

Case study

AEGIS 3: The development divide

Using AEGIS 3 to look into the development divide between countries in the North and South. This case study includes task sheets and an example of pupil's work.

Aegis 3 is an excellent tool for introducing GIS, and students pick up the functionality of the program very easily. The exemplar tasks provided with the software are excellent, but do require the teacher to spend some time in software demonstration mode. I planned the following lesson with a view to getting students to teach themselves the basics of Aegis 3. I've included the worksheets and an excellent example of pupil work. In subsequent lessons I would expect the majority of students to be fairly confident in using the program. The lesson has been tested with mixed ability pupils from Year 8 to 10, and has been remarkably successful in meeting the objectives.

The lesson materials include a short activity on development indicators. This has been devised for less able students. It may well lead to a discussion about how the indicators could be categorized (social, economic, demographic, health etc) informing the student's subsequent selection of data.

The main activity should be accessible to all students, and experience has shown that it is not necessary to provide a whole class demonstration of Aegis 3 before the embarking on the task. Differentiation is by outcome and the less able may benefit from the writing frame task.

The instructions will need to be tailored to suit the particular network and folder names in use at your school.

Students need to be aware that while the maps provided by Aegis 3 output are cut and pastable, the key isn't. To get round this, I get them to make a screenshot as described in the instructions. It's possible that different networks and operating systems will require other methods to achieve the same result.

This case study can also be found at <http://www.juicygeography.co.uk/aegis3intro.htm>

Development indicators

Name.....

Match these development indicators to their definitions by adding the letter to the correct box:

- A** Birth rate
- B** Life expectancy
- C** Infant mortality
- D** Female literacy
- E** Agriculture %
- F** Telephone
- G** Gross National Income (GNI) per capita

- The percentage of the workforce who work on farms
- The number of babies who die before reaching the age of one, per 1,000 born
- The number of telephones per 1000 people
- The percentage of females aged 15 and above who can read and write
- The amount of money earned by a country in a year divided by the population
- The average age that people live to
- The number of babies born per 1000 people

Using a pencil, draw an arrow next to each indicator pointing up or down to show whether this indicator would increase or decrease in a more economically developed country (MEDC)

For example:


- Population growth rate (would fall with increasing development) ↓
- Car ownership (would rise with increasing development) ↑

Is there a “Development Divide” between countries in the North and the South?

Using Aegis 3

- Find the *Aegis samples* folder by logging on to *Humanities* and > *Shared Docs* > *Humanities* > *Read Humanities* > *Geog* > *Aegis Samples*.
- Open the folder named *World* and find the file named “*world map and data.aed*”

Creating a map:

- The map is blank when you open the file. The first task is to **activate** it by clicking anywhere on the map. This lets you add data to it.
- Click the **chart wizard** button → 
- Click “*Next*” and then “*area shading*.” Then “**choose from the list of available data**” - for example “life expectancy”
- Click “*Next*” and “*Next*” again - leaving the label field blank. Click “*Next*” and then choose “*linear in range*”. Click “*Next*” again and then “**choose how many classes for the data**”. You may want to change this from 4 to 6 to get a wider range of colour on the map. Click “*Next*” to move on.
- Now you can **change the colour shading** if you want. Click on the data class and then on the colour picker table. Obviously it's good to use just one colour shade, but you can also use certain colours to draw attention to the data (for example dark red for the country with the highest death rate. Click *Next* to see the finished graph.

- **Add a key**

This button lets you add a key to the map



To identify different countries, click this button

- Finally **copy the map and key into Word**. The best method is to make a screenshot of the finished map. Centre the map in the middle of the screen window and then press “*Alt*” and “*Print Screen*”. Paste the screenshot into Word, right click and choose “*Format picture*”. Select “*Layout*” and “*In front of text*” then select “*Picture*” and crop the map until it is the correct size. Make sure you save the work in My Documents!

