

# Football Stadiums

| <b>Chapter name: Football Stadiums</b>  |   |  |                             |   |
|---|---|--|-----------------------------|---|
| <b>Content:</b> Pupils learn about football stadiums, calculate travel distances to matches and look at carbon footprints as they go on a journey to discover South Africa. |   |  |                             |   |
| <b>Section</b>  | <b>Activity and instructions</b>  | <b>Skills</b>  | <b>Target year group(s)</b> | <b>Relevant subjects</b>  |
| Football Stadiums   | <p><b>Activity 1 – Calculate stadium capacity and design your own stadium</b></p> <p>During World Cup 2010, football matches were played at 10 different grounds. Each ground has a different capacity.</p> <p>Using the attached table of the venues and venue capacity, ask pupils to work in groups to answer the questions set out in the question sheet provided.</p> <p>Instruct pupils to think carefully about each question and note the key points and information you use to do the calculations. They should make an estimate for their answers and show the calculations that their group does.</p> <p>They will need calculators and paper for jotting.</p> <p>Next, ask them to design their own football stadium, which would facilitate supporters from around the world.</p> <p>Their stadium should cater for everyone regardless of age, gender, race or disability.</p> <p>Ask the question, could you design a ground, which incorporates the global community?</p> | <p>Pupils evaluate information to make calculations about football stadiums and stadium capacity</p> <p>Pupils use research skills to find out about football stadiums in South Africa</p> <p>Using their calculations, pupils design a football stadium</p> <p>Pupils consider the needs of all users of the stadiums which they design</p> | 5-7                         | <ul style="list-style-type: none"> <li>• Mathematics</li> <li>• ICT opportunities using the internet to research football stadiums</li> </ul> |
| Travelling  | <b>Activity 2 – Calculating distances travelled to Football Stadiums</b>  | Pupils work in groups  | 5-9                         | <ul style="list-style-type: none"> <li>• Mathematics</li> </ul>   |

|   |   |  |            |   |
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| <p>to Football Stadiums during the World Cup 2010</p> | <p><b>during the World Cup 2010</b></p> <p>Get pupils to work in groups to answer the questions on the sheet provided. When answering questions linked to the fixtures and dates please refer to the website: <a href="http://www.fifa.com/worldcup/matches/index.html">http://www.fifa.com/worldcup/matches/index.html</a></p> <p>Instruct pupils to think carefully about each question and note the key points and information you use to do the calculations.</p> <p>Ask them to make an estimate for their answers and show the calculations that their group does.</p> <p>They will need calculators and paper for jotting.</p> | <p>Pupils use estimations and make calculations related to distance</p> <p>Pupils use maps and tables</p> <p>Pupils search the internet to find and retrieve relevant information</p>  |            | <ul style="list-style-type: none"> <li>• Geography</li> <li>• ICT opportunity – using the internet to research information on World Cup venues</li> </ul>         |
| <p>Travelling to World Cup venues</p>                 | <p><b>Activity 3 – The impact of different forms of travel to World Cup venues</b></p> <p>Many of the teams that were involved in matches travelled to and from grounds by aeroplane.</p> <p>Working as a whole class, or as individuals or in groups, use the question sheet provided to encourage pupils to think about the impact of different forms of travel on the environment.</p> <p>(For a related activity about the cultural experiences of the football fan as they travel between venues, we suggest you see Activity 6 – South African Landscapes, which is in Chapter 2 – Getting to know South Africa.)</p>           | <p>Pupils consider the environmental impact of travel</p> <p>Pupils research facts about South Africa and the countries from which visitors arrived.</p> <p>Pupils consider the human and physical features of South Africa and its relationship to localities from which travellers came from, and the implications for transport</p> | <p>6-9</p> | <ul style="list-style-type: none"> <li>• Geography</li> <li>• PSHE</li> <li>• Citizenship</li> <li>• ICT opportunity – using the internet for research</li> </ul> |

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|  |  | Pupils express and explain their own opinions to others. They communicate and justify an argument |  |  |
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## **Activity 1**

**Calculate stadium capacity and design your own stadium**

### World Cup venues and capacity in South Africa

| <b>Name of Host City</b>          | <b>Population</b> | <b>Name of Ground</b>      | <b>Capacity of Ground</b> |
|-----------------------------------|-------------------|----------------------------|---------------------------|
| Cape Town                         | 2,893,251         | Green Point Stadium        | 70,000                    |
| Port Elizabeth/Nelson Mandela Bay | 1,005,776         | Nelson Mandela Bay Stadium | 48,000                    |
| Bloemfontein                      | 645,441           | Free State Stadium         | 48,000                    |
| Johannesburg                      | 3,225,812         | Soccer City                | 94,700                    |
| Johannesburg                      | 3,225,812         | Ellis Park Stadium         | 61,000                    |
| Rustenburg                        | 395,539           | Royal Bafokeng Stadium     | 42,000                    |
| Nelspruit                         | 21,541            | Mbombela Stadium           | 46,000                    |
| Polokwane                         | 508,272           | Peter Mokaba Stadium       | 46,000                    |
| Tshwane or Pretoria               | 1,985,984         | Loftus Versfeld Stadium    | 50,000                    |
| Durban                            | 3,090,117         | Durban Stadium             | 70,000                    |

Look on this link to find out more information and images of the stadiums. Population figures are based on the 2001 census

<http://www.fifa.com/worldcup/archive/southafrica2010/destination/index.html>

## World Cup venues and venue capacity in South Africa

Work in groups to answer these fun questions. Think carefully about each question and note the key points and information you use to do the calculations. Make an estimate for your answers and show the calculations that your group does. You will need calculators and paper for jotting.

