth's crust acts in the same way. As the plates move they put forces on themselves and each other. When the force is large enough, the crust is forced to break. When the break occurs, the stress is released as energy which moves through the Earth in the form of waves, which we feel and call an earthquake.

Know the Lingo

EPICENTRE - The point on the earth's surface directly above the source of the earthquake.

SEISMIC WAVES - The energy created by the quake travels in waves from the epicentre, where they are the strongest. The waves shake buildings, structures and the earth vertically, causing them to move horizontally.

RICHTER SCALE - A measurement of an earthquake's intensity. Each one-point increase on the scale indicates ten times the amount of shaking and 33 times the amount of energy. The energy released by a large earthquake may be equal to 10,000 times the energy of the first atomic bomb.

Richter Scale

4	Minor Earthquake
5	Moderate Earthquake
6	Strong Earthquake
7	Major Earthquake
8	Great Earthquake

Question - What is the difference between the HYPOCENTRE and the EPICENTRE?

Earthquakes occur when two pieces of the earth snap past each other along a fault. That fault is actually a crack that extends deep into the earth. The HYPOCENTRE is the point where the earthquake rupture begins, usually deep below the surface on this fault. The EPICENTRE is the point on the surface directly above the hypocentre.

Earthquake

Questions on DVD

1. Why was it not a good idea to put the heavy box high on the shelf in the shop?

_____

2. The girl was buying various items in the shop. What was she buying these for?

_____

3. Name any 3 items from the emergency bag.

_____

4. What signs of the earthquake came first?

_____

5 Name any two things that people are advised to stay away from?

_____

6. What main switch in the house are you advised to turn off? Why?

_____

7. Where did the little girl and squirrel wait for their families after the main earthquake?

_____

8. What did Badu want to do?

_____

9. Something happened after the main earthquake. What was it called?

_____

10. What did the little girl have in her emergency bag that would be used to help people who were hurt?

_____

11. Where did the villagers sleep that night? Why?

_____

12. How had the little girl learnt to prepare for a disaster?

_____

CASE STUDY

Earthquake in Peru

In August 2007, there was an earthquake in Peru. Here we tell how people were helped in the short term and in the long term.

Maria and her son Jonathon

In August 2007, there was an earthquake in Peru. The quake, measured 8.0 on the Richter scale. Buildings collapsed. Over 500 people were killed. More than 1,600 people were injured. Thousands of families had their homes destroyed. Major highways were torn asunder. Power lines were knocked out.

In the first days, the most important task was to search for and rescue people. In the weeks that followed, the next task was to help those who survived. Food, clean water, clothing, bedding and medicine were given to survivors. Materials for building temporary shelters were also given to people who lost their homes.

Almost half of the people in Peru are very poor. The poorest areas are the ones that suffer the most during and after a natural disaster.

CEAS is an organisation in Peru which is helping people who were affected by the earthquake. CEAS decided to help people who had lost family members or who had people in their families who had been injured during the quake. CEAS received funding from Trócaire in Ireland to do this work.

Maria Pasos lives with her husband and their son Jonathan, in Pisco. Her husband was seriously injured during the earthquake. He has to travel to Lima, the capital city, for medical care. Maria was given a small grant to help her family. She has used the grant to set up a small shop which sells cakes, snacks and drinks. She uses the money she earns for her family.

Talk about

1. "The poorest areas are the ones that suffer the most during and after a natural disaster." Why do you think this is?
2. What do you think Maria will spend the money she earns from her shop on?
3. What might Jonathan's hopes be for the future?

Caritas Peru distribute emergency supplies

CURRICULUM ACTIVITIES

Earthquake

ENGLISH - Oral Language
Give a one-minute presentation to the class based on the topic of earthquakes. The children could be a person living in an area after an earthquake, a news reporter giving an account of what happened or a person that is volunteering to clean up the area after the earthquake.

WRITING
Pretend you are Badu on the DVD. Write about what you have learned after the earthquake occurred. Explain if you have changed your opinion after the earthquake or how you are going to be better prepared in the future in the event of another earthquake.

GAEILGE - An Aimsir

MATHS Data - Representing and Interpreting Data
Discuss with the class how earthquakes are measured on a scale called the Richter Scale (look at the information sheet about this topic and explain the Richter Scale to the children). Invite them to research five earthquakes on the news or the internet and find out how much the earthquake measured on the scale. The children could be given a graph to fill in to show these measurements and discuss the results. They could discuss the highest/lowest etc.

GEOGRAPHY - Mapping/Globe work - Natural Environment (Natural Disasters)
This could also be linked to the Maths activity (see above).

