

# THE BHOPAL DISASTER

A collaborative activity for Geography at KS3



## Teachers' Notes

These materials link reading and oral skills and provide practice in study-skills which might be useful for project work. In the first, the text is divided in to three parts so that pupils have the task of collecting information from each other as well as from the text. The information is recorded in note-form to provide a basis for focused discussion and extended writing.

The second activity provides opportunities for structured discussions on the issues around the Bhopal disaster.

The third activity provides a writing frame to enable pupils to write an argument about the disaster.

The key word sheet can be developed into a bilingual word list to support bilingual students or into a glossary.

## Useful links

<http://news.bbc.co.uk/1/hi/programmes/bhopal/4034829.stm>

[http://news.bbc.co.uk/onthisday/hi/dates/stories/december/3/newsid\\_2698000/2698709.stm](http://news.bbc.co.uk/onthisday/hi/dates/stories/december/3/newsid_2698000/2698709.stm)

[http://news.bbc.co.uk/1/hi/world/south\\_asia/4060849.stm](http://news.bbc.co.uk/1/hi/world/south_asia/4060849.stm)

## Task 1

1. Divide the pupils into three groups. These can be arranged so that particular individuals can gain support from other members of the group.  
With large classes these groups can be subdivided.
2. Give each pupil a copy of the accident form.  
Give each pupil in group (1) a copy of sheet A.  
Give each pupil in group (2) a copy of sheet B.  
Give each pupil in group (3) a copy of sheet C.
3. Each individual fills in as much of the accident form as they can from their information sheet, with the support of other members of the same group.  
(The passage could be put on tape for the group to listen to, if necessary).
4. Members of each group then split into twos and threes and interchange with other groups, so that each new group includes members with a sheet A, B and C. In trying to find out the additional information to fill in their sheet, the pupils can ask questions, using the question prompts on the sheet.
5. Once all the forms are completed, the notes can be used to support task 2 and task 3.

## Task 2 Who was to blame?

Keeping the pupils in their group, give out one set of sheets to each group (instructions + 2 statement sheets). Give them time to complete the activity.

Each group can then feed back into a class discussion.

## Task 3 Writing Frame

Give pupils the writing frame to write up their discussion on who was to blame for the Bhopal disaster. Encourage use of the Who was to Blame? statements and discussion notes to scaffold their writing. EAL pupils could have their work checked by a supportive peer with good language skills, prior to redrafting.

Name \_\_\_\_\_

Teaching Group \_\_\_\_\_

## ACCIDENT REPORT

Date of accident:

Time of accident:

Time alarms given:

### Cause of Accident

Chemical reaction of: \_\_\_\_\_ and \_\_\_\_\_.

Causing:

Failure of:

Disconnection of:

### Effects of Accident

No. of Deaths:

No. of Injuries:

Types of Injuries:

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

No. of animals killed:

Area affected: \_\_\_\_\_ Km<sup>2</sup>

### General Location:

Country:

City:

Population:

### Factory:

Type:

Making: \_\_\_\_\_ for \_\_\_\_\_ purposes.

Owner:

Nationality of owning company:

No. of employees:

Current status:

# THE BHOPAL DISASTER

Text A



In 1984 there was a terrible accident at a factory in Bhopal, India. It was the world's worst industrial accident.

The accident happened at 12:30am on the 3<sup>rd</sup> of December 1984. Poisonous cyanide gas escaped into the air. It was carried by the wind all over the city of Bhopal. Many people died and over 200,000 were badly injured. Some of them were paralysed.

The factory was owned by Union Carbide. It employed 800 workers. Two safety devices failed. They were designed to cool and neutralise the chemical methyl isocyanate (M.I.C.).

# THE BHOPAL DISASTER

Text B



In 1984 there was a terrible accident at a factory in Bhopal, India. It was the world's worst industrial accident.

The accident happened when water got into a tank of methyl isocyanate and caused a chemical reaction. At 2:00am the alarm on the factory sounded, but by then poisonous gas was already spreading over a city in which 75,000 people lived. Many people were very badly hurt. Some suffered lung disease and blindness.

The factory was owned by an American multinational company. An important safety device had been disconnected. It was a flare stack to burn escaping gas.

# THE BHOPAL DISASTER

Text C



In 1984 there was a terrible accident at a factory in Bhopal, India. It was the world's worst industrial accident.

The accident happened at a pesticide factory in Bhopal. Poisonous gas escaped into the air. 2,500 people lived near the factory in a shanty town. They all died. Other people nearby survived but suffered brain damage. The gas spread over 100 km<sup>2</sup> of countryside. 20,000 animals were killed by the gas.

The pesticides made in the factory were for use in agriculture and were made from methyl isocyanate (M.I.C.). Safety devices had failed to work. The factory is now closed.

## The Bhopal Disaster

## WHO WAS TO BLAME?

You have been given a sheet of statements about some of the groups and organisations involved in the Bhopal disaster to discuss together. (You may agree with some of the points they make and disagree with others).

