

# Searching for Meaning

An activity which encourages the development of a meaningful, global view of scientific issues.



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# Searching for Meaning

## Teacher Guide

An activity which encourages the development of a meaningful, global view of scientific issues.

### Background

This resource was produced by three teachers from Cathkin High School in South Lanarkshire, Nicola Young (Biology) and Eilidh Colligan and Orla Payne (RME). It is an outcome from a project which was funded by the Esmée Fairbairn Foundation, managed by SSERC (Scottish Schools Education Research Centre) and evaluated by SCRE (Scottish Centre for Research in Education).

### The project set out to answer two questions:

- Can science and RME teachers work together on themes in a way which will enhance the pupils understanding of science/religion issues?
- What are the resource and CPD needs of both groups and can we establish an effective model for interdisciplinary working?

Areas of Science and RME overlap but they are taught separately and can be seen as being 'in opposition' and this can lead to a closed approach to learning. Research has shown that young people are motivated by meaningful, well managed discussion where complex issues can be explored taking into consideration different cultures, values and beliefs.

The RME and science departments at Cathkin High School worked together to produce this activity. Their aim was to promote an informed discussion about stem cells and use an innovative technique to ensure that their pupils entered this discussion with a wide, global perspective of the topic. Although 'stem cells' was the final topic chosen for discussion, the technique which was developed could be used for any other controversial topic.

### Curriculum

This activity supports the following CfE outcomes:

#### Science

- I can debate the moral and ethical issues associated with some controversial biological procedures [SCN 4-13c].*
- I have researched new developments in science and can explain how their current or future applications might impact on modern life [SCN 4-20a].*
- Through research and discussion, I have contributed to evaluations of media items with regard to scientific content and ethical implications [SCN 3-20b].*

#### RME

- I have developed awareness of the elements essential for making informed decisions and I have examined situations which pose a moral challenge in life. I can describe and explain my response and the responses of others to these situations [RERC 4-23a].*
- I am developing my understanding of how my own and other people's beliefs and values affect their actions [RME 2-09d].*
- I can apply my developing understanding of morality to consider a range of moral dilemmas in order to find ways which could promote a more just and compassionate society [RME 4-02a].*



## Lesson Plans

There are 2 parts to this activity. In Part 1 the pupils build an appreciation and understanding of the lives, beliefs and values of children, of their own age, from different parts of the world. In part 2 the pupils discuss and debate scientific issues which affect people in different ways depending on their background.

### Part 1

The lesson begins with a group activity where each group of pupils is given a picture of a child. The children are from different countries, cultures and religious beliefs and the pupils have to try to find out about some of this information from their picture. They are asked, for example, to name their child and to find out what the child's religion is likely to be. For more information see the **target cards**.

The pupils are given a box for their child and over the next few lessons they build information about their child and as they do so they complete more of their targets. They learn about the country the child comes from, where it is on the globe and they gain an appreciation of the cost of living in that country. There are support materials for each country to help the pupils with these tasks. They can use the 'atlas of the faiths' to find out where the different religions of the world are located and there is source material to give them information about many aspects of the different faiths. They use their box to continue the process of 'building' a profile of their child. Each group develops some ownership of their child and a real understanding of how they live.

### Part 2

Now the focus becomes centred on the issue. In this example the issue is around the use of stem cells. The pupils are taught about stem cells, what they are, how they are produced and how they can be used. They then reflect back on the different faiths and find out about how each faith regards the production and use of stem cells. Finally they have the class debate/discussion about stem cells. Relating back to their target cards the teachers would now expect the pupils to be able to express: Your own views; Religious views; Scientific views; Other relevant views.

#### Other ways to use the resource

With minor modifications Part 1 of this resource could be used to encourage pupils to explore issues such as environmental issues or issues relating to genetics or assisted reproduction. A set of resources which explores environmental issues in different religious groups is also available from SSERC.