Give the children a blank world map (see page 8). Invite them to mark in the countries where an earthquake has occurred. Other activities could also be done with this map e.g. a project on one particular earthquake that occurred in the past. The pupils find information about the earthquake, the measurement of it, the damage caused etc. and locate this area on the map.

ART - Drawing
Materials needed - pencils/paper/pastels/charcoal or any material used for drawing.

The children take a scene of an area after an earthquake has occurred and draw the scene showing the effects of the earthquake.

SPHE - Media Education
Poster - children form group of three and design a poster which shows people how to prepare for an earthquake in case of emergency.

DRAMA - Conscience Alley
This conscience alley is a drama activity which could be used to explore how Badu behaved in the video clip. Four children stand and face another four children in the form of an 'alleyway'. One child is chosen to be Badu. This child walks down through the alley and while doing so the eight children say their feelings about Badu or something they want to say to him. Each child says their line on their own and each child has their turn one after the other. At the end Badu discusses anything he has learned about himself and his behaviour. Involve the whole class in a reflection/discussion after this exercise.

MUSIC Composing - materials needed - musical instruments
The children form groups of 3-6 children and using the instruments they compose a series of sounds using the instruments to create the sounds of an earthquake.

POSTER - Media Education / Science - Caring for Environment
The children have seen how dumping litter in the village on the DVD has led to further problems in the area. Discuss how the litter built up in the area and when it rained a flood was caused and the drains were blocked. Explain to the children how important it is to dispose of litter properly and also the need to recycle materials. Invite the children to design posters to make people aware of the problem of litter and display them in their school or community.

3rd&4th Class/P4&P5 Worksheet

Earthquake

True/False

1. An earthquake is the shaking, rolling and sudden shock of the earth's surface. _____

2. Earthquakes usually last three or four hours. _____

3. A great earthquake measures 8 on the Richter scale. _____

4. When there is an earthquake people should climb the highest tree. _____

Imagine you are in an area that can be affected by an earthquake. Draw your emergency bag and what you would put inside it.

Wordsearch

L	E	L	E	C	T	R	I	C	I	T	Y
M	L	A	A	F	F	Z	U	A	B	M	O
E	M	E	R	G	E	N	C	Y	M	E	D
P	T	T	T	R	E	E	S	S	D	D	K
D	R	H	H	O	M	E	S	O	O	I	N
I	I	A	Q	S	E	H	T	O	L	C	G
S	H	U	U	O	O	T	F	A	Y	I	R
A	R	J	A	N	I	P	T	T	W	N	E
S	H	A	K	I	N	G	X	O	W	E	T
T	O	D	E	R	U	J	N	I	R	O	A
E	M	E	B	N	C	F	G	M	E	C	W
R	R	T	O	R	C	T	E	F	H	P	H

WORDS:

EARTHQUAKE
SHAKING
INJURED
DISASTER
TREES
ELECTRICITY
TORCH
EMERGENCY
HOMES
FOOD
WATER
CLOTHES
MEDICINE

5th&6th Class/P6&P7 Worksheet
Earthquake

True/False

1. The high shelf was a safe place for the heavy box in the village shop. _____
2. The girl was right to get an emergency bag ready. _____
3. Buildings, electrical wires and trees are safe locations to be during an earthquake. _____
4. The Richter Scale measures an earthquakes intensity. _____

Fill the Blank

An *a* ___ ___ ___ ___ ___ ___ ___ ___ ___ *is something that can occur after the main earthquake.*

What have you learned?

You are living in an area where earthquakes can occur. Give 2 points of advice to the people in the village incase of an earthquake occurring.

1. _____
2. _____

Wordsearch

P V B S Z K J I U W I T G F C
H U U T O X C L Z F O H Y T N
Y W U Q G N M W U Y F R S O O
P H A G T J T L A F A U L T I
O T D V P S F A V V N S W I T
C K M I E X L I I A O T K X C
E Y A F I S B A M S A M P T A
N B G I D E P I C E N T R E F
T V N E D I L S D N A L S Q E
R A I J K Z P Z F U N L Z F U
E I T M H Y S H A K I N G I Q
Z J U Y H D M G Z P D Z D A I
W X D Y T I S N E T N I A O L
O R E S E A R T H Q U A K E Q
X M I T P Q P S T R I K E U S

TERMS:

EARTHQUAKE
TSUNAMI
LIQUEFACTION
LANDSLIDE
THRUST
SLIP
STRIKE
FAULT
SHAKING
WAVES
INTENSITY
EPICENTRE
MAGNITUDE
HYPOCENTRE

Tsunami

INFORMATION SHEET

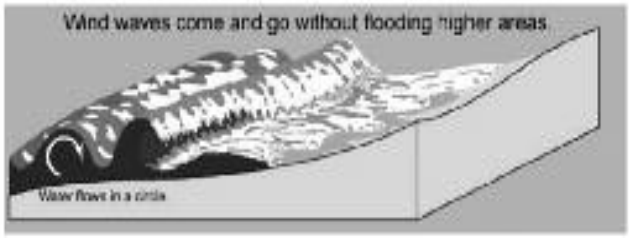
What is a tsunami?

