**3.2 PCR technique**

When DNA is found on a crime scene, it has to be copied a lot of times before you have enough to do research on. The technique used to copy DNA is called ‘polymerase chain reaction’ or in short PCR. There is a lot of information on PCR available.

In the list below you find different sources on PCR. Different students from your class each study two different sources and afterwards exchange information. Your teacher will tell you what sources you need to study. The sources we want to use here are (as you can see all these sources consist of a text and an animation on youtube):

A <http://www.ipn.uni-kiel.de/eibe/UNIT02EN.PDF> (page 16 and further) and <http://youtu.be/2KoLnIwoZKU>

B <http://en.wikipedia.org/wiki/Polymerase_chain_reaction> and <http://youtu.be/JRAA4C2OPwg>

C <http://www.dnalc.org/resources/animations/pcr.html> and <http://youtu.be/vmlLj1aLZ7s>

* Study the sources the teacher tells you to, write down a brief description of the main concepts involved in PCR.
* Discuss your findings with your fellow students who studied the same source.
  + Write with this group a summary on how PCR works.
  + Write down with this group three questions about PCR (these might be questions that can be found in your source but also questions you still have yourself).

Now you mix with other students who studied another source (and who discussed this source in a team).

* With your new group, discuss and answer the questions you had.
* Improve your summary that you wrote in the first part.
* By now, you should be able to answer the following questions.
* Make a list of the equipment and sources you need to do a PCR.
* Name two reasons why you have to use the PCR technique to make a DNA profile.
* In a certain case, starting with the source DNA, it takes twenty minutes to make a copy. Calculate how long it will take before you have 1000 copies.