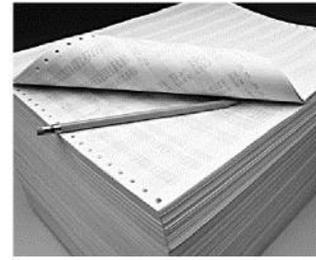


The literal facts



UNIT 10

Mathematical content

Number (AT2)

Ordering numbers, showing an understanding of place value

Working with large numbers (millions/billions)

Rounding numbers to the nearest whole number

Finding and expressing approximate proportions using simple fractions and percentages

Expressing one number as a percentage of another

Handling Data (AT4)

Extracting and interpreting information from tables

Interpreting pie charts and bar charts and drawing conclusions

Introduction to correlation

Spiritual and moral development

The aim of this unit is to help students to appreciate the value of the education they receive. They are also encouraged to imagine what life must be like for other children around the world.

In this unit, students analyse international statistical data on population, literacy and education. They also reflect upon their own educational experience and contrast it with that of others around the world.

Using this unit

The unit is designed primarily for students at the Foundation/Intermediate Tier of GCSE and should last for about 3 hours.

It is intended that the unit be used to consolidate students' knowledge and understanding of Number and Data Handling work rather than to introduce new work.

It looks at 9 different countries from around the world. Students use and analyse information on population, literacy, primary and secondary school enrolment and average national income. Students are encouraged to think about their own situation and to compare it to countries that may be "worse off".

The students are encouraged to consider their own educational opportunities contrasting these with children in the other countries covered. This should provoke reflection and discussion, which are both important elements of the unit.

In parts of the unit, what it means for someone to be illiterate is addressed. Consequently, if the class contains students with learning difficulties or particularly poor reading skills then extra sensitivity may be required.

Students will require a ruler, calculator and graph paper (task 3). A world atlas would also be helpful.

Background

UNICEF was founded in 1946 in the aftermath of the Second World War as the United Nations International Children's Emergency Fund. Each year it publishes a report on 'The State Of The World's Children' which contains many statistics and also analysis and comment. The figures used in this unit come from the 1996 report.

In 1990 the United Nations organised the World Summit for Children at which almost all the world's governments agreed goals for achievement in 1995 and 2000. These cover infant mortality, disease, sanitation and malnutrition as well as the educational goal featured in the unit.

Additional sources

1. *The state of the world's children* published for UNICEF by Oxford University Press is available from UNICEF, Unit 1, Rignals Lane, Chelmsford, Essex, CM2 8TU. (01245) 476315
2. *Summing Up the world* published by Development Education in Dorset, available from DEED, Kingsleigh School, Hadow Road, Bournemouth, BH10 5HS. (01202) 532484

Notes on the activities

Throughout the unit there are places where students are encouraged to stop and reflect. When planning the lessons, it is important that time is allowed for class or group discussion. Students can then be encouraged to talk about their thoughts and be ready to listen to others who may well have different opinions.

It is suggested that the International Data sheet is copied onto a separate sheet of paper to help the students to make use of it in the various sections.

Literacy

Task 1 would be best done as a weekend homework prior to starting the unit properly.

Before working on the countries' data, it may be worthwhile for the students to find out where in the world the countries are. Some students may have trouble interpreting the table of data and so it is recommended that each of the categories be explained at an early stage.

Class discussion

The section on literacy raises a large number of issues that could be the basis for class discussion. It is important to build on the work students have been doing and so it is worth while discussing:

- U how different their weekends were without any reading or writing;
- U whether they were surprised by the amount of illiteracy in some countries;
- U the alternative forms of communication used by people.



Going to school

This section examines the proportion of children, boys and girls, that attend school in different countries. The data used here is called the enrolment ratio - the number of children engaged in schooling at that level expressed as a percentage of the total number of children of the relevant ages.

In this section, students should be encouraged to reflect on the significant differences between countries. In thinking about what else children may be doing, the students might offer answers such as working to help support their families or even involvement in war.

School children

This section examines the proportions of the different countries' populations that are children of school age. It also encourages the students to examine links between these proportion figures and literacy rates.

Class discussion

After the sections on *going to school* and *school children* the class could discuss:

- U whether they were surprised by the variation in school attendance around the world; U the different opportunities for boys and girls; U what children are doing if they are not at school.



Measuring success

This section examines the average national income in each of the countries. It also encourages students to consider what the best measure of the success of a country might be. Students might suggest education, literacy, infant mortality, crime rate.

Conclusion

In this final section students are encouraged to see how progress can be made and is being made in education in some parts of the world.