## Teacher Comments

**Science Teacher** (asked what the involvement in the production of this resource has meant to her)

*'I think I've adapted my teaching to try and involve things and think about ethical issues when I am teaching biology. I don't want to be giving just my opinion to kids. That to me is wrong. I want them to form an opinion for themselves and I think when studying RME that's obviously what they're trying to do. I don't know the whole course content of RME, but when it comes to the biology aspect I think it's important that pupils get a sense of what they think themselves instead of just being told facts and try to get them to form opinions. I was really shocked to see how much RME and biology linked together, so I've definitely taken that on board and consider different beliefs and different reactions and ethical issues that maybe involved.'*

**RME Teacher** (asked what the impact has been on pupils and on her own teaching when developing and using this resource)

*'Independent learning - because they're very, very much in control of their own learning. It's nice to just give somebody materials and they go away with it, they discuss and then as they present the other children in the class are actually asking them questions and then they have to find the answers for themselves.'*

*'I think because it's something that's very different I think it has excited the children. It certainly excited us as teaching staff because it's something new and when it comes down to it if it excites us and you can put that passion on to the kids at the end of the day that's what they're there for, so if it excites us it's going to excite the kids and without that excitement there's nothing.'*

### Pupil Comments (comments come from a range of pupils)

(asked what difference this experience made to their classes in RME and science)

*'We were all working in groups like we had to work together. It wasn't just our opinion, we had to take into consideration all the others' opinions.'*

(asked if the experience had been a good thing) *'It's a good experience. It's not just the usual stuff.'*

(asked if it changed the way of working with the teacher) *'It was more relaxed in class so it made it better like you weren't so uptight about trying to get everything right straight away. You would just sort of take it in and I think it made you learn more because you were genuinely interested in what you were learning about.'*

(asked if there was anything else they would like to say) *'I would like to learn more about the stem cells.'*

## Where to find the resource

The resource is available on the SSERC website. ([www.sserc.org.uk](http://www.sserc.org.uk))

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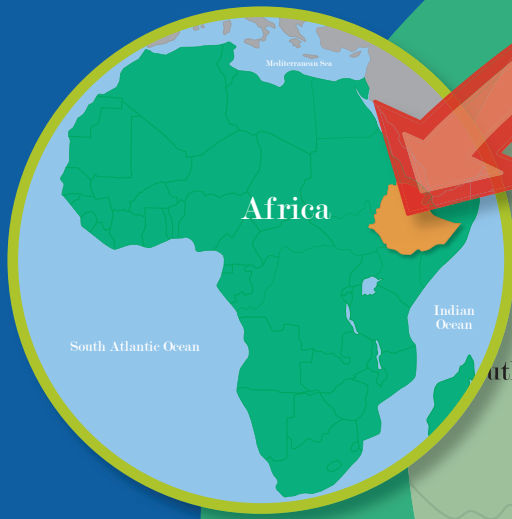
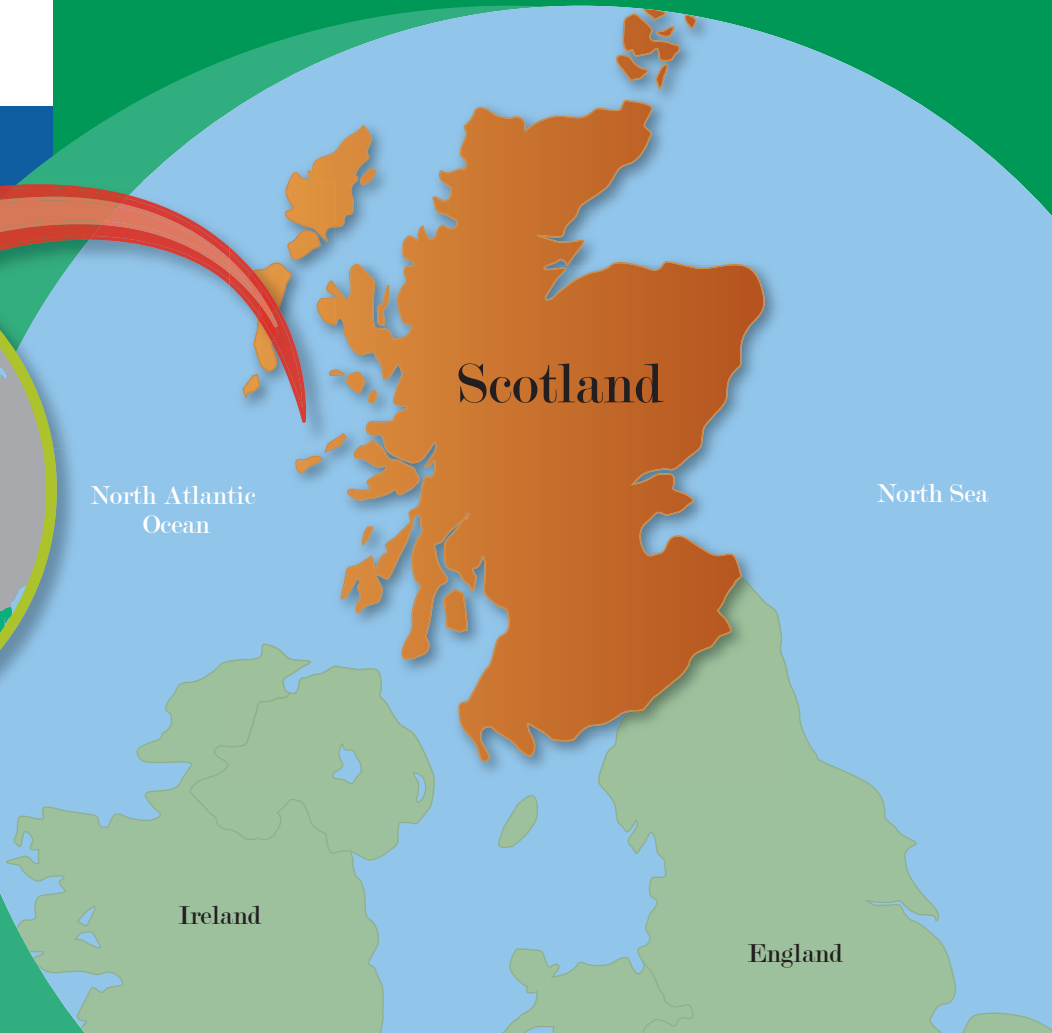


