

A Hazy Situation

ThinkQuest 2007

Worksheet

Haze in South East Asia

Name: _____

Date: _____

Class: _____

Introduction

This worksheet is a self-guided worksheet/learning set that students can do on their own. It would be recommended that students have visited our site before starting on this worksheet or can use our site as a reference when doing this worksheet.

1. Aims of this worksheet include:
2. To introduce/test the understanding of one about the haze
3. To generate awareness of the situation
4. Provide suggestions and measures one can take against the haze
5. Develop critical thinking skills

A suggested answer guide is attached at the back.

Part I. Introduction to Haze

Qn 1. What do you associate with the word "Haze"?

Fill in your answers in the boxes below.

Haze

Now, let us check our answer:

Haze refers to the accumulation of dust, smoke and other pollutant particles in the air which causes the unclarity of the atmosphere, lower visibility level and detrimental effects on the human body.

Qn 2. How that we know what is haze, let us try to familiarize ourselves a few technical terms/abbreviations that are commonly seen with articles about the haze. You may want to refer to the site for help.

Term/Abbervation	Definition
Pollutant(s) <i>Give some examples</i>	
PM10	
Particulate Matter	
Index/Standard	
PSI	
AQI	
API	
ISPU	
HTTF	
SRFA	
RHAP	
ASMC	
VOC	
Ground Level Ozone	

Part II. Causes

Qn 3. So then, where does the haze come from? What is the source? How is it generated?

Farmers in (1) _____ clear the land using a method called the (2)

“ _____ and (3) _____ ” method. This method means that the farmers burn

the forests and in the process of burning, (4) _____ is generated. Large (5)

_____ also use similar methods to clear land for their plantations.

This occurs during the (6) _____ to (7) _____

since the Year (8) _____ [number]. The countries that are affected include

Singapore, Malaysia, Indonesia, The (9) _____, (10)

_____ and Thailand. The six common pollutants are (11)

_____, (12) _____, (13)

_____, (14) _____, (15)

_____ and (16) _____.

Qn 4. After finishing Qn 3, who then do you think will be involved/affected?

Fill in the following table. Remember, the answers can both be positive and negative! You can do it in point form.

	Government	Tourists/Population	Farmers	Businessmen
How are they involved/affected?				
What is/are their impact(s) on the situation				

Sum Up

The haze is caused by forest fires which, in turn, are caused by farmers and large corporations clearing the land. This activity occurs in Indonesia, South East Asia. The parties involved include the government, farmers, population, businessmen (i.e. retailers and corporations) and tourists. They have their impacts on the situation. For example, the government has their influence in the sense that they can actually help the situation by passing and enforcing laws, conducting checks and providing the public with information about the haze situation.

Part III. Impacts

Now that we have established a basic understanding of the haze, let us now look at some of the impacts/effects the haze has on Indonesia herself and the neighboring countries.

Below are some testimonials from the affected people. You will use this to answer the question that follow.

Port Official: "Visibility is affected when the haze arrives. When that happens, we will lose business for the low visibility puts ships in danger and they tend not to stop at our port(s)."

Hawker: "Very difficult to work with the haze. I kept on coughing and had to go back home to rest. Even if I stayed on, customers would be afraid that they would be eating germs with food. I am losing quite a lot of business"

Tourist: "I was planning a trip to Singapore initially but when I heard about the situation over there, I was rather tempted to cancel my trip for I did not find it worthwhile to pay money to be shrouded in haze."

