

Geography games and simulations workshop

Geographical Association Conference 2017

I am running a workshop looking at the opportunities for using games to teach aspects of geography. This explores a range of digital and non digital games that can be used in schools. It includes some which I have created and others published by organisations.

This [Google Drive folder](#) contains templates and resources to all the games. Here is a link to my presentation in [Google slides](#) or in [Emaze](#) as shown below:

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Amazon forest decision making simulation to learn about sustainable development of the Amazon

Overview:

1. Students work in small groups to represent members of village in the Amazon. They need to decide the best options for using the rainforest around them. They are set the challenge of making at least £300 for the village to survive. Their decisions are recorded can costed onto a map
2. Students present their decisions and are then shown the impacts of various forest activities on a video.
3. Students then mark out the impacts of their decisions on the 5 years later map and see if they could survive into the future.
4. Students summarise their decisions and explore concepts of sustainable development.

The Shanty Town Game of Life – to learn about living in an urban slum

Overview:

1. Students play this board game to simulate experiences of living in a shanty town.
2. They start the game as new arrivals with varying family sizes, savings and jobs.
3. Each turn they must pay for food and can choose to improve their home and get more education.
4. They roll the dice to experience a situation or an opportunity each turn. The impacts of these will vary depending on their circumstances. For example, a storm will only damage their house if it does not already have brick walls and a roof.
5. Students record their income and progress on the recording sheet rather than using paper money.
6. At the end of the game they write a summary of their experiences and compare it with others in their group.

7. Leads to discussions about fairness, comparing this with their lives and how to improve lives for people in slums. Also chance to get students to consider how realistic the game is and to design their own game.

Geography Top Trumps

Overview:

1. Top Trumps can be used for a wide range of topics in geography where there are factors to compare, e.g. coastal landforms, levels of development, sustainability, types of energy, volcanoes etc.
2. Students can make their own Top Trump sets from the blank templates, which may help them to learn information about places they research.
3. Think of a theme and fill in a blank Top Trump card of your own.
4. Vary the rules to encourage geographical thinking and strategy. For example if people need to declare the name of their cards before people choose their category then they can use geographical understanding to pick a winning category.
5. After playing students can use the information on the cards for a variety of follow up activities such as ranking how sustainable types of energy are or levels of development, or placing cards on maps and looking for patterns, such as locations of volcanoes, or even produce a giant scatter graph from the data such as life expectancy and wealth.

Ashcloud Apocalypse – a disaster risk mapping activity

Overview:

1. This is a free online GIS mapping activity for students designed to develop thinking about calculating hazard risk. This is based around the potential impact of a mega volcanic eruption. It helps consider both direct and indirect impacts as well as why vulnerability may vary. <http://gisevent.wixsite.com/gisday2015>
2. Students zoom to their home location on a series of maps. On each one they read the data and enter a score based on their risk into the online form (and on a paper copy of the table). You could print maps for your school region and do the activity offline.
3. They calculate their overall risk. Students can then view all the data entered by students from around the world to compare risk levels.
4. They can use spatial analytical tools to summarise the patterns in the global data.
5. They can evaluate the methodology and also consider ways to reduce hazard impacts.

Mapzone – GIS zone resources

Overview:

This is a free online resource by the Ordnance Survey. There are a series of simplified GIS activities which involve students using layers of map information to reach a decision over an issue such as where to locate a wind turbine

<https://www.ordnancesurvey.co.uk/resources/mapzone-resources.html>

3rd World Farmer

Overview:

This is a free online simulation where students try to manage the life of a rural family in a poor country. They decide on what to invest in their farm and to improve their lives. Each turn events occur which may work in their favour or against them. Over time they either accumulate wealth or fall into poverty and hunger. At the end students summarise the challenges and consider ways to address rural poverty. <http://3rdworldfarmer.com/>

Darfur is dying

Overview:

This is a free online simulation where students explore the issues of refugees in a camp. They must keep the camp running and learn about humanitarian crisis management.