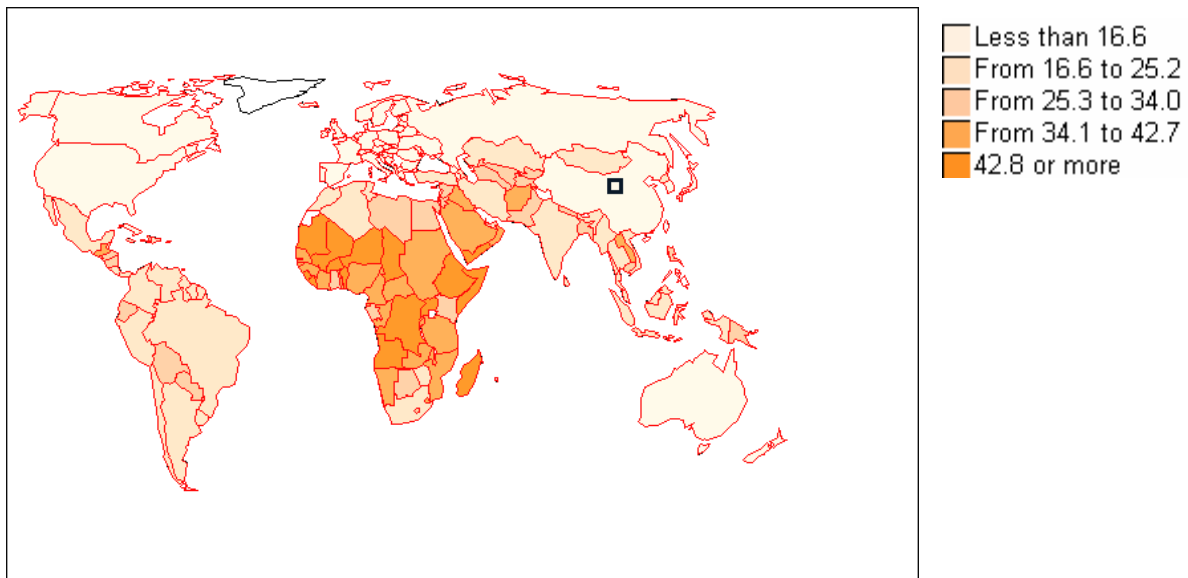
Task:

Answer the question: Is there a Development Divide between countries of the North and South?

How?

Make a "mini atlas" with maps showing different kinds of development data. Try to choose information that represents the wealth of a country, the health of the people and their standard of living. Copy the maps into a Word file, and write a description of each map explaining how the results help you answer the question. You can base your answer on the writing frame below.

Map showing World birth rate:



This map shows that countries in the South have _____ birth rates. People have more children in poor countries because _____
_____.

This map is evidence that there is a difference in development between North and South because the countries with high birth rates are all in South America, Asia and _____.

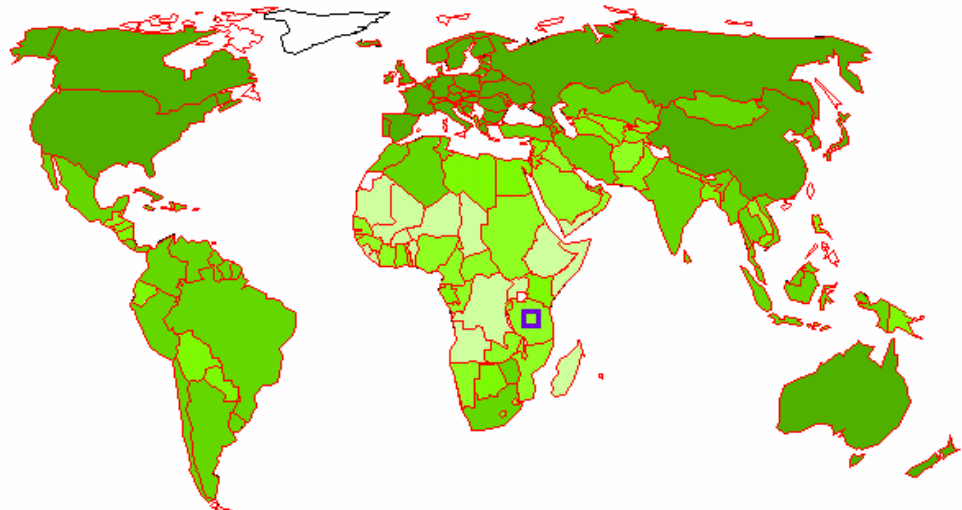
Is There A

Development Divide?