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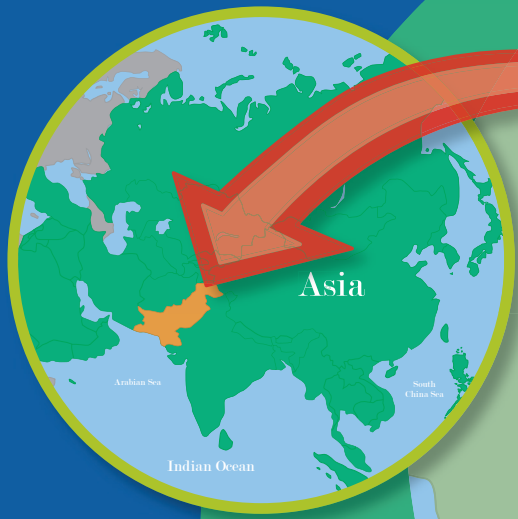
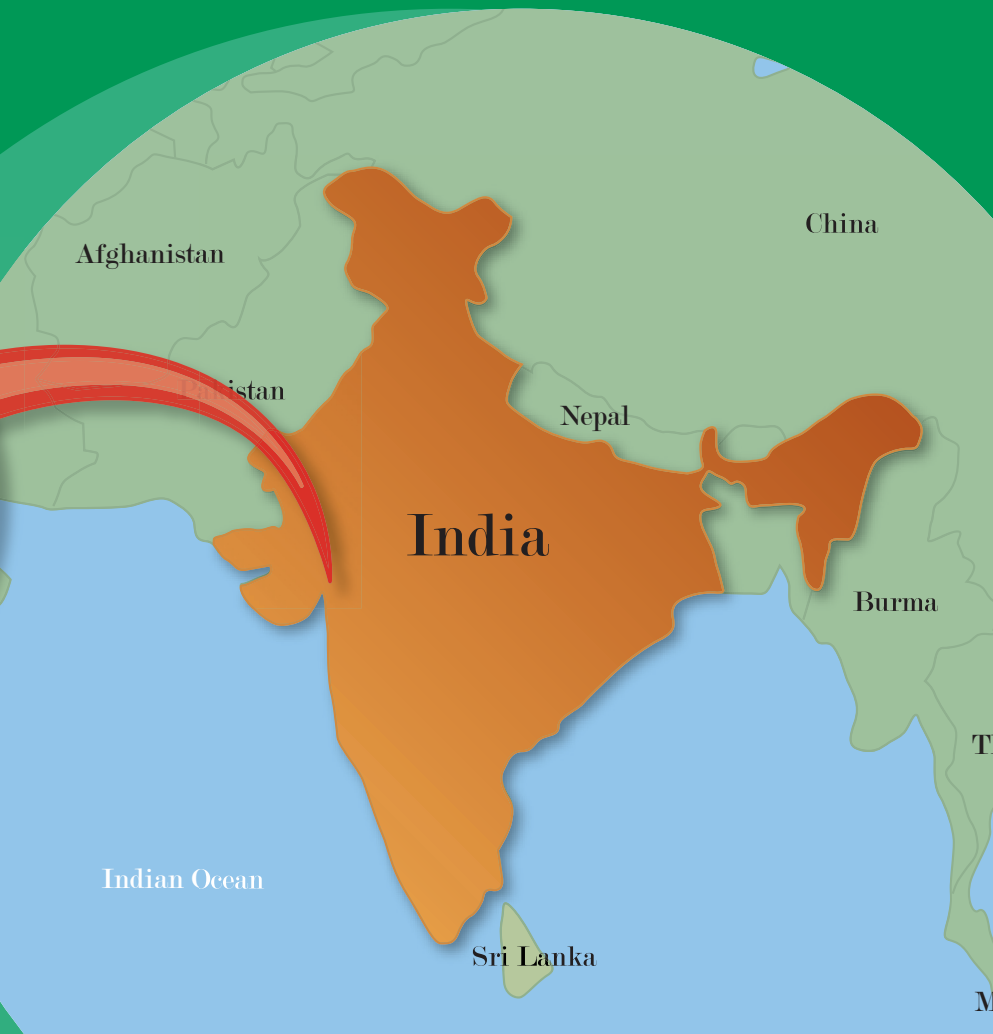
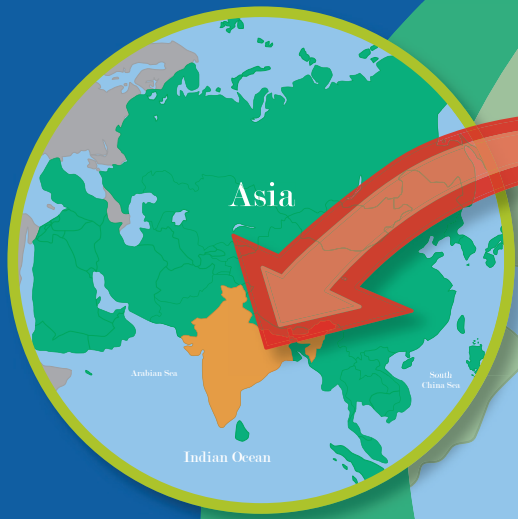