You should be prepared to report back to the class about your discussion, so one of you will need to take notes.

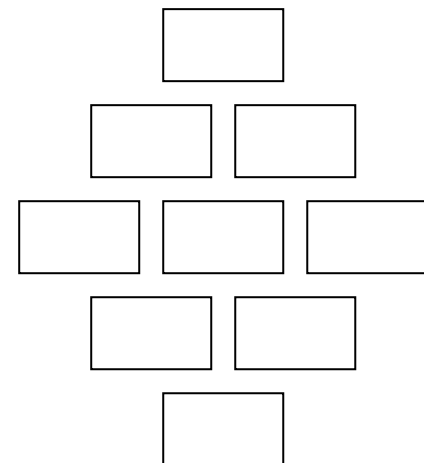
**What to do:** Cut out the boxes of statements and read each one carefully out loud. Discuss them together and see if you can decide which one you agree with most and which one you agree with least. One of you should be prepared to take notes.

Then, see if you can arrange the statements in order, like this diagram.

Choose one statement to leave out altogether.

The statement you agree with most should be at the top of the diamond, the one you disagree with most at the bottom.

It is up to your group to decide which ones go where in the middle two rows.



You may decide as a group that after you have discussed the statements thoroughly, and have tried to put them in order of priority, they make a completely different kind of shape. In that case, arrange them in the order that you think is best.

Make sure that you note down reasons for your choices. Can you think of any important points about blame or responsibility which have not been mentioned in the statements?

## Cut these out and discuss

### The Workers

The workers in the factory could see that the safety devices were not working. They must have known how dangerous the chemicals were. They should have reported problems to the management.

### The U.S Government

The USA is a rich, powerful, knowledgeable developed nation. It has developed laws to protect the workers in their factories. It employs highly trained health and safety inspectors.

It should develop laws to make American companies abroad put in safety standards as high as those in the USA.

### The Indian Government

India is interested in attracting overseas investors to develop its industrial base. It has not developed health and safety laws as highly as in the west. It does not employ many health and safety inspectors as it does not have enough money to do so.

The government should find a way of improving safety standards even if this might put off overseas investment.

### Bhopal City Council

Bhopal City Council should have developed planning and safety procedures in Bhopal. They should not have allowed a chemical factory to be built so near to a city. They should have built proper houses for the people in the shanty town in the first place.

### Nobody

No one was to blame for this disaster. Accidents happen to all of us at some time or another, that's just life. We all have to take our chances. We are all going to die somehow and sometime.

## **Cut these out and discuss**

### **The U.N.**

The United Nations should develop international law to ensure the highest safety standards across the whole world. They should find ways of subsidising these in the developing nations.

### **The World Health Organisation**

W.H.O. should work with the U.N. to support improved conditions for industrial workers in the developing nations. They should be discouraging the use of pesticides (such as those made in Bhopal) in agriculture anyway.

They should find ways of subsidising organic farm methods. If they had done this the Bhopal disaster would never have happened.

### **The International Trade Union Movement**

Improved safety procedures in the industrialised countries have only come about through pressure from the Trade Union movement - organisations which represent the workers.

Trade Unionists in the west should have found ways of supporting workers in the developing countries. They should have given them information on health and safety.

### **The Owners**

Union Carbide was a large multinational company based in the USA. It has knowledge about the danger of the chemicals involved and about high safety procedures used in the USA. It had plenty of money. They chose to allow one of their companies (in India) to have lower safety standards than others owned by them (in the USA).

### **The Management**

The management of the factory had a duty to instruct their workers in safety procedures. They should have checked the building regularly and run safety practices. Profits from the company should have been used for staff training and on building maintenance. They should have found out about safety standards.

## THE BHOPAL DISASTER

### Key Words

#### A

accident  
agriculture  
alarm

#### B

to ban  
biological  
blindness

#### C

chemical  
company  
control  
to cool  
current  
cyanide

#### D

to design  
developed  
device  
disconnect  
disease

#### E

to employ  
employee  
to escape

#### F

factory  
failure  
famine  
fertiliser  
flare stack

#### G

gas

#### H

health  
host  
hurt

#### I

to improve  
to injure  
injury  
inspector  
to invest

#### L

level  
location  
lung

#### M

multinational

#### O

to own

#### P

to paralyse  
pesticide  
poisonous  
pollution  
population

#### R

reaction  
regulations

#### S

safety  
shanty town  
skilled  
to spread  
standards  
status

#### T

tank

#### U

underdeveloped

## Writing Frame

Use the *Who was to Blame?* statements and the notes from your group discussion to write an argument on the Bhopal Disaster. Give your own opinion on the groups you think were most to blame.

Title:

Introduction.

The Bhopal disaster happened....

In my opinion the group most to blame is...

In addition to this....

Furthermore...

However, the groups who are least to blame are....

To conclude, I think....