Birth Rate

- Less than 16.6
- From 16.6 to 25.2
- From 25.3 to 34.0
- From 34.1 to 42.7
- 42.8 or more

This is a map showing the birth rate across the world. The lighter the shade of green, the more births per 1000 couples. As shown on the map it is mostly the poorer countries that have lower birth rate. E.g. South Africa
(Key to the side!)



This map is evidence that there is a difference in development between the north and south of the equator because the places with high birth rate are all to the south. E.G. South America and Asia.

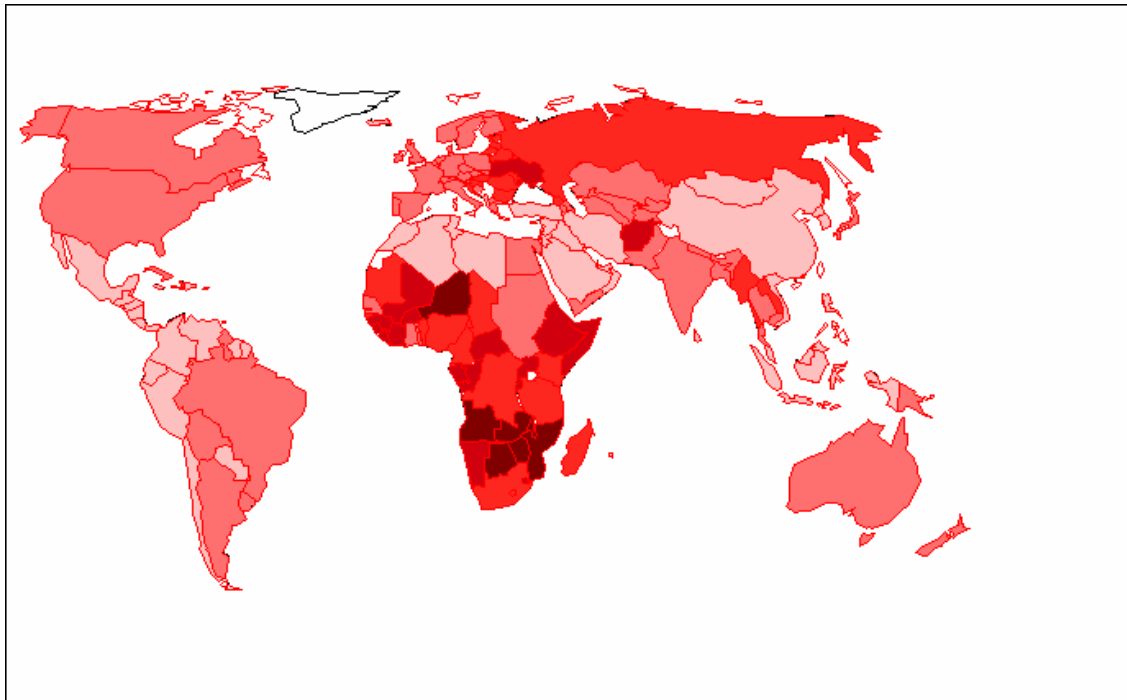
One of the reasons for higher birth rates is because children in countries such as Asia do not make it past early childhood. The death rate in children is higher.

Death Rate



- Less than 6.9
- From 6.9 to 11.4
- From 11.5 to 15.9
- From 16.0 to 20.5
- 20.6 or more

This is a map showing the total death rate across the world. The lighter the shade of red the less deaths per 1000 people. As shown on the map it is mostly the poorer continents and the ones that live in "dirtier" conditions that have higher death rate. However the larger the continent the higher the death rate as well. (More people) North America
(Key to the side!)



This map is not really rock solid evidence that there is difference in development between the North and the South because the death rate is higher in larger countries not just the poor ones.

So when it comes to answering the title question this map you could not really use, it does not prove anything except for how many people die in each country.