Class discussion

It would be good for the unit to conclude with a final discussion summarising and drawing together the issues raised. The students could discuss:

- how realistic the goal set by the World Summit for Children is;
- whether the goal is too limited and a higher target should be set;
- what governments should be doing to work towards the goal;
- how what they have learnt in the unit affects their views about their own education.



Extension activity

Students could be asked to do research into other information about the 9 countries (e.g. life expectancy, infant mortality, debt, health facilities). Some more extensive work on correlation could then follow.

Alternatively, students could pick a country of their own choice (maybe a country with which they have some sort of an association) and find out its comparable figures. They could then compare their findings.

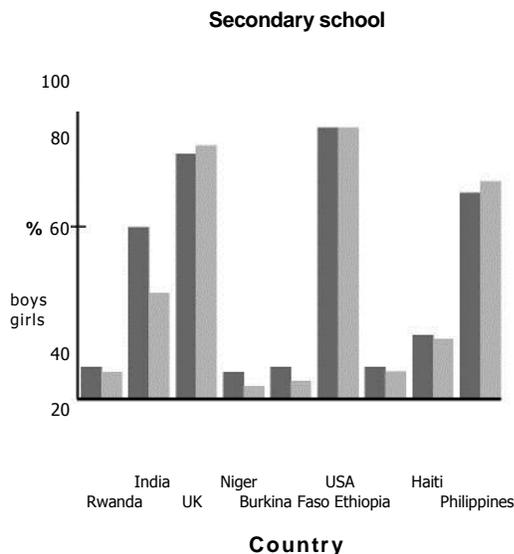
Answers

Task 2:

1. a) 5,760,000,000. b) 1,100,000,000.
c) Approximately $\frac{1}{5}$. d) Approximately 1 in 5 people in the world cannot read or write a simple sentence.
2. a) Niger (12%), Burkina Faso (17%), Ethiopia (31%), Haiti (41%), India (48%), Rwanda (55%), Philippines (94%), UK (97%), USA (99%).
b) 8th (or the 2nd highest country).
c) 88%. d) 88 people. e) 3%. f) 3 people.

Task 3:

1



- a) UK and USA; high literacy.
- b) Niger and Burkina Faso; low literacy.
- c) Boys; variety of answers.
- d) India.

3.

| | Boys | Girls |
|--------------|------|-------|
| Rwanda | 89 | 91 |
| India | 40 | 63 |
| UK | 15 | 12 |
| Niger | 91 | 96 |
| Burkina Faso | 89 | 94 |
| USA | 6 | 6 |
| Ethiopia | 89 | 90 |
| Haiti | 78 | 79 |
| Philippines | 29 | 25 |

Task 4:

1. Rwanda 2,400,000; India 227,900,000;
 UK 8,100,000; Niger 2,700,000; Burkina Faso 2,900,000; USA 40,700,000;
 Ethiopia 15,600,000; Haiti 1,900,000;
 Philippines 17,800,000.

2. Rwanda 31%, India 25%, UK 14%, Niger 30%, Burkina Faso 29%, USA 16%, Ethiopia 29%, Haiti 27%, Philippines 27%.

3. a) Rwanda and Niger.

b) UK and USA.

c) High literacy.

d) Low literacy.

e) Countries with higher percentages aged between 5 and 16 are often poorer, so there is less finance for education and more pressure on girls to have children early.

Task 5:

1. a) UK and USA; high GNP.

b) Niger and Burkina Faso; low GNP.

c) (i) £1008.33.

(ii) £232.69.

(iii) £33.15.

d) (i) £15 (Niger); £16.67 (Burkina Faso).

(ii) £3.46 (Niger); £3.85 (Burkina Faso).

(iii) £0.49 (Niger); £0.55 (Burkina Faso).

e) 5 to 6 days.

The literal facts



UNIT 10

We all go to school in this country because we have no choice! However, we can sometimes take it for granted that we are able to go to school. In this unit we will be looking at how many people in various countries are literate as well as at how many have the opportunity to go to school. You will be using information about 9 countries given in the table of international data provided.

Literacy

Most of us learned to read and write a long time ago. However, there are many people in the world who are less fortunate than us.

For many children there is little or no opportunity to learn to read and write.

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1

1. Imagine you do not know how to read or write. Think how this would affect a weekend at home. Consider, and write down, all the things that you would not be able to do, things that normally you would take for granted.
2. What jobs could you do if you did not know how to read or write?

info

Literate - A person who can read and write a simple sentence.