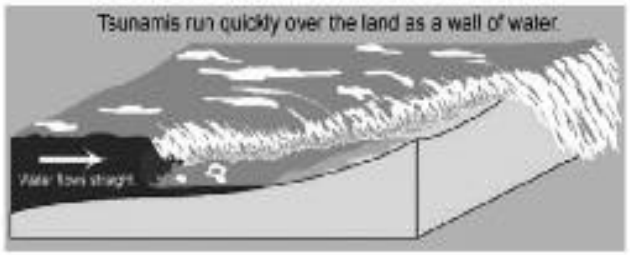
A tsunami (pronounced soo-nahm-ee) is a series of huge waves that happen after an undersea disturbance, such as an earthquake or volcano eruption. (Tsunami is from the Japanese word for harbour wave.) The waves travel in all directions from the area of disturbance, much like the ripples that happen after throwing a rock. The waves may travel in the open sea as fast as 450 miles per hour. As the big waves approach shallow waters along the coast they grow to a great height and smash into the shore. They can be as high as 100 feet. They can cause a lot of destruction on the shore. They are sometimes mistakenly called "tidal waves," but tsunamis have nothing to do with the tides.

Tidal waves are caused by the forces of the moon, sun, and planets upon the tides, as well as the wind as it moves over the water. With typical waves, water flows in circles, but with a tsunami, water flows straight. This is why tsunamis cause so much damage.

Left to right: A tsunami begins with an undersea earthquake. The force jolts the ocean floor, displaces water, and produces waves. Slowing as they enter shallow water, the waves begin to pile up. (This is similar to a rug being rumpled against a wall.) The waves can rise 100 feet (30.5 metres) or higher. Sweeping onshore, the fearsome walls of water wreck property and take lives. Warning centres around the Pacific Ocean detect approaching waves and alert people so they can head for high ground.

A small tsunami at one beach can be a giant wave a few miles away, also the next wave could be bigger. For this reason, people are advised to get away from the shoreline right away and to stay away until they hear the "all clear" from officials. When people see a tsunami it is too late to escape. Also, as it is a series of waves, it may not be over when people think.





Did you know?

Hawaii is the state at greatest risk of a tsunami. They get about one a year, with a damaging tsunami happening about every seven years. Alaska is also at high risk. California, Oregon and Washington experience a damaging tsunami about every 18 years.

Tsunami

Questions on DVD

1. Where was the village of Desa Wanabalu located?

_____

2. Where did Badu build his house?

_____

3. What happened the trees around his house?

_____

4. What do trees along the shore do?

_____

5. What were the first signs something was happening?

_____

6. What happened the water in the bay at first?

_____

7. What disaster was the girl warning the villagers about?

_____

8. What happened the village during the tsunami?

_____

9. The tsunami was compared to an undersea
e ___ ___ ___ ___ ___ ___ ___ ___ ___

10 Name 3 things the people of the village realised afterwards.

_____

_____

11. The little girl had read the IDEP Comic Book which explains about tsunamis to children. In your copy, draw a cartoon to show some of the warning signs that a tsunami is about to happen.

CASE STUDY

Tsunami in Indonesia

In December 2004 a tsunami in the Indian Ocean affected eight countries. Over 250,000 people lost their lives. Millions were made homeless. People in Ireland donated very generously to help Trocaire respond. Homes and schools have been rebuilt and people have been helped to rebuild their lives.

Tengka's Story

Tengka Ansjari, is from Indonesia. He teaches in Pesantran Budi school in Aceh province, in Indonesia.

The school was the centre of village life and its main building was the biggest building in the village. When the tsunami struck, the school was hit by the massive waters. Students and teachers climbed onto the roof of the school hoping they would be safe. Some were rescued but many were swept away by the waters. Over 200 students were lost.

Tengka was one of the lucky ones to be rescued. But, he lost his best friend, his home, many of the teachers he had worked with and many of his students.