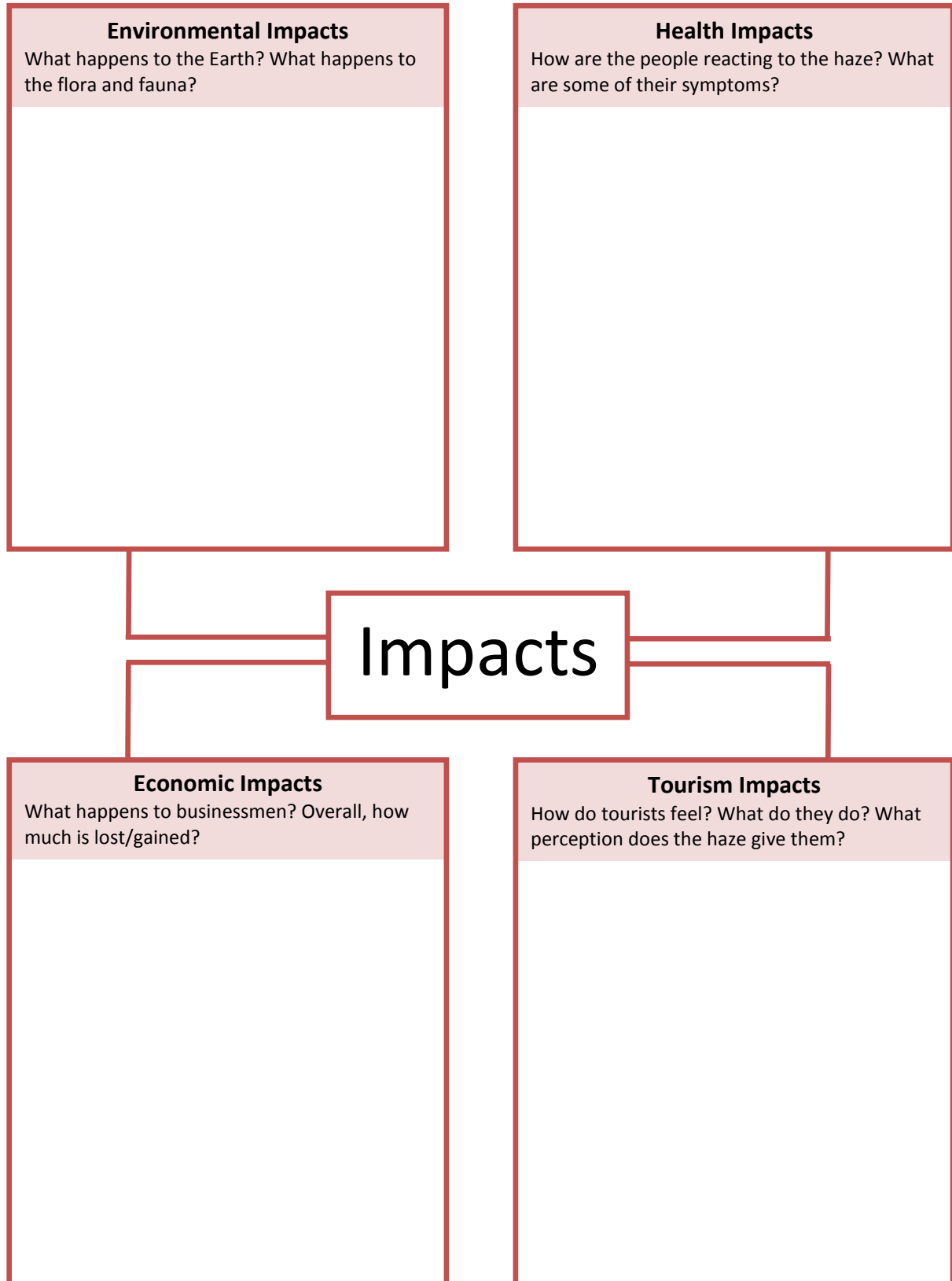
Environmentally Concerned Person: "During this period, the air pollution is very high. And because people turn on their air conditioners, more fossil fuels are used. This will emit out a lot of carbon dioxide into the air."

Housewife: "The haze was too much for me to take so I had to turn on the air con. When I received my bill, I found out that I had used twice the amount of electricity. I was quite shocked and my husband was not too happy about it too."

Qn 5. After reading the above sources, list 4 ways the haze has affected the population. Do this briefly in point form.

Impact 1	Impact 2	Impact 3	Impact 4

Qn 6. Looking at the three impacts you have identified above, let us see if we can fit the impacts into certain categories and see if we can develop them.



