



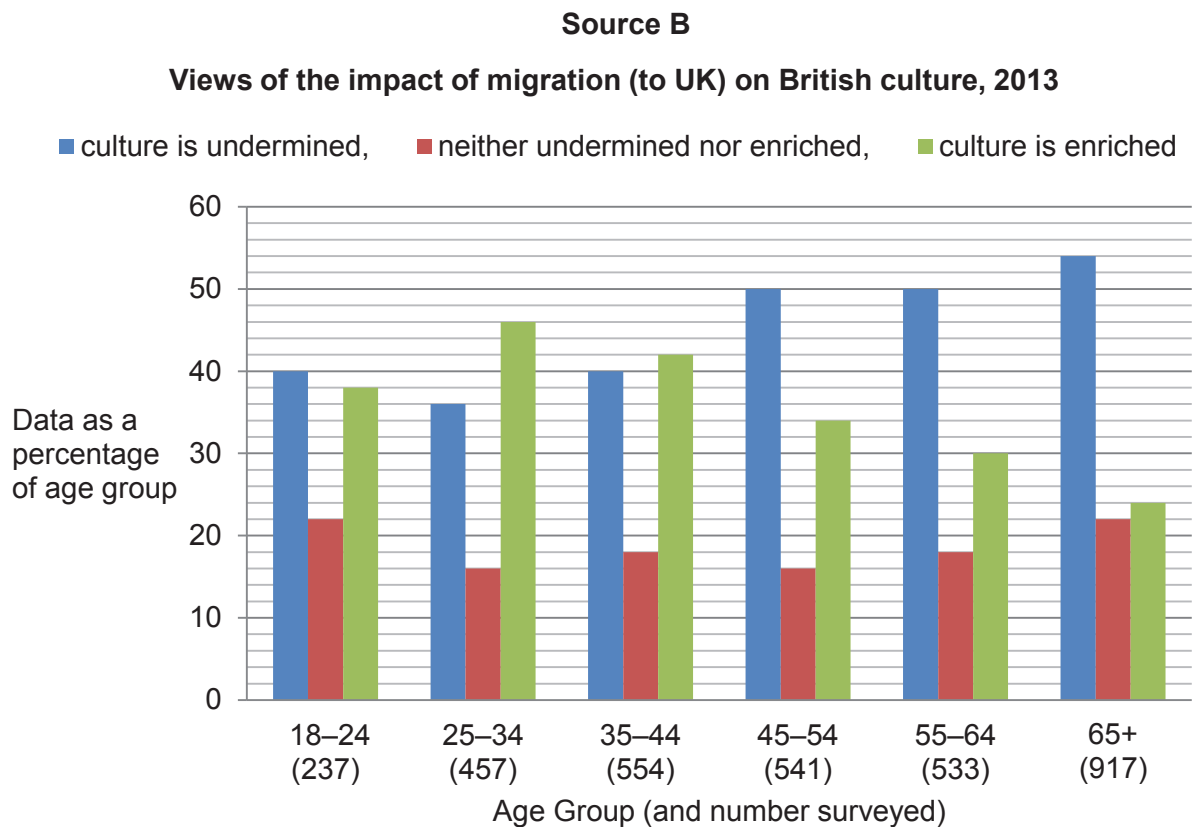
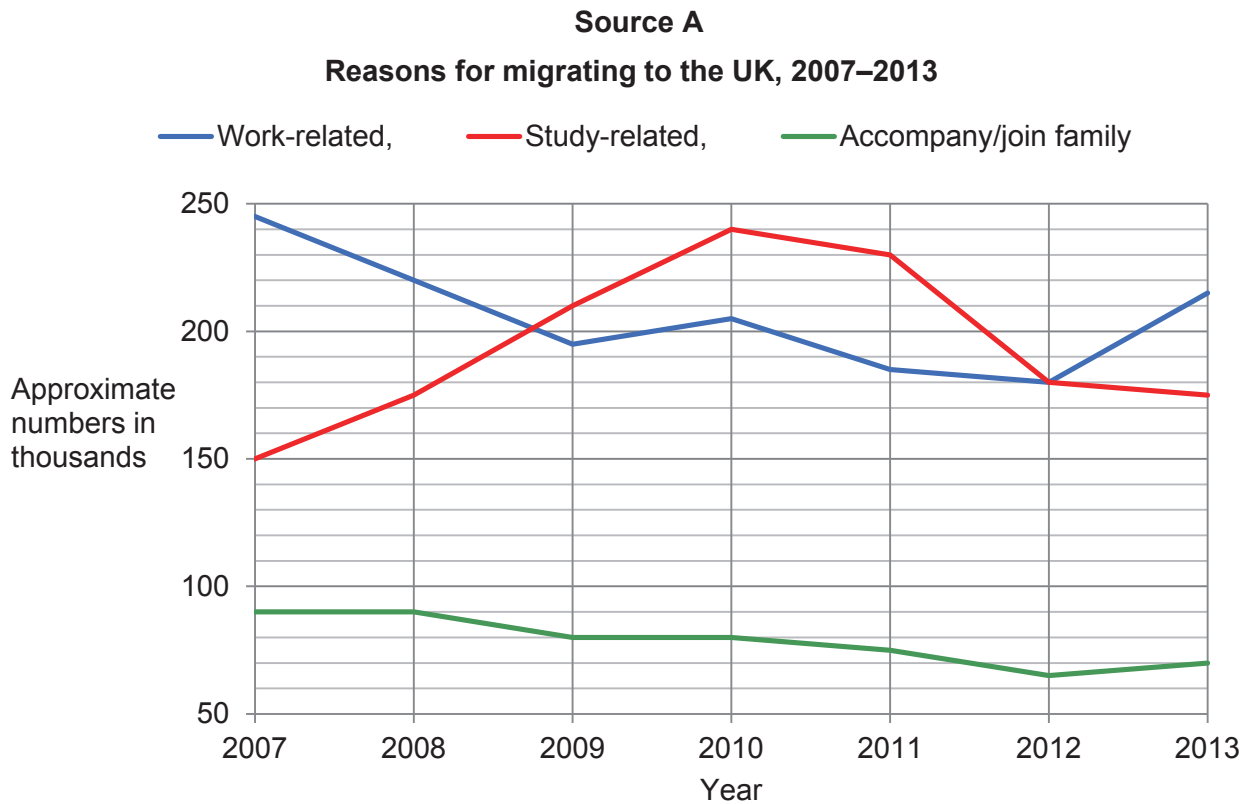
AS GENERAL STUDIES (SPECIFICATION B)