Today, the school is running again. "Education is central to living", Tengka says now, three years later, "and without this school the community could not survive." The school was rebuilt. There are now new classrooms and new housing for students. The new buildings are high up on a hill so that if there is ever another tsunami, people will be safe.

To Do:

1. In your atlas, find the 8 countries affected by the Indian Ocean tsunami: India, Indonesia, Sri Lanka, Thailand, Myanmar (Burma), Somalia, the Maldives and Malaysia.
2. Trocaire provides short term aid to help people survive and long term aid so that people can look after themselves into the future. In your copy, make two columns each with a heading: Short Term Aid – Long Term Aid. Look at the list that follows and write these words under the correct heading: shelter, cups and pans, food parcels, blankets, seeds, tools, materials for houses, clean water.

CURRICULUM ACTIVITIES

Tsunami

ENGLISH - Poetry

In this activity the children write an Acrostic poem based on the Tsunami. Below is an example of an Acrostic Poem.

Terrifying time
Suddenly
Unexpected
N
A
M
I

(the children create their own poem using this format, with each line beginning with a letter from the word Tsunami)

The children draw a picture to correspond to the poem on the same page and display their poems and pictures in the classroom. They could also use the internet or resource books to find pictures associated with a tsunami to display around the poems.

GAEILGE - Ar an Tra

MATHS

Measures - Height/Length
As the children have learned how a tsunami is like a huge wave that is caused at sea, it could be linked to height/length in Maths. Invite them to measure various items in the school environment or at home using rulers, metre stocks etc. Invite them to measure their own height, discuss the results of the class and record the results on a graph. These heights could then be compared with the height of a wave. Talk about how high a wave could be.

HISTORY - Tsunami in Asia in 2004

Invite the children to research the Tsunami that occurred in Asia in December 2004.
Invite them to collect various facts and information about it on the internet. Encourage groups to create their own projects on this topic. The pupils research the countries that were affected and locate and mark these on a blank map (see page 8). The damage that was caused to these countries, what was done to restore the area etc. could all be explored in detail. Invite the children to research photographs, pictures or case studies on the internet and include them in the projects. Compile a Class History Book on the Tsunami.

GEOGRAPHY - map work (linked to history).

To do more work on the continent of Asia, choose one of the countries that was affected by the Tsunami and study this country in more details eg - food, clothes, work, weather etc.

DRAMA - Still Image

Read the following to the class: *At a beach at Phuket, 10-year-old British tourist Tilly Smith was enjoying the tropical sand with her parents when she noticed with alarm a drastic change in the character of the ocean. "I was on the beach and the water started to go funny," the young girl told a reporter. Weeks earlier, the girl had learned about tsunamis in school. Now, she put her knowledge to practical use. "There were bubbles and the tide went out all of a sudden. I recognised what was happening and had a feeling there was going to be a tsunami. I told mummy." Elsewhere along beaches in Southeast Asia, people rushed to the shore to view the spectacle created by the unusual behaviour of the sea. At the beach where Tilly raised the alarm, her mother and the staff of the hotel there were able to clear the beach minutes before the onrushing water engulfed the area. According to a Reuters report, her timely warning saved 100 other tourists.*

Put the children into groups of 5/6 people. Ask the children to imagine that they are on a beach and suddenly they see a tsunami coming. The children have to make a still image of this scene.

PE/MUSIC

The children research one of the countries in Asia and find a game or dance from one of these countries.

ART - Paint and Colour

Sea Pictures.
Create a sea scene using sponges and paint to create a sea and wave effect. The childre then add a beach and other coastal features such as rocks, cliffs etc. They could also add to their artwork by using collage materials in the scene, e.g stick on sand for the beach area.

SPHE - Media Education

News Reports - Invite the children, in groups of three, to imagine they are news reporter in the area reporting on the Tsunami itself, the results of it, the damage caused etc.

3rd&4th Class/P4&P5 Worksheet

Tsunami

Writing - Postcard

Imagine you have just witnessed a tsunami while on holiday.
Write a postcard home.

Wordsearch

O	C	O	A	M	R	R	T	P	T	E	T
B	L	A	N	K	E	T	S	S	U	A	R
B	R	H	I	J	S	O	C	B	A	R	Y
S	E	E	D	S	C	O	E	S	C	T	U
H	B	H	O	M	U	L	O	O	S	H	W
B	U	W	A	V	E	S	S	C	Q	Q	T
L	I	A	Q	T	D	U	R	E	A	U	S
A	L	I	N	D	O	N	E	S	I	A	U
N	D	D	Y	O	O	A	B	O	F	K	N
S	U	A	L	L	L	M	U	A	D	E	A
B	B	Y	H	S	S	I	I	N	N	A	M
Y	S	S	E	L	E	M	O	H	I	B	I

WORDS:

TSUNAMI
EARTHQUAKE
WAVES
OCEAN
BAY
INDONESIA
HOMELESS
RESCUED
REBUILD
AID
BLANKETS
SEEDS
TOOLS

5th&6th Class/P6&P7 Worksheet

Tsunami

Writing - Diary Entry

Imagine you have just witnessed a tsunami while on holiday. Write a diary entry below based on your experience of the disaster.