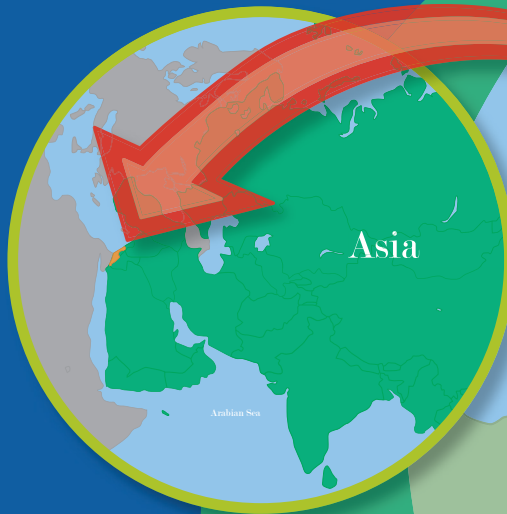
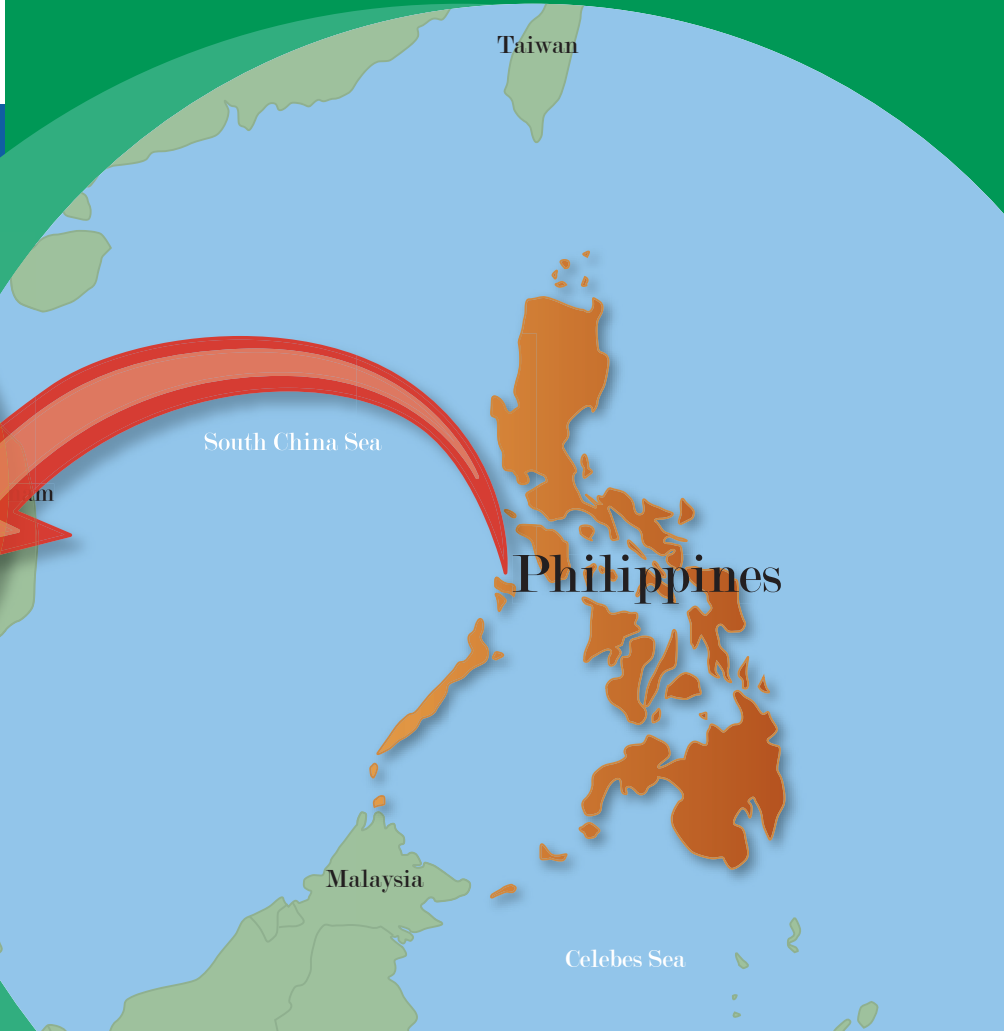
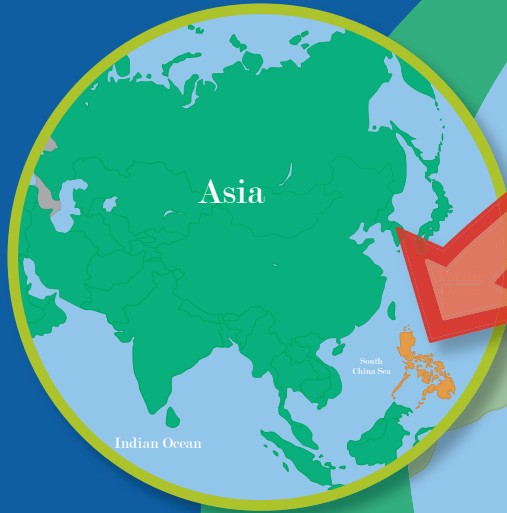




