

HOW COULD SCIENCE TEACHERS USE PERSONAL GENOMES?

For Science teachers, the PGP provides an excellent example of 'Science as a Human Endeavour'.

The PGP involves everyday people who have chosen to have science and technology applied to their lives in a very personal way. This goes beyond the scientists who generate and interpret the data, and puts a human face on the science.

Where could the PGP be included?

PGP-related activities would be ideal for including in a Year 10 Genetics unit, specifically linking to:

LW3 Advances in scientific understanding often rely on developments in technology, and technological advances are often linked to scientific discoveries. (ACSHE158, ACSHE192).

How could students explore the topic?

There are many different ways students could explore the topic and apply their knowledge and understanding.

Students could research information about the PGP and imagine they are a counsellor asked to advise to someone thinking about having their genome sequenced... what would they tell them?

Working in groups, students could take on the role of different characters and give their opinion of the PGP as part of a role play e.g. someone thinking of having their genome sequenced, their child, their employer or insurer, their doctor or their partner.

Students could construct a PNI (positive, negative, interesting) chart for the PGP.

Students could discuss whether or not they would have their genome sequenced, and if so, under what conditions?

A list of medical reasons for having your genome sequenced could be compiled.

Student could be given scenarios about people finding out they have particular medical conditions, then discuss what actions or life choices they would take.

Useful resources

The PGP – what it is, how to participate, using PGP data: <http://www.personalgenomes.org>

Documentary film about the PGP: <http://thepersonalgenome.com/category/video>

The PGP 10: three video documentaries about the first people to have their genomes sequenced:

<https://www.youtube.com/watch?v=mVZI7NBgcWM>

<https://www.youtube.com/watch?v=2r9DpthvNKM>

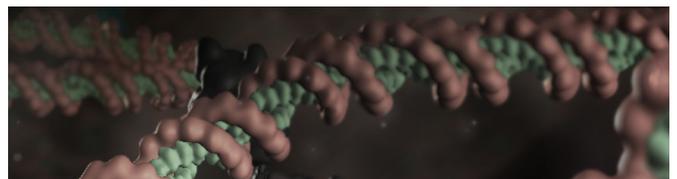
<https://www.youtube.com/watch?v=mgXAO8pv-X4>

Nova Science Now: Personal Genome Project
<https://www.youtube.com/watch?v=YbDgxZWYAZQ>

New York Times article 'My genome, My self' by Steven Pinker (one of the PGP 10): http://www.nytimes.com/2009/01/11/magazine/11Genome-t.html?_r=0

Article about potential impacts on the families of people who make their genomes public: <http://genomesunzipped.org/2010/10/why-public-genomics-is-not-a-purely-personal-decision.php>

Pioneers of Personal Genome Sequencing playlist from personalgenomes.org: <https://www.youtube.com/user/PersonalGenomesOrg/playlists>



3D exploration of DNA. Credit: K. Patterson/Garvan

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