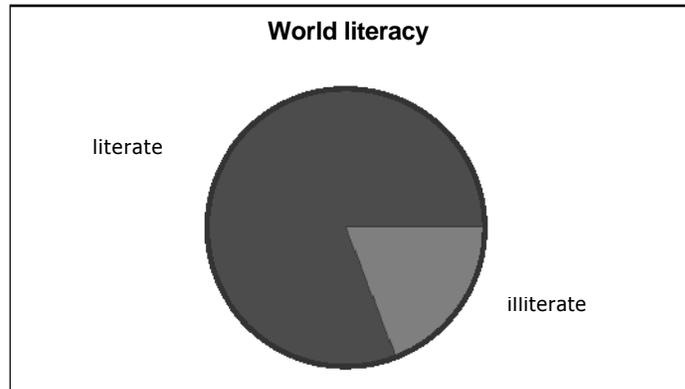
Illiterate - A person who cannot read and write a simple sentence.

Read the definitions.

Are you literate or illiterate?

2

1. a) The population of the whole world is estimated to be 5.76 billion. Write this number out in full in figures (1 billion is equal to 1000 million).
- b) It is estimated that there are 1.1 billion people in the world who are illiterate (that is, they cannot read and write even a simple sentence). Write this number out in full.
- c) Using the pie chart to help you, estimate what fraction of the world cannot read and write a simple sentence.



- d) Using your previous answer, copy and complete the following sentence. *Approximately 1 in ___ people in the world cannot read and write a simple sentence.*

Does it surprise you that such a large proportion of the world's population cannot read and write?

2. a) Using the adult literacy figures for 1990 from the International Data table, rank the countries in order starting with the country with the lowest adult literacy rate (that is the smallest percentage of people aged 15 or over who can read and write).
- b) Where does the UK come in the list?
- c) The country with the lowest adult literacy rate in the world is Niger with 12%. This means that only 12% of the adult population of Niger can read and write a simple sentence. What percentage of Niger's adult population is illiterate?
- d) Copy and complete this sentence (remember % means "out of 100"): In Niger, about ___ adults in every 100 cannot read and write a simple sentence.
- e) What percentage of the adult population of Britain are illiterate?
- f) Copy and complete this sentence:
In Britain, about ___ adults in every 100 cannot read and write a simple sentence.

What other ways do you think people use to communicate?

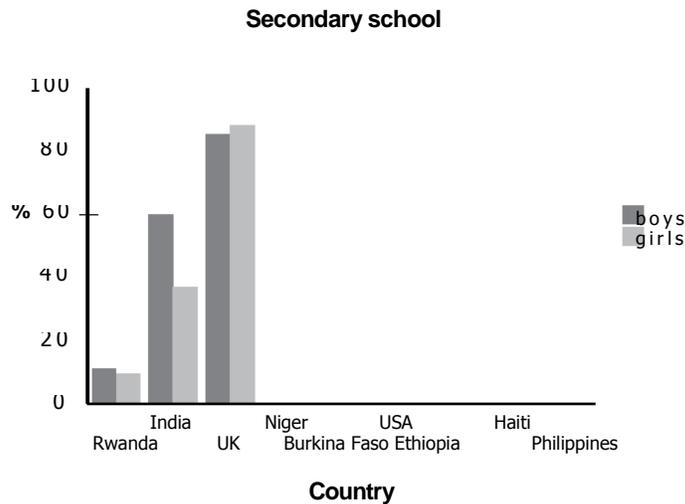
Going to school

Most people learn how to read and write when they are at school. In countries like Britain, almost everyone goes to a primary and a secondary school. There are, however, many countries where the story is very different.

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3

This bar chart shows the percentage of boys and girls at secondary school for each country. Copy and complete the bar chart using the figures given in the main table. Use a scale of 1 cm for every 10% on the vertical axis.



2. Use the bar chart to help you to answer the following questions:
 - a) Write down the names of the 2 countries with the highest secondary school figures. Do these countries generally have high or low literacy rates?
 - b) Write down the names of the 2 countries with the lowest secondary school figures. What do you notice about the literacy rates of these countries?
 - c) In most countries, do more of the boys or more of the girls go to secondary school? Does this surprise you? What do you think might be the reasons for this?
 - d) For which countries is the difference between boys and girls largest?

3. Copy and complete this table to show the percentage of boys and girls who do not go to a secondary school. The first country has been done for you.

% not at secondary school

| | Rwanda | India | UK | Niger | Burkina Faso | USA | Ethiopia | Haiti | Philippines |
|-------|--------|-------|----|-------|--------------|-----|----------|-------|-------------|
| Boys | 89 | | | | | | | | |
| Girls | 91 | | | | | | | | |

In some countries many children are not at school.
What do you think they are doing instead?