Dear Diary,

Wordsearch

M	B	L	E	L	F	E	N	P	U	C	Z	C	V	S
V	L	E	T	I	R	O	E	T	E	M	W	D	C	Q
D	P	I	A	M	T	W	P	A	E	T	L	W	M	E
Q	T	V	A	L	D	E	Z	K	L	S	H	D	S	D
F	T	Q	O	M	X	X	A	U	I	A	L	J	T	I
S	A	C	F	R	N	U	K	N	K	I	S	N	M	L
N	K	Q	Y	Q	Q	L	J	C	J	M	U	K	J	S
E	Q	Y	X	H	V	Y	L	N	U	A	V	I	A	D
O	U	P	T	Z	V	J	A	P	A	N	Q	P	U	N
A	O	R	M	D	O	I	V	S	D	U	W	L	N	A
C	A	A	R	N	R	I	Y	I	R	S	P	H	H	L
E	M	P	Z	E	O	A	C	S	F	T	P	I	Z	E
A	R	V	Q	E	T	W	W	P	P	O	A	L	C	B
C	H	I	G	O	L	A	R	E	B	H	E	O	J	S
H	W	V	C	I	S	H	W	B	S	E	V	A	W	A

TERMS:

ALASKA
EARTHQUAKE
SEWARD
VALDEZ
HAWAII
HILO
JAPAN
LANDSLIDE
METEORITE
TSUNAMI
WATER
WAVE

Use the Internet to find out about each of the places named in the wordsearch

Volcano

INFORMATION SHEET

A volcano is a mountain that opens downwards to a pool of molten rock below the surface of the earth. It is a hole in the earth from which molten rock (magma) and gas erupt. Magma is formed by high pressure and temperature. As the pressure builds up it needs to escape somewhere. So it forces its way up through narrow cracks in the earths crust. Once the magma erupts through the earths surface, it is called lava.

There are more than 1500 active volcanoes on the Earth. We currently know of 80 or more which are under the oceans. The Earth's crust is made up of huge slabs called plates, which fit together like a jigsaw puzzle. These plates sometimes move. The friction causes earthquakes and volcanic eruptions near the edges of the plates. The theory that explains this process is called **plate tectonics.**

Volcano Vocabularly

An **active** volcano is one that erupts regularly.
A **dormant** volcano is one that has not erupted for many years, although there is still some activity deep inside.
An **extinct** volcano has ceased to be active.
A **volcanic eruption** is when hot rocks and lava burst from a volcano.
Geysers are springs that throw boiling water high in the air. They are caused by volcanic heat warming trapped ground water.

Volcanic Eruptions

Volcanoes can have a very serious effect on the lands and people around them when they erupt.

- Buildings are destroyed and people are made homeless.
- People are killed.
- Clouds of ash cover plants making them inedible.
- Poisonous gases kill people and animals.
- Dust causes pneumonia and illnesses to the survivors.
- Dark skies, severe winds and heavy rains may follow an eruption for months afterwards.

People can get used to living near a volcano, but it is always a little dangerous. Scientists have estimated that at least 200,000 persons have lost their lives as a result of volcanic eruptions during the last 500 years.

What is the difference between lava and magma?

Magma is liquid rock inside a volcano.
Lava is liquid rock (magma) that flows out of a volcano. Fresh lava ranges from 1,300° to 2,200° F (700° to 1,200° C) in temperature and glows red hot to white hot as it flows.

Did you know?

- The name "volcano" has its origin from the name of Vulcan, a god of fire in Roman mythology.
- Volcanoes are like giant safety valves that release the pressure that builds up inside the Earth.
- Hawaii was formed by 5 volcanoes. Mauna Loa, and Kilauea are the only active volcanoes.

Game - Play "Water, Wind and Earth"!

(Similar to Rock, Paper, Scissors. Agree ways to demonstrate each e.g. Wind = waving hands, water = trickling fingers, earth = flat hand)

Water: Flood and tsunami
Wind: Hurricane and tornado
Earth: Earthquake and volcano

Here are the rules:
Water beats Wind!
Wind beats Earth!
Earth beats Water!