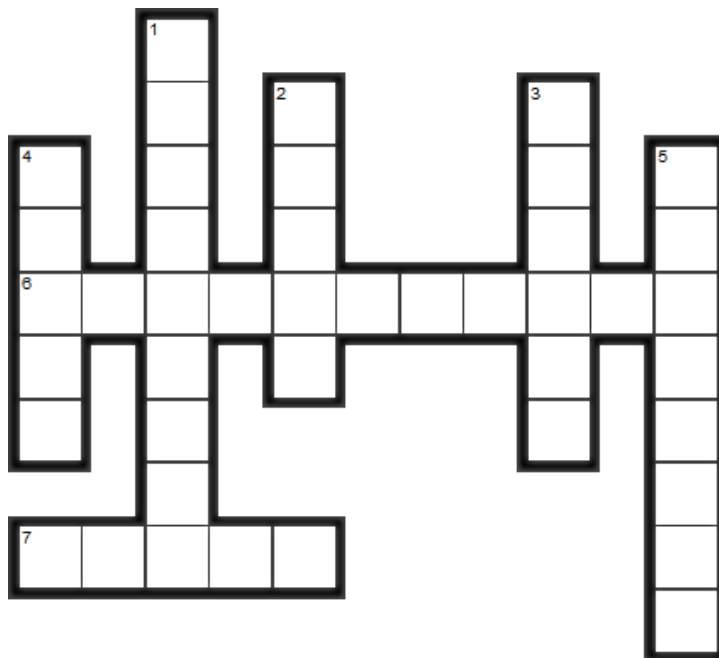
Part IV: Measures

So, now that we know what the haze can do, we will ask ourselves, “What can do to protect ourselves?” and “What can we do to improve the situation?”

Our team has come up with this plan called the 3Ps which represent Protect, Prevent and Prepare.

Protect

Qn 7. Complete the following crossword and find out how we can protect ourselves.

**Across**

6. Environment agencies of affect countries can release _____ regarding the haze like the Air Quality Index reading to the public and update it constantly.

7. We can also wear _____ [plural] to prevent particles from entering our lungs.

Down

1. Buildings can be equipped with air _____ to keep the air clean.

2. The release of information would _____ the public once the haze reaches an unhealthy level.

3. We can come up with a package for tourists who are travelling to affected countries which include skin _____, masks and vitamin pills.

4. A pieces of _____ cloth can be used in the absence of a mask.

5. For people with weak constitution, they can _____ their outdoor activities.

Prepare

Qn 8. Find the word given in the checklist and then fill in the blanks below.

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

Checklist

ACTION
STANDARDIZED
NATIONWIDE
SUBSISTENCE
MOISTURIZER
BROADCASTING
SYMPTOMS

Every family in the affected countries should be made available to a haze-combating kit, consisting of an air purifier, masks, vitamin pills, _____ and a booklet containing emergency hotlines.

Doctors can come up with a booklet that provides advice on how the people should react if they diagnose themselves to show _____ caused by illnesses related to the haze.

Special clinics with specially trained medical caregivers to deal with haze related illnesses can be set up with their address posted _____. These will then be the center of treatment during the haze.

A set of _____ plans can be developed as a joint effort by the countries affected by the haze.

The government can educate the public, through media _____, about what actions to take at different air quality levels.

_____ farmers can be educated on other ways of clearing land. Funding from charitable organizations can be provided to purchase machinery to cut down trees. This wood can then be sold for money to pay for the machinery.

A _____ air quality index can be established to make research, cross referencing and comparisons easier.

