



Pupils teach to pupils about genetics or global warming

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The idea of this project is to put pupils in a teaching situation. Classes of teenagers go to primary schools and animate a science workshop. Junior pupils are separated in small groups and they attend two different sessions in the same half-day. The whole workshop consists of 4 sessions. Each session is organized with an activity (microscope observation, counting of chromosomes, drawing of a curve, etc.) in which senior pupils coach the younger, and ends with a debate or an assessment.

The first experiment of this type of project was realized with a class of 14 to 15 year old pupils on the theme: How do your parents transmit your characteristics? The four sessions are attended in disorder but when knowledge of other sessions are necessary, senior pupils explain them at the beginning of the session. Junior pupils have a notebook to write their activities and to note their conclusions.

Session 1: What did my father give to make me?

Drawing and measuring microscopic observations of human spermatozoons.

Conclusion: my father gave a spermatozoon which measures less than one mm long, this spermatozoon met my mother's egg and it made my first cell.

Session 2: What does the program that made me look like?

Microscope observation of blood cells, identification of chromosomes in the core.

On microscope pictures, counting of chromosomes.

Conclusion: My program is in each cell of my body, inside the core. Sometimes, in this core, we can observe short sticks that are called chromosomes.

All human beings have the same number of chromosomes in their cells: 46.

Session 3: Where do my chromosomes come from?

Counting of chromosomes in spermatozoons or ovums and playing with sets of chromosomes to deduct sex of a baby.

Conclusion: Daddy gave me 23 chromosomes and mummy gave me 23 chromosomes too. My program is then constituted from half of daddy's program and half of mummy's program. My brothers and sisters also have half and half, but not the same halves!

Session 4: Where is the program that made me situated?

Virtual experiments on the first cell of rats (core transfers)

Conclusion: The program that made that a rat is itself is situated in the core of its first cell. It is called a genetic program.

Second experiment of this type of project is realized with a class of 16-17 year old pupils, on global warming for 8 to 11 year old pupils from the neighbor school. The older pupils use a teaching set created by "la main à la pâte" foundation, the set is called "le climat, ma planète et moi" (the climate, my planet and me, <http://www.fondation-lamap.org/fr/climat>). This project is to take place in March 2013.