<http://www.darfurisdying.com/>

Stop disasters

Overview:

This is a free online game where students can learn about hazard management preparation. There are a range of hazards to choose from. Then the student has a limited time to put in place various protection measures before a hazard strikes. This is a great way to get students to explore the range of techniques to manage a particular hazard and to consider hazard risk variations.

<http://www.stopdisastersgame.org/en/playgame.html>

Disaster detector

Overview:

This is a free online game that teaches players how to analyse and interpret data on natural hazards to forecast future catastrophic events and how to implement tools to mitigate the effects of those disasters. <https://ssec.si.edu/disaster-detector>

Climate challenge

www.geography.org.uk

Overview:

This is a free online simulation that puts the students in the position of a leader of a European nation. They need to make decisions about their government's policies and deal with regional negotiations on carbon emissions. They need to carefully balance social, economic and environmental issues.

http://www.bbc.co.uk/sn/hottopics/climatechange/climate_challenge/

Electricity

Overview:

This is a free online game where students need to manage a city's development and use of energy. They need to balance economic and environmental considerations.

<http://www.electricity.co.nz/Game/game.aspx>

Sim Sweatshop

Overview:

This is a free online simulation where students are challenged to work in a sweat shop factory. They need to produce items and make decisions about spending their money. This is an interesting way to stimulate discussion about production of consumer items. <http://www.playfair2012.org.uk/game/>

FloodSim

Overview:

This is a free online simulation puts the player in control of flood policy in the UK for three years. Players decide how much money to spend on flood defenses, where to build houses and how to keep the public informed. But as in real life, money is limited. The player must weigh up flood risks in different regions against the potential impact on the local economy and population.

<http://playgen.com/play/floodsim/>

GeoGuessr

Overview:

This is a free online game where students are shown a google street view of a world location and they need to guess where it the world it is taken. They are given a score based on how close they are. This is a nice way to get students to observe locations and develop explanations for their potential locations. You can create your own quiz locations based on your lesson theme with a pro account. <https://geoguessr.com/maps/official>

Kahoot

Overview:

This is a free online quiz maker. You create multiple choice questions on a topic and then run a live quiz with the class. They need a computer or tablet / phone to respond in real time, competing against other members of the class. At the end you get a spreadsheet with your students' performance that you can use to identify areas of weakness. You can also play in ghost mode where students have to beat their last scores.

<https://getkahoot.com/>

Quizlet live

Overview:

This is a free tool which lets you create flashcards online. From these you can set up various quiz modes to revise the material. In addition there is the option to play the cards as a live quiz with your students. They will need to play in small teams, racing against the others to complete all the definitions correctly.

<https://quizlet.com/>

Carbon cycle pursuit game

Overview:

1. This is a board game designed to get students familiar with the carbon cycle. It also includes quiz questions which develop students' knowledge of carbon cycle terms and processes. Also designed to reinforce the understanding of human impacts on the carbon cycle.
2. There are colour coded dice that sit on the game board in each carbon store
3. Students start on the fossil fuel store.
4. Students answer a question from the pile for the store they are in.
5. If they get it right they keep the card and roll the dice to try to move to a new store.
6. To win they need to move through all 7 carbon stores
7. At the end they can discuss why some stores were easier to move from than others.
8. They can also summarise the movement of carbon through the cycle and begin to explore feedback mechanisms.

Carbon cycle game

Overview:

1. This is a simple dice game where students simulate a molecule of carbon as it moves through various stages of the carbon cycle.

2. This can be played as a kinaesthetic activity with movement around the room between the various carbon stations. Alternatively it can be played at desks with counters moving between the stores.
3. Students need to record their movements onto their record sheet.
4. At the end observe the number of carbons at each station – to illustrate the differences in carbon stores.
5. At the end students can describe the movement of carbon within the cycle.
6. They can also consider the relative timing of the movement through various locations to develop idea of residence times.