Volcano

Questions on DVD

1. Is the village of Desa Wanabalu near the volcano?

Yes ☐ No ☐

2. What were the warning signs from the volcano that it would erupt soon?

_____

_____

3. What did the girl use to warn people that there was danger coming?

_____

4. What did the girl's map show?

_____

5. Were the villagers well prepared for a volcanic eruption?

_____

6. What did they do to protect themselves from the volcano? Name 2 things

_____

7. Why was the area that the people went to safe? Why?

_____

8. What happened Badu?

_____

9. What did they give Badu to drink? Why?

_____

10. What happened the volcano at the end?

_____

11 The little girl got her information from the Community Based Disaster Management Manual. In your copy, write what the manual might say about a Search and Rescue Team: What is it? What does it do? How should it prepare?

CASE STUDY

Volcanic eruption in Chile

In May 2008, the Chaitén volcano in the south of Chile erupted. Here we tell how people living in the area were affected and what the Chilean government did to help.

In May 2008, the Chaitén volcano in the south of Chile erupted. This was not expected. The volcano had not erupted for over seven thousand years.

Gas and ash erupted from the volcano. Ash covered the sky with a thick cloud. The ash fell on the nearby towns. It also fell on the river and lakes and polluted the water supply for the towns. There was a smell of sulphur in the air. The blast also caused small earthquakes in the area. The people living in the town of Chaitén were in danger from the falling ash and from the polluted water. Around 25,000 head of cattle in the area were in serious danger of dying.

Chile's government declared a state of emergency. More than 10,000 masks were handed out to people to protect themselves. Within a few days most of the people, living in the town of Chaiten, over 4,000 people were evacuated from their homes. They were taken by sea, to Argentina.

Winds also carried ash over the Andes mountains to parts of Argentina. As a result, airports and schools were closed in some towns. Two major highways were closed because people could not see because of the falling ash.

To Do

1. What was affected by the volcano erupting?
2. How did the Chilean government respond?
3. Find out about other volcanoes which have erupted e.g. Bulusan volcano in the Philippines erupted in October 2007

CURRICULUM ACTIVITIES

Volcano

ENGLISH - Writing

In their copies, invite the children to write a story about escaping from a volcano with the help of the words outlined below.

Useful words: crater, lava, boiling, rocks, ash, village, running, safe

Oral Language

Make a collection of pictures/photos of volcanic eruptions from magazines and books or use images researched on the internet by the children themselves. Explain at the start of the lesson the various volcanic terms (see information sheet). Then divide the class into small groups with each group given a photo or a picture of volcanic activity. The children are given time to prepare an account or description of what is happening in the picture which they then present to the class.

MATHS/SCIENCE

In Maths, explore the area of measuring temperature by inviting the children to make bar graphs based on different temperatures e.g. Fahrenheit/Celsius.

In Science, invite the children to carry out an experiment based on hot and cold liquids to show how a thermometer works and how it is read.

See also Make your own volcano on 5th & 6th class / P6 & 7 Worksheet)

GEOGRAPHY/HISTORY

Project work - Divide the children into groups. Give each group a continent of the world. Their aim is to research and present a project based on a past volcano from this continent. Suggest they include basic facts on the volcano, the effects on the surrounding area, the present information about the area, a map indicating where in the world it is located. Encourage them to select pictures/photos and any other information they would like to include.

DRAMA

As part of a drama lesson on this topic of volcanoes, use the drama technique of 'Hotseating'. A child in the class plays the role of Badu from the DVD. This child sits at the top of the class and the other children in the class sit around the child. The other children ask Badu questions based on what has happened on the DVD. The questions should be varied based on the volcano that occurred and the effects it had on the people, and also based on the thoughts and feelings of Badu.

MUSIC - Composing

The children compose a piece of music using instruments (these instruments could be made by the children). The children explore the sound/noise that a volcanic eruption would create and use the instruments to represent the sounds as best they can. Explore the elements of loud/soft music, with their piece gradually getting louder to represent the main part of volcanic eruption.

SPHE - Media Education

The children look for information in the media on volcanic activity in newspapers, magazines, on the internet etc.

ART - Construction/Clay

Make your own volcano as on the 5th and 6th class / P6 and P7 Worksheet. Use clay in the construction of the volcano.

3rd&4th Class/P4&P5 Worksheet

Volcano

Writing Activity

In your own words, describe what happens when a volcano begins to erupt.

_____

_____

_____

_____

Find Out!

Research on the internet or in resource books or read the accompanying information sheet on volcanoes and find out the meaning of the two terms below.