Unit 2 Space

Insert

Source Booklet for use with **Questions 1, 2 and 3**

Study Sources A and B and then answer Question 1.



Source A: ONS Migration Statistics, August 2014. Source B: British Social Attitudes, 2013

Study **Sources C** and **D** and then answer **Question 2**.

Source C



Source D



Study **Source E** and then answer **Question 3**.

Source E

How long until we can all go on holiday in space?

Private space travel is incredibly expensive and the pursuit of the super-rich. Last week, SpaceX founder, Elon Musk, stated the need to send one million people to live on Mars. Skyscanner wrote about their predictions for potential holidays in space by 2024. These statements highlight the desire of some to colonise other planets. While permanent Mars colonies are still a long way off, holidays in space may be a little more feasible.

Ten years ago, Richard Branson founded Virgin Galactic, to give people the opportunity to experience a quick trip to space. This revolves around training, a three-hour launch and culminates with six minutes of weightlessness during the suborbital flight. The spacecraft achieves a height greater than 100 km, making the passengers fully-fledged astronauts. The cost is \$250 000 each, certainly more than for the average holiday.

Virgin Galactic isn't yet providing these experiences, though Branson has said they are 'on the verge'. And they are not the only organisation offering short breaks into space. Space tourism began in 2001 when Dennis Tito paid \$20 million to spend a week aboard the International Space Station. There have been six other clients.

Bigelow Aerospace is investigating inflatable space hotels suitable for weekend breaks in orbit. Another company is looking into selling trips to walk on the Moon. Many sorts of expeditions are being planned but they are all very expensive and remain the pursuit of the super-rich.

The destination is much closer than many of us travel when going on holiday. Space is only 100 km away. Space travel is expensive due to the difficulty in reaching orbit, and the costs are increased by the equipment required to survive once there.

Places like the International Space Station (ISS) contain highly sophisticated equipment to provide breathable air, drinking water, waste disposal and much more. All this equipment not only has to function accurately and consistently, but it has to deal with the difficult microgravity environment of Earth orbit.

With each launch and each mission we develop our knowledge and ability to enter and operate within the space environment and we are a step closer to making space travel an everyday occurrence. Companies are trying to position themselves to help the public fulfil their dreams of spaceflight. As this happens, there will be a drive to make things cheaper.

To put it in perspective, look at the history of air travel: 100 years ago the first commercial flight of just 21 miles cost the equivalent of \$5000; today there are more than eight million aeroplane passengers per day.

Source: National Space Centre, Leicester, UK, October 2014

END OF SOURCES

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