School children

When we think of school children, we normally think of those aged between 5 and 16. Some countries have a large proportion of their population within this age group. For other countries the proportion is quite small. We are going to work out, for each of the countries, the percentage of the population aged between 5 and 16 years old.



4

1. Use the information on population to copy and complete the table on the right. To work out how many children there are in each country aged between 5 and 16, you have to subtract the number of children under 5 from the number of children under 16. The first one has been done for you.

$$3.8 \text{ million} - 1.4 \text{ million} = 2.4 \text{ million} = 2,400,000$$

| Country | Number of children aged between 5 and 16 |
|--------------|--|
| Rwanda | 2,400,000 |
| India | |
| UK | |
| Niger | |
| Burkina Faso | |
| USA | |
| Ethiopia | |
| Haiti | |
| Philippines | |

2. We are now going to work out, for each country, the percentage of the total population that is aged between 5 and 16. You need to do the following calculation for each country:

$$\frac{\text{Number of children aged between 5 and 16} \times 100}{\text{Total population}}$$

Copy and complete the table below rounding off your answer to the nearest whole number.

Using your calculator, check that you agree with the answer for Rwanda.

$$\frac{2.4}{7.8} \times 100 = 31\% \text{ (to nearest whole number)}$$

3. a) Write down the names of the 2 countries with the largest percentage of their population aged between 5 and 16.

b) Write down the names of the 2 countries with the smallest percentage of their population aged between 5 and 16.

c) Do countries with a small percentage of their population aged between 5 and 16 generally have high or low literacy rates?

d) Do countries with a large percentage of their population aged between 5 and 16 generally have high or low literacy rates?

e) Why do you think the above is generally true? You may wish to discuss these findings with your teacher.

| Country | Percentage of total population aged between 5 and 16 |
|--------------|--|
| Rwanda | 31% |
| India | |
| UK | |
| Niger | |
| Burkina Faso | |
| USA | |
| Ethiopia | |
| Haiti | |
| Philippines | |

Measuring success

The GNP (Gross National Product) of a country is a way of measuring the wealth of that country. It is often used to determine how successful a country is.

Are there other things apart from wealth that could be used to show how successful a country is?

5

1. a) Find the 2 countries with the highest adult literacy rate. What do you notice about the GNP of these 2 countries compared with other countries?
- b) Find the 2 countries with the lowest adult literacy rate. What do you notice about the GNP of these 2 countries?
- c) The GNP figure tells you the income of an average person in a year. The GNP figure for the UK is £12,100.
 - (i) Calculate the average monthly income of a person in the UK.
 - (ii) Calculate the average weekly income of a person in the UK. (There are 52 weeks in a year.)
 - (iii) Calculate the average daily income of a person in the UK. (There are 365 days in a year.)
- d) Choose one of the countries you mentioned in part b). Calculate the average income for a person in that country for:
 - (i) a month
 - (ii) a week
 - (iii) a day.
- e) Roughly how many days would you have to work in the UK in order to earn the same as someone earns in a whole year in the country you chose in part d)?

Conclusion

There has been much work done over the last fifty years to promote the needs of children around the world. Organisations such as UNICEF are working hard to bring about better opportunities for children.

For example, in 1970 in most countries, less than 40% of girls had access to any real sort of education. Now nearly 70% of girls around the world can receive some sort of an education.

In 1990, the World Summit for Children took place. A number of goals to be achieved by the year 2000 were agreed by almost all of the world's governments. One of the goals was to provide:

“Basic education for all children and completion of primary education by at least 80% of children - girls as well as boys.”

Using the information on primary school completion found in the main table, do you think this is a realistic target?

How do you think governments and countries, including our own, can help to achieve this goal?

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Living in this country we all have the opportunity to go to school and have a decent education. Yet we can so often take this for granted. Many children around the world do not have even the most basic education. There are other things that we are also fortunate to have compared to others, whose lives are full of insecurity. For example, many children around the world have limited health care, little in the way of food and live under the constant threat of war.

How has this unit changed your views about the education you receive?

“The State of the World’s Children”. UNICEF is the United Nations International Children’s Emergency Fund.

Here is a table showing information about nine different countries around the world. The information comes mainly from a report produced by UNICEF called **International Data**

| | GNP/capita |
|------------------------------------|------------|
| Copyright material removed. | |

GNP/capita: Average annual income per person.
 school: The percentage of boys (B) and girls (G) of secondary school age who go to school.
 school completion: The percentage of children who complete primary school. Secondary
 Adult literacy rate: The percentage of people aged 15 or over who can read and write. Primary