1. What is magma?

_____

2. What is lava?

_____

Drawing Activity

In the space below, draw a volcano erupting.

5th&6th Class/P6&P7 Worksheet

Volcano

(***Before completing this activity sheet, the children should read the information sheet on the topic of volcanoes)***

Writing Activity

In your own words, in the space provided below, describe how volcanic eruptions could effect both the land and the people of the area.

_____

_____

_____

Matching Activity

Match the terms to the correct definition

(1) An ***active*** volcano - is one that has not erupted for many years, although there is still some activity deep inside.

(2) A ***dormant*** volcano - has ceased to be active.

(3) An ***extinct*** volcano - is one that erupts regularly.

Think!

Think of 3 adjectives to describe a volcanic eruption.

_____ _____ _____

Make your own volcano

You will need:


sheets of newspaper


baking powder


vinegar


clay

1. Spread the newspaper on a table
2. Make a mountain using the clay
3. Make a crater in the top of the mountain
4. Put some baking powder in the crater
5. Slowly add vinegar

Write about what happened in the experiment

_____

_____

Two Gardens

INFORMATION SHEET

Ireland is a multi-cultural society. People have come to Ireland to work from a wide range of countries including Poland, Lithuania, Latvia, Ukraine, Philippines, South Africa, Romania, China, Brazil and Australia. Others have come as refugees or asylum seekers – the largest number of asylum seekers has come from Nigeria in recent years, Some people will stay for a short period of time before returning home or finding work elsewhere. Others will stay and make Ireland their home.

Vocabulary

A **migrant worker** is someone who moves out of their home country for paid work. 8% of Ireland's labour force are migrant workers. Most work in the service industry, in catering, in agriculture and fisheries, and in the medical and nursing sectors.

A **refugee** is someone living. outside their country because he or she has a well-founded fear of being persecuted for reasons of race, religion, nationality membership of a particular social group or political opinion. There are 9333 refugees in Ireland (UNHCR, 2007)

An **asylum seeker** is a foreign national seeking the right to reside as a refugee in another country, and to be protected by that country. He or she has applied for protection and is awaiting a determination of their status. There are 4400 asylum seekers in Ireland (UNHCR, 2007)

African countries have the greatest number of refugees and asylum seekers. This is because most people flee across the border to a neighbouring country. People are not always made welcome when they move to a new country.

Some of the groups which suffer discrimination and racism in Ireland include:

- The Traveller and Roma Community with their distinct ethnic identity
- Recent migrants including labour migrants, refugees and asylum seekers
- International students and tourists/visitors
- The Jewish and Muslim communities
- Black and minority ethnic group

The most common form of discrimination experienced in Ireland is being harassed on the street, in other public places or on public transport. This is followed by insults or other forms of harassment at work for those who are entitled to work . People may also be discriminated against when looking for work or for a place to live or when looking for services such as health care. (ESRI, 2005)

Dates for your diary

Sept 21 - International Day of Peace
Dec 18th - International Migrants Day
June 20th - World Refugee Day

Did you know?

Here are some famous refugees:
Jesus Christ
Albert Einstein
Anne Frank
Victor Hugo
Rigoberta Menchu

There are approximately 10 million refugees worldwide. The countries with the highest refugee populations, in order starting with the highest are: Afghanistan, Iraq, Sudan, Somalia, DR Congo, Burundi, Vietnam, Turkey, Angola, Myanmar

Two Gardens

Questions on DVD

1. Who does Badu work for?

_____

2. What is Badu's job?

_____

3. Why did Dodon have to hire another person?

_____

4. Was Dani a good worker?

_____

5. How did Badu feel about Dani?

_____

6. Did Badu treat Dani fairly while they were working? Explain your answer.

_____

_____

7. What kind of stories did the village people tell about Dani?

_____

_____

8. What happened the garden during the night?

_____

9. Who fixed the old well?

_____

10. Did Badu apologise at the end? Why?

_____

11. What was the very important point that was made about people from other countries at the end of the DVD?

_____

CASE STUDY

From Kenya to Ireland

Robby Oburu, now 19 years, moved to Ireland from Kenya with his family in 1994. Here he writes of his impressions of Ireland at that time. This case study could lead to a discussion about people moving to Ireland and how they may have connections to two places.

'My first impressions of Ireland were that the countryside was very beautiful and very green. You have to keep in mind that it was back in 1994. A lot has changed now. Ireland has grown a lot since then. The way of life was very relaxed and people never kept time. This is also the same as in Kenya where people are very relaxed and are also bad time keepers. People in Ireland are very nice and I enjoy their company. There are a few mean people but that is expected anywhere you go in the world.

