The World: External Factors

Our World: The Community

My World: Individual

Synthetic Biology

- Scientists have been attempting to understand the basic units of life from DNA which makes up
 the genetic code to the bio molecules which make up the structure and metabolism- of a number of
 organisms ranging from simple bacteria to more complex life forms including humans.
- Certain groups have been trying to use what they have learnt to design these basic units to perform a specific job.
- Synthetic biology is a new area of biological research that attempts to combine <u>science</u> and <u>engineering</u>. It attempts to use these basic units like building blocks assembling things from scratch. For example, in the same way that new engineering parts are made to give a car different functions, scientists want to make biological 'components' to give microbes new properties.
- Work is at a very early stage and there are lots of uncertainties for instance these basic units may have more than one function or interact in ways that can't be predicted.
- Overall, the goal is to design and build new biological parts, devices or systems for different uses.
- Like any technology, the potential uses of synthetic biology may be perceived as being good or bad (or somewhere in between). It could be used to make medicines. It could be used to produce fuels. It could also be used for military purposes and for bioterrorism. There may be unforeseen or unintended consequences of use – or social and ethical issues around particular applications.
- We will be exploring these issues in more detail in the next workshops.