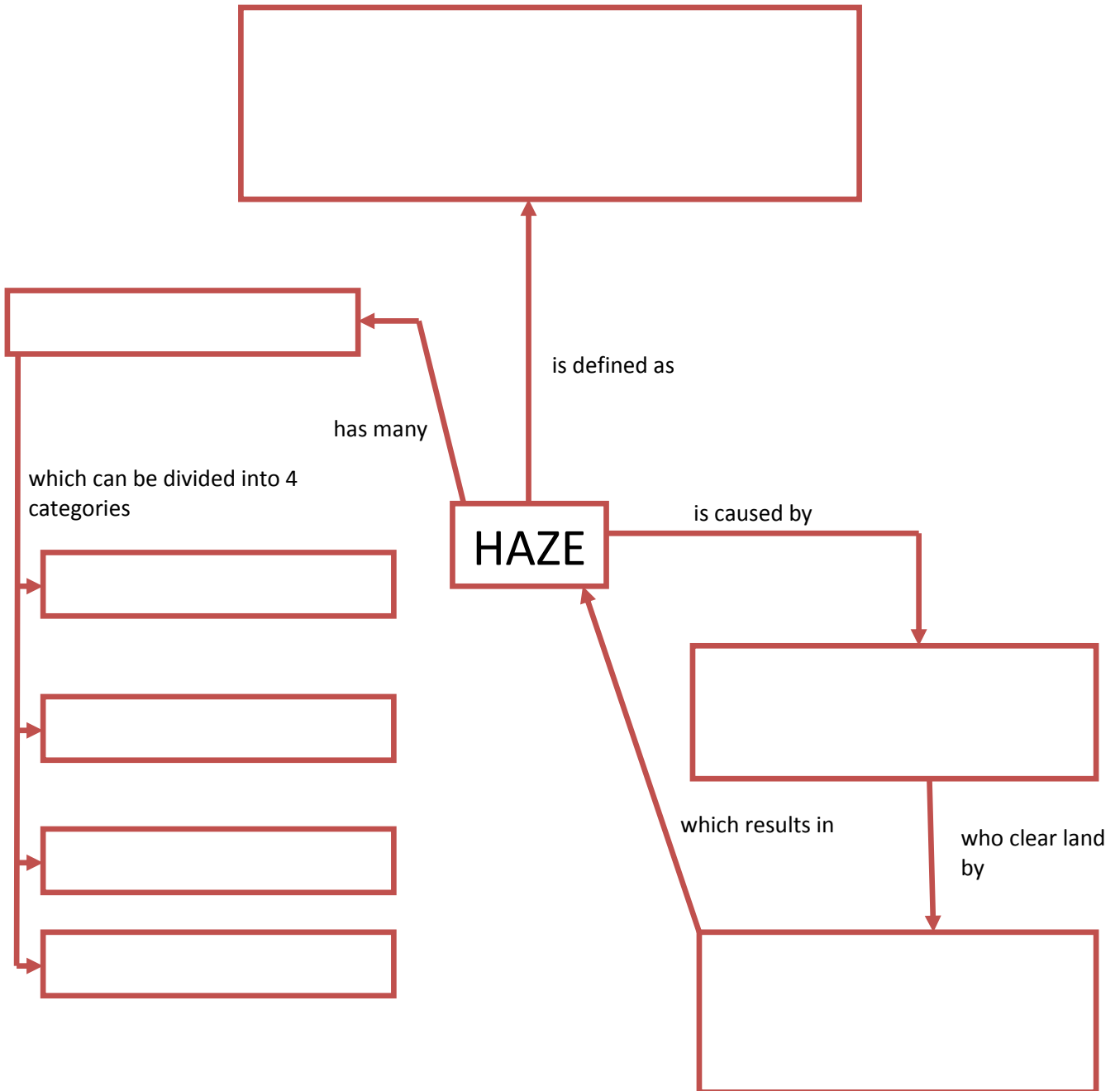
Prevent

Qn 9. What can we do to stop this problem?

Farmers	Government

Part V: Summing Up

Qn 10.

**Extension: Stuff to Think about**

Even though Indonesia is the source of the haze, can we really blame the farmers? After all, it is their livelihood. If they do not clear the land by burning, then what will they live on given their financial status?

Answer Key

Qn 1.

Varies accordingly to the student's opinion. Anticipated answers include:

- Smoke
- Pollution
- Blur
- Unclarity
- Burning
- Grey
- Fire

Qn 2.

Term/Abberveration	Definition
Pollutant(s) <i>Give some examples</i>	Substances that cause an adverse effect on the environemnt. A contamination of sort. E.g. Water pollution (Oil Spills)
PM10	Particulate Matter smaller than 10 micrometers
Particulate Matter	Matter (i.e. in simple terms, things) that is at the particle level
Index/Standard	A guide or measurement
PSI	Pollutant Standard Index
AQI	Air Quality Index
API	Air Pollution Index
ISPU	Indeks Standar Pencemaran Udara (Stardard Air Pollution Index)
HTTF	Haze Technical Task Force
SRFA	Sub-Regional Firefighting Arrangement
RHAP	Regiona Haze Action Plan

ASMC	ASEAN Specialized Meteorological Center
VOC	Volite Organic Compounds
Ground Level Ozone	Causes respiratory problems from the mildest (cough) to the most severe (aggravated asthma)

Qn 3.

Farmers in (1) **Indonesia** clear the land using a method called the (2) "**Slash** and (3) **Burn**" method.

