Microbiological assessment of milk

1 *Read the following text and then in turns, ask and answer the questions below.*

Several different methods are used to assess milk quality, among them the somatic cell count (SCC) and the standard plate count (SPC). Poor quality milk has a high number of somatic cells whereas high quality milk has a very low number of somatic cells, a longer shelf life, tastes better and is more nutritious. The SPC is an estimate of the total number of aerobic bacteria present in raw milk. This test is done by plating milk on a solid agar (or similar medium), incubating plates for 48 hours at 30-32 °C, followed by counting bacteria that grow on plates.

The microbiological quality of milk can be checked using either methylene blue or resazurin dyes. When the dye methylene blue or resazurin is added to milk, the bacteria present take up oxygen and change the colour of the dye: methylene blue loses its colour, resazurin changes from blue-purple to pink. The speed of the change is proportional to the number of microorganisms present (the shorter the time taken, the higher the bacterial activity).

For pasteurized milk, it is possible to ensure that pasteurization has been adequately achieved by testing for the presence of the enzyme phosphatase. The destruction of phosphatase is regarded as a reliable test to show that the milk has been sufficiently heat-processed, because this enzyme (present in raw milk) is destroyed by pasteurization conditions.

1. What / the number of somatic cells in milk / indicate?
2. What / the purpose of the standard plate count / be?
3. How / the SPC / be done / on milk?
4. What / dyes / be used / to test the microbiological quality of milk?
5. What / when these dyes / be added to milk / happen?
6. What information / the speed of the colour change / give?
7. How / the effectiveness / of pasteurization / can be tested?