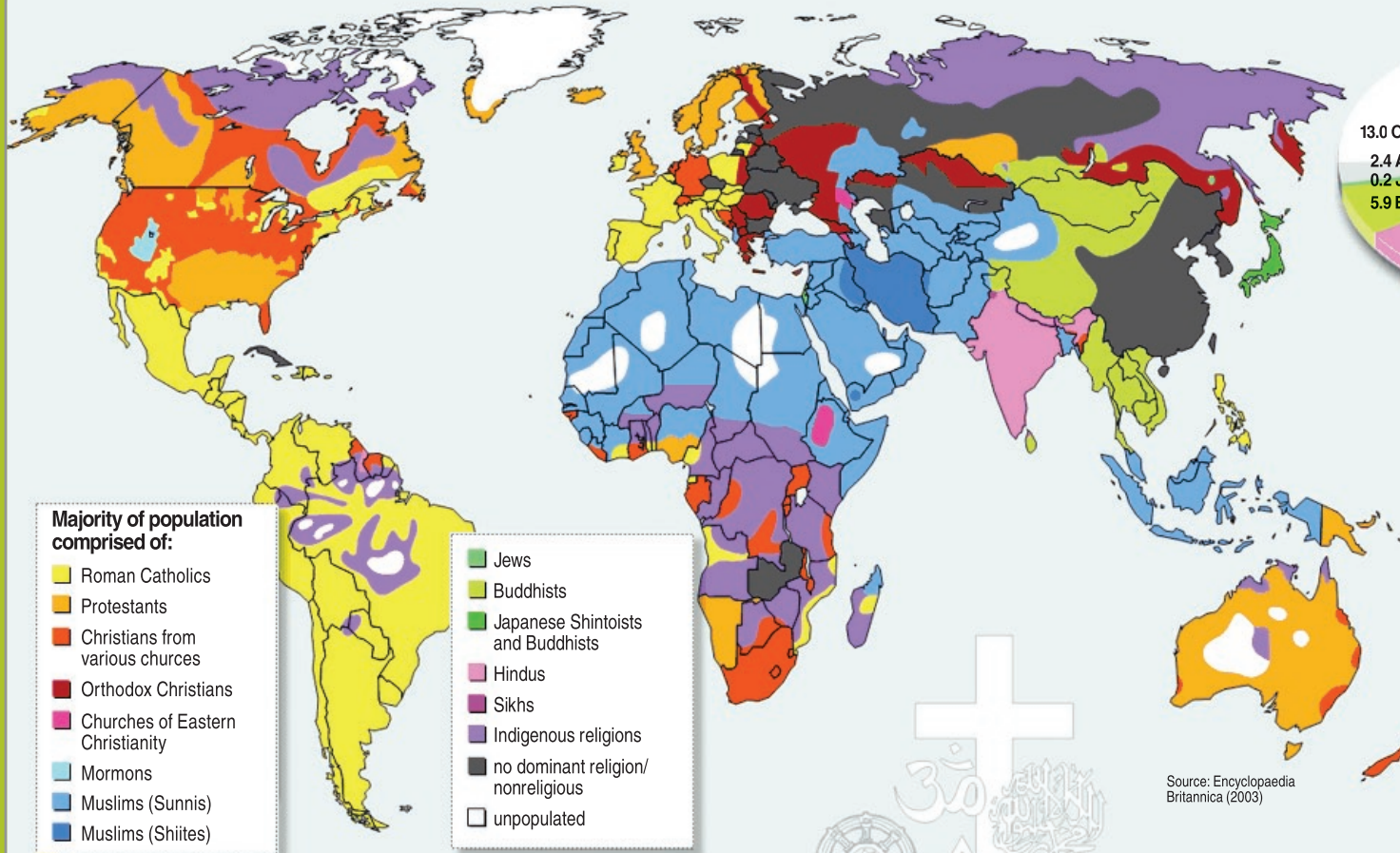




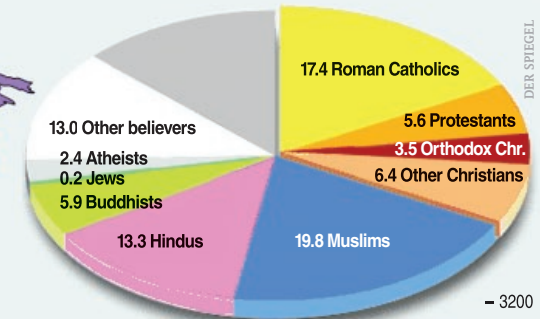




## ATLAS OF FAITHS



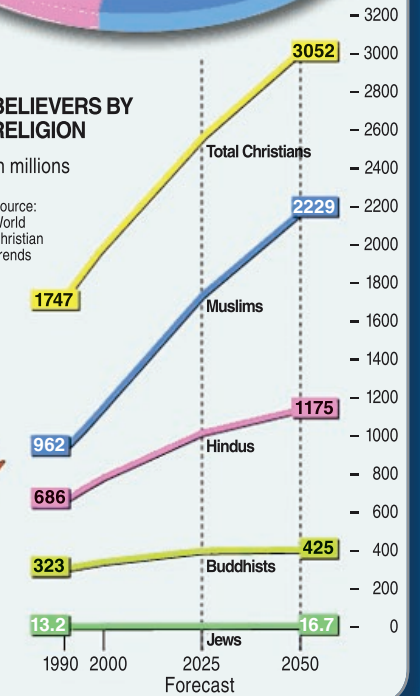
## BELIEVERS as percentage of global population (2002)



## BELIEVERS BY RELIGION

in millions

Source: World Christian Trends



Source: Encyclopaedia Britannica (2003)