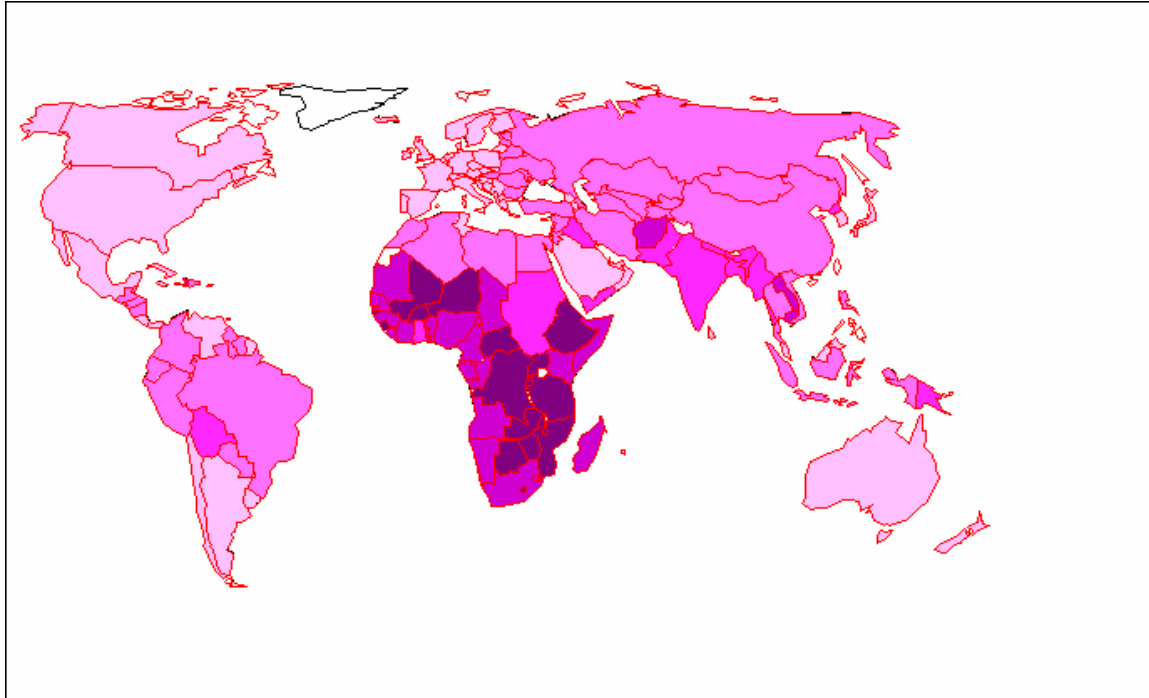


Life Expectancy

- Less than 46.1
- From 46.1 to 54.6
- From 54.7 to 63.3
- From 63.4 to 71.9
- 72.0 or more

This is a map showing the total life expectancy across the world. Once again it proves that around the south of the equator the death rate is much higher than anywhere else in the world.

(Key to the side!)



One of the reasons for a lower life expectancy is the conditions people live in. If you are not fed well, you do not have enough water and you basically live in each others dirt you die much, much younger. I can prove this because most of the countries in Southern Africa live in these conditions; these countries have a lower life expectancy.

Conclusion

In this piece of work using Aegis I can prove that there is a development divide between the North and the South of the world (Excluding Australia) The people in the North and Australia have a much better life in many different ways. They are healthier and have a longer life expectancy. The quality of life in Australia and the North is much, much better.

Use of Aegis 3 in an A Level project: student's view

Aegis 3 was used in conjunction with pictures and imported text to compile an interactive fact sheet of a selected area to show different types of housing. First a suitable raster map of the area was downloaded from the internet and then a table was created and connected to the map with the use of nodes. Each node related to a point on the map and a row in the table. Each column has a selected field i.e. Site-Picture, Description-Text. These two boxes were filled in in relation to the point on the map.

The sequence was:

1. Import raster map
2. Create a table
3. Select edit map
4. Use node tool to select point
5. Use edit table and tick the box link with map
6. Select box with picture and import it
7. Select text box and import text

Once all the nodes had been selected the map could be used to select the point and then information about that point could be found.

Students View:

"This program was hard to use until I made the breakthrough and understood what tools were which and how they worked. A detailed read of the manual and a lot of trial and error can lead to success".

Noel Jenkins
Embedding GIS in Schools project
2004-5