This method means that the farmers burn the forests and in the process of burning, (4) **haze** is

generated. Large (5) **corporations** also use similar methods to clear land for their plantations. This

occurs during the (6) **September** to (7) **October** since the Year (8) **1997** [number]. The countries that

are affected include Singapore, Malaysia, Indonesia, The (9) **Philippines**, (10) **Brunei** and Thailand.

The six common pollutants are (11) **Sulphur Dioxide**, (12) **Nitrogen Dioxide**, (13) **Ground Level**

Ozone, (14) **Violate Organic Compounds/VOCs**, (15) **Carbon Monoxide** and (16) **Particulate**

Matter/PM.

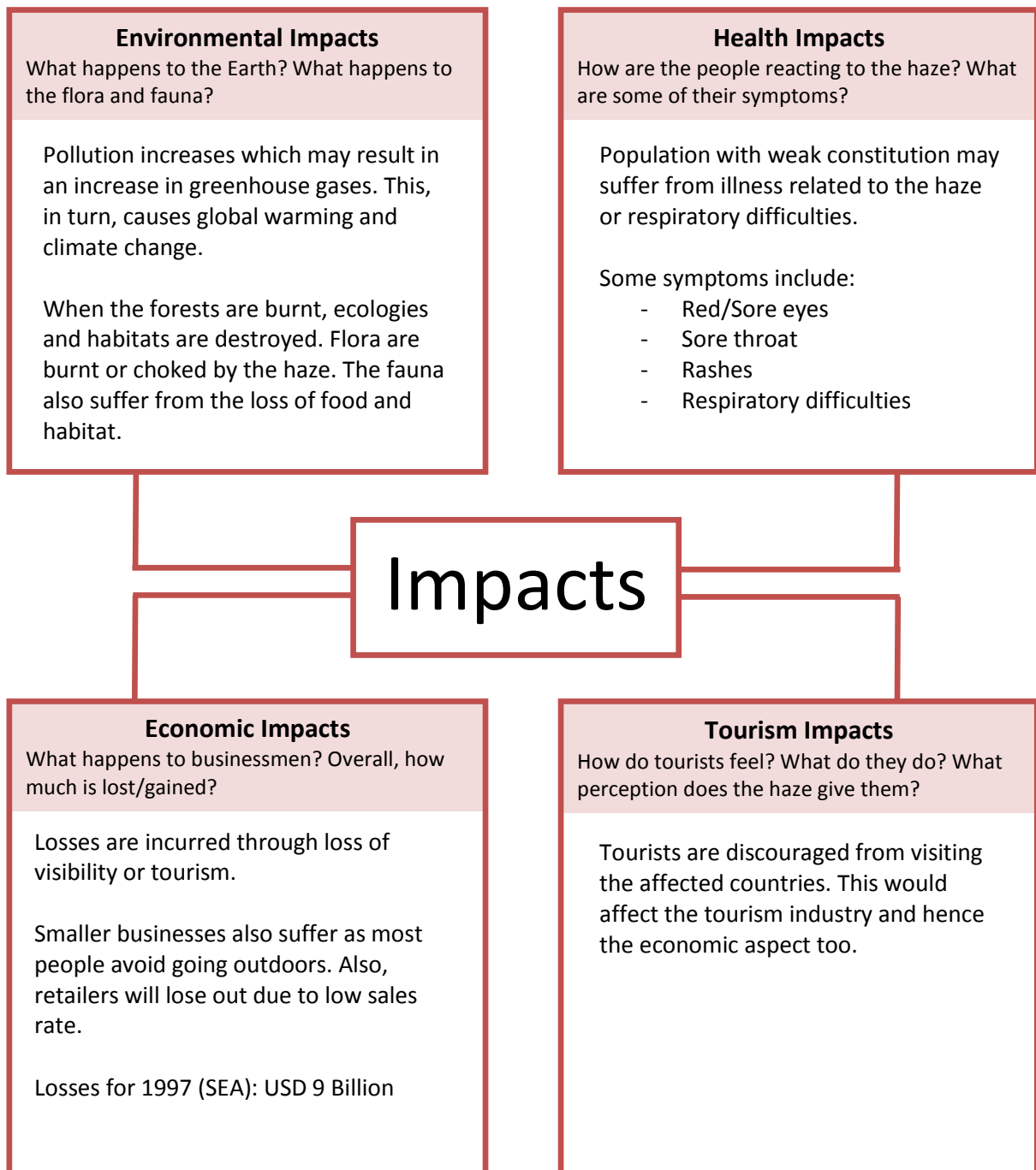
Qn 4.