My favourite subjects in Primary School were geography, but I really loved science. I played a lot of soccer at school and in the summer I was in Samba Soccer. Our school did many fundraising activities which were great fun. I enjoyed Skipathon and fundraising for a primary school in Malawi.

I love Kenya to bits and would like to go there more often, but I would never move back because I feel like I'm at home now and plus all the friends I have made here I couldn't leave them.'

Discuss

1. What was Ireland like when Robby first came here?
2. How are Kenya and Ireland similar?
3. "There are a few mean people but that is expected everywhere you go in the world". If you see someone "being mean" to a newcomer, what could you do to help?

CURRICULUM ACTIVITIES

Two Gardens

ENGLISH

Oral Language – Hold a class discussion on children from other countries. Choose a country that the children are familiar with such as a country one of the children in the class is originally from. Talk about the similarities and differences between the children's own lives and the way of life of children living in the chosen country. Lead the discussion under various headings, e.g. family, work, clothes, traditions etc. Talk about how children from other countries have settled into a new life in Ireland and now have a very similar life to everyone here, for example, attending the local school, their parents could be working in the local community etc. Talk about what aspects of life they have carried with them such as their language.

Writing – Ask each child to imagine that they have recently arrived in Ireland from another country. They have left their relations back in their home country. Invite each child to write a letter home, telling their relations their experience in Ireland so far and how they are settling into their new home. Encourage the children to write about their new house, locality, new school, friends, how life is different/similar, what they like about their new life, what they don't like, what they miss from home.

GAEILGE Téamaí: Sa Bhaile / Ag Obair / Daoine Cabhracha / Sa Ghairdín / Mé Féin

DRAMA – Making Drama

Divide the class into groups of 5/6 children. Invite each group to reconstruct the event on the DVD, therefore making their own drama of the 'Two Gardens'. Each child in the group takes on the role of one of the characters in the DVD e.g. Dani, Badu, a villager. The children work on their dramas over 2/3 drama classes and develop their characters. They then present them to the whole class. Reflect on the dramas by discussing the characters, their feelings in the drama, their experience in making their drama and what they learned through doing the drama.

GEOGRAPHY – People and Places in other areas (Human Environments)

Recall the discussion held on children from other countries making their home in Ireland. Invite the children to use the internet to research some of the countries people have come from. Encourage the children to find information and photos of different aspects of life in the countries they are researching. Use the information to create a display on clothes, ways of life, traditions and work in different countries.

HISTORY

Invite the children to find out about stories from the past from the countries they have researched above. Invite them to find out whether they were colonised, by whom, why and what effect it had on the people and the country. Find out about famous people from the past from the country being researched. Find out what countries people have moved to in the past and why they chose these countries.

SCIENCE

In the story of the 'Two Gardens' on the DVD, Dani was working in a garden. Link the theme of agriculture to science by looking at different soil types and exploring what is important for growth. Explore also life in the soil and how insects help or hinder growth.

MUSIC

Listening and Responding / Song Singing: Listen to songs or music from the countries researched in the Geography and History activities above. Explore musical instruments using actual instruments if possible or using photographs – what does the instrument look like, what sound does it make. Invite the children to listen to music containing the instrument e.g. African drums. Encourage the children to beat out various rhythms on drums and finally to compose a simple piece of music. If there are people in your locality who play the relevant musical instruments invite them to perform for the class.

SPHE – Myself and the Wider World/Relating to Others

Develop this project over a period of time such as a month or term. Enlarge a blank map of the world to A2 Size. Invite the children collect pictures of people from all parts of the world from magazines and newspapers. They glue their pictures to the part of the world where the people come from. At the end of the project, explore the map and discuss what they have learned. A similar activity could be done using the map of Ireland and showing the origins of the people who live here.

Talk about various ways we can make people who are new to the country or area welcome in our classroom, school and community

3rd&4th Class/P4&P5 Worksheet
Two Gardens

Pairwork

Task - In pairs, think of children who are part of your class or school that are from different countries and list the similarities between you and them in the grid below.

You	A Child from a Different Country

Your Thoughts!

In your own words, give your opinion on how you think Badu behaved on the DVD.

_____

_____

_____

_____

5th&6th Class/P6&P7 Worksheet
Two Gardens

Pairwork

In pairs, think of words to describe the characters of both Dani and Badu on the DVD.

Dani	Badu
_____	_____
_____	_____
_____	_____

Task - In pairs, think of children who are part of your class or school that are from different countries and list the similarities between you and them in the grid below.

You	A Child from a Different Country