

AB 6: Expert D – Acidithiobacillus

Task:

The following text on *Acidithiobacillus* won't be very easy to understand. But don't worry! Work as follows: First read the text on your own. Just try to understand what the text is about. Then talk to the other experts in German: What did they understand? You can look up some words in a dictionary, but don't get carried away, as you don't need to understand every single word! Finally, read the text together once more and answer the following questions:

- a) What do *Acidithiobacillus* feed on?
- b) How can they help to make our lives more convenient?

You may answer in English or German. Give evidence from the text (name the line you are referring to).

Acidithiobacillus

- 1 Like plants, *Acidithiobacillus* are able to produce sugar from carbon dioxide (CO₂).
In sharp contrast to them, however, they do not use light as the necessary source of
energy, but sulfides, which are high-energy compounds of sulfur. Turning those
compounds into their low-energy counterparts, delivers the energy needed to build
5 up sugar from carbon dioxide and feed *Acidithiobacillus*.
Some *Acidithiobacilli* have emerged as economically significant bacteria in the field
of bioleaching, that is the extraction of metals from their ores through the use of
living organisms. This is much cleaner than traditional methods using cyanide.
Acidithiobacillus ferrooxidans has been proven as a potent leaching organism, for
10 dissolution of metals like iron, uranium or others from their sulfide ores.

Text: S. Reitzenstein, based on en.wikipedia.org/wiki/ Acidithiobacillus, 29.07.2015

- a) What do *Acidithiobacillus* feed on?

- b) How can they help to make our lives more convenient?
