

Combined Science - Biology - KS4  
Cell Biology

# Cell biology review 1

Miss Wong



# Independent practice

1. Describe the steps of how to collect cheek cells from the human cheek. (1 mark)
2. Describe how to prepare a specimen slide of human cheek cells. (3 marks)
3. Describe how to view the cheek cells in focus from a low to a high magnification. (5 marks)
4. Describe the four stages of cell cycle in detail. (6 marks)
5. Give two advantages of using adult stem cells. (2 marks)
6. Give two disadvantages of using embryonic stem cells. (2 marks)
7. Describe the process of therapeutic cloning. (4 marks)



# Answers to independent practice

1. Rub a cotton bud swab on the inner cheeks.
2. Place the cheek cells on a glass slide. Add a few drops of methylene blue. Lower the cover slip at an angle.
3. Place the specimen slide on the stage. Start with the objective lens with the lowest magnification. Use the coarse focus knob to focus the image. Switch to a higher magnification and then use the fine focus knob.
4. The cell grows bigger. Then the cell replicate its DNA. The cell prepares for mitosis. Mitosis then takes place and the chromosomes move to opposite ends of the cell. The nucleus, cytoplasm and cell membrane separates into two identical daughter cells.



# Answers to independent practice

4. It is relatively safe and it can cure some diseases, such as leukemia.

5. It involves ethical issues and it can develop into cancer or tumour.

6. The donor donates an egg cell but the nucleus is removed. The patient's body cell is collected and the nucleus is separated from the cell. The nucleus is then fused with the empty egg cell. Embryos are then formed and they are stimulated to divide.