	Government	Tourists/Population	Farmers	Businessmen
How are they involved/affected?	They are the authoritarian force that can intervene when necessary.	<p>Tourists: They form the tourism industry which the affected countries may rely on for revenue,</p> <p>Population: They form the country as employers and employees</p>	They are the cause of the fires.	They are the cause of the fires.
What is/are their impact(s) on the situation	They can pass laws and conduct checks. They have the authority to implement policies and punishments like fines and jail terms.	<p>Tourists: They may avoid the affected countries, hitting the tourism industry hard.</p> <p>Population: The haze may cause illness or respiratory difficulties for some/most of the population, depending on the situation.</p>	Due to their burning, haze is generated. Flora and fauna are also lost.	Due to their burning, haze is generated. Flora and fauna are also lost.

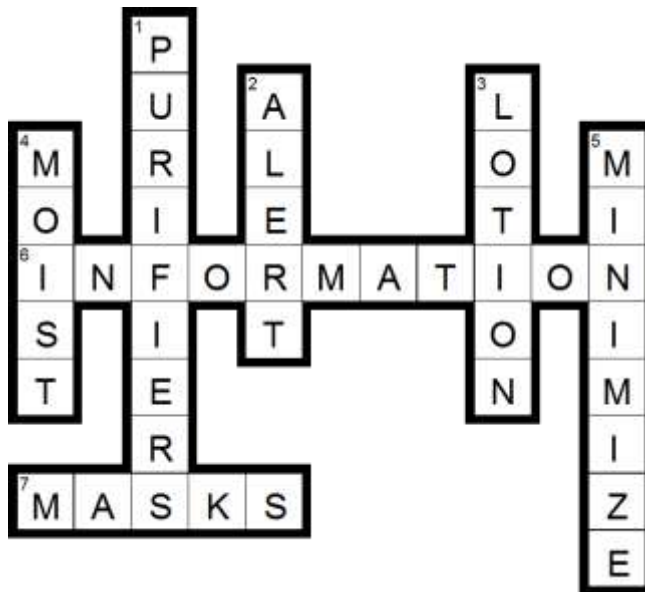
Qn 5.

Answers may vary according to the students. Suggested answers below:

- People are affected by the haze. E.g. Eye irritation
- Ports lose business due to loss in visibility [Extension: This causes big economic loss for countries that rely on trading like Singapore]
- Tourist are discouraged from visiting haze affected countries
- The haze generated could result in an increase in carbon dioxide



Qn 7.



Qn 8.



Moisturizer

Symptoms

Nationwide

Action

Broadcasting

Subsistence

Standardized

Qn 9.

Farmers	Government
<p>Farmers could be provided with subsidies by the Indonesian government to purchase the required proper land-clearing machinery (forestry-mowers, excavators). In this way, farmers would be able to clear the forest the proper way, without causing air pollution. Farmers caught as repeat offenders should be fined or even jailed. Large corporations have the resources to do that, so if they are caught setting forest-fires, they should be punished severely by being heavily fined.</p> <p>Indonesian farmers causing the haze might not know the terrible implications of their inconsiderate acts of setting forest-fires to clear land for crop-planting. That is why our team has put in lots of time and effort to develop this web portal, "A Hazy Situation", to inform the farmers about the consequences of their acts, and on behalf of South-East Asia, tell them, "The haze has severe impact on the environment and health — please stop it!"</p>	<p>The government should draw up more stringent laws to deal with the farmers and corporations that contribute to the haze situation. People responsible should be punished severely by being heavily fined. Repeat offenders should even be jailed. From our interview with Dr Chang Chew Hung, we learnt that it is not enough just to draw up a law against farmers who use the "slash-and-burn" method of clearing the land, but it also includes enforcing it — the government should be more active in sending officials to conduct frequent checks at the potential fire-setting sites, especially around September to December annually. This would prevent farmers from setting forest-fires to clear land. However, if the officials discover that fires have already been started, they should immediately take action by mobilizing the fire-fighting force to extinguish the flames as soon as possible before it spreads to the entire forest.</p>

Qn 10.

