

Activity – Melanoma

Activity sheet A – Melanoma

Melanoma is a type of skin cancer. The main cause of melanoma is UV radiation, which damages DNA and leads to the development of cancer. The cells that become cancerous in melanoma are called **melanocytes**. They are found between the dermