# Population jelly babies

**Rachel Atkins and Andrew Dimberline** have devised a game to help GCSE students learn about population change

This article describes a game-based activity that helps key stage 4 students understand how population change is influenced by a variety of factors. It is best played after a basic introduction to migration, within a unit on population studies. It enables students to look at not only population totals but also at population changes, such as ethnic diversity and dependency ratios, which may occur within a population. The basic formula for the activity is:

Population change = Birth rate -Death rate +/- Change in migration

## Resources

- Students need to be arranged in groups of five or six.
- A packet of jelly babies, or two tubes of chocolate beans (e.g. Smarties), or a similar amount of other coloured sweets per group.
- A selection of 'population chance cards' (see Figure 1).

## Setting up the game

Give each group their packet(s) of sweets and explain that each student within the group represents one country (they can be numbered 1-6, but it works best if they have named countries). Their sweets represent the people within that country, and the colours of the sweets represent different groups of people within the country as follows:

- Green - Ethnic minorities
- Red - People aged over 65
- Blue - Adult males
- Yellow - Adult females
- Pink - Female children
- Orange - Male children

The groups of students are given 30 population chance cards each, some of which show scenarios (examples are shown in Figure 1).

Students should then be encouraged to devise other scenarios (these can be linked to real case studies from preceding lessons). They write their scenarios on the blank population chance cards and add them to their group's pile.

## Playing the game

The game can either last for a period of time set by the teacher (in which case, if cards run out they can be shuffled, turned over and rounds re-started) or until the cards have all been used once. Students play the game as follows:

- Each group starts the game by shuffling the cards and placing them in the middle of the table.
- The sweets are divided between the students, leaving a few of each colour in a central 'pot'.
- The students note the population structure of their country from the colour of their sweets.
- Each student in turn takes a population chance card and carries out the task written on it.

There is a flu epidemic, 50% of people over 65 die

All even numbered countries have a sudden population boom. Gain two children.

Famine kills one adult over 65 and one child in your country.

Cultural pressure results in some female babies being killed at birth.
Lose one female child.

For each pair of adults in your country gain one child.

Poverty and lack of jobs in your country means that all adult males migrate to a country of your choosing.

Your country is at war with another of your choosing. The people in your country are suffering more. You lose two male adults and the other country loses one male adult.

A flood affects country 5
Two people are killed.

Green people have become very unpopular in your country. They are forced to move to the country with the highest green population in your group.

**Figure 1** Example 'chance cards' for the population jelly babies game.

• All of the students in the group note the changes to the population structure as the game runs. Sweets that 'die' are not eaten'; they must be placed into the central pot.

At the end, students record which country (i.e. which student) has the most sweets and why, and the population structure of their own country.

## Post-game discussion and follow-up

This game provides an excellent framework on which to base a discussion on population change. You can start by asking:

- What happened to your population structure?
- Which scenarios changed the birth rate?
- Which scenarios changed the death rate?
- Which scenarios changed the migration rate?
- Which were the push factors of migration?
- Which were the pull factors?

The post-game discussion should aim to develop the students' knowledge and understanding of population change.

The population jelly babies game can be followed-up by focusing on case studies of population change. As a homework task, we present students with a case study of population change that forms part of the Geography GCSE specification, and ask them to use the understanding they have gained from playing the game to:

- list the key factors in the case study which changed the population total,
- indicate how the population total and structure had changed, and
- write about the implications of such a change.

## Differentiation

The population jelly babies game can be adapted to allow for differentiation. The scenarios can be tailored to the ability of the group. For lower achieving students you can provide a full set of cards with scenarios already printed on each one; whereas, for higher achieving students you can offer them blank cards on which they must write their own scenarios, based on their knowledge of population case studies.

## Conclusion

The 'population jelly babies' game presents a good introduction to population change. Whatever their ability, students are able to grasp the significance of different scenarios and the impact that they have on the population structure of both their own country and other countries represented in their group. We frequently reflect on what was learned during the game in later case studies in order to reinforce the links between events in a country and the effect on its population. In many cases, as a result of the game, lower achievers demonstrate a firmer understanding of concepts such as dependency ratios and types of migration.

Note

1. For health reasons, we do not allow the students to eat the sweets they have been playing with. Instead, we usually keep a few spare packets for them to consume at the end of the lesson.

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