1. The population in Cape Town is 3.5 million. The ground capacity of Green Point Stadium, which is in Cape Town, is 70,000.

If every person in Cape Town, irrespective of age and gender, were given the opportunity to watch a football match in their city, how many more stadiums with a capacity of 70,000 would have to be built?

2. What percentage of the population of Rustenburg would be able to take a seat at the Royal Bafokeng Stadium? Round your percentage to the nearest whole number.

3. In Nelspruit, the Mbombela Stadium has a ground capacity of 46,000.

If the ground was full, how many people would have to be transported in from other cities?

4. Look at the table. During the World Cup, two grounds in Johannesburg hosted football matches.

What is the difference in capacity between these two grounds?

Can you round your answer to the nearest 1000?

5. What is the difference in population between Port Elizabeth and Johannesburg?

6. What is the difference in population between Rustenburg and Bloemfontein?

7. To give every person in Rustenburg the opportunity to view a game, a new stadium, which would be the biggest in the world, would have to be built.

How many more seats would have to be made available?

8. The Estadio Azteca Stadium is the third largest stadium in the world and is used for football matches. The capacity is 114,465. It is the only stadium to host two World Cup Finals, one in 1970 and another in 1986.

The largest Stadium in South Africa is Soccer City, In Johannesburg, which has a capacity of 94,700. What is the difference in capacity between the two grounds?

Now devise three different types of questions for another group to solve.

Can you plan a challenging question for your teacher?

## **Activity 2**

### **Calculating distances travelled to World Cup venues**

**A table showing distances between cities**

|                     | Bloemfontein | Cape Town | Durban | Johannesburg | Nelspruit | Polokwane | Port Elizabeth | Pretoria | Rustenburg |
|---------------------|--------------|-----------|--------|--------------|-----------|-----------|----------------|----------|------------|
| Bloemfontein        |              | 1000      | 670    | 420          | 771       | 750       | 635            | 475      | 441        |
| Cape Town           | 1000         |           | 1660   | 1405         | 1779      | 1736      | 756            | 1463     | 1385       |
| Durban              | 670          | 1660      |        | 598          | 689       | 929       | 927            | 656      | 711        |
| Johannesburg        | 420          | 1405      | 598    |              | 358       | 331       | 1062           | 60       | 121        |
| Nelspruit           | 771          | 1779      | 689    | 358          |           | 320       | 1373           | 342      | 445        |
| Polokwane           | 750          | 1736      | 929    | 331          | 320       |           | 1393           | 273      | 376        |
| Port Elizabeth      | 635          | 756       | 927    | 1062         | 1373      | 1393      |                | 1119     | 1105       |
| Tshwane or Pretoria | 475          | 1463      | 656    | 60           | 342       | 273       | 1119           |          | 105        |
| Rustenburg          | 441          | 1385      | 711    | 121          | 445       | 376       | 105            | 105      |            |

Distances measured in kilometres (km)

## How far did countries travel during the World Cup?

Work in groups to answer these fun questions. Think carefully about each question and note the key points and information you use to do the calculations. Make an estimate for your answers and show the calculations that your group does. You will need calculators and paper for jotting.

When answering the following questions please refer to the website:

<http://www.fifa.com/worldcup/archive/southafrica2010/matches/calendar.html>

1. Look at the calendar. England played four times. The team was based in Rustenburg.

Can you calculate the total distance they had to travel to and from matches? Please show your answer in kilometres (km).

A kilometre is  $\frac{5}{8}$  of a mile. Can you convert your answer into miles? How did you calculate your answer?

South Africa played in three games. South Africa were based in Johannesburg, calculate the total distance travelled to and from matches. How did you calculate your answer mentally?

2. England played in four locations in South Africa: Cape Town, Port Elizabeth, Rustenburg and Bloemfontein.

To reduce travelling time, where would have been the most suitable location for the team to set up base? Please explain your answer

3. Nigeria competed in the World Cup.

How far did the Nigerian team have to travel from their capital city to their first match in South Africa?

Was the distance greater than the total distance that the team travelled to the three matches they played during the tournament?

**Challenge:** The World Cup was won by the Netherlands. Follow their fixtures through their tournament on the calendar. What is the total distance that the team travelled during the tournament?

**Double Challenge:** What is the total distance they travelled, including the distance to and from Amsterdam where the team had started its journey?

## **Activity 3**

**The impact of different forms of travel to World Cup venues**

## **Impact of different forms of travel to World Cup venues**

Many of the teams that were involved in matches travelled to and from grounds by aeroplane.

Was this good for the environment? Why/why not?

Imagine the England team were returning for a tour of South Africa to play friendly matches in all the World Cup stadiums.

How would the squad reduce their carbon footprint?

How would you persuade Fabio Capello and the England Squad to seek a new form of transport?

If you travelled by plane would you get an opportunity to see the South African landscape? Why/why not?

Would you have the opportunity to immerse yourself in the culture? Why/whynot?

Would there be an opportunity to see the diverse range of species that inhabit South Africa?

Would it be an advantage for teams to travel by coach, through the interior of South Africa? Why/why not?

If you were a member of the government how would you persuade your team to travel, by coach or bus? Why?

If the England team had to travel from Port Elizabeth to Cape Town would it be prudent to travel by boat? Why/why not?

How would you be able to appreciate the marine life along the coastline and the range of life that inhabits the Ocean?

Would this be more possible if the squad could travel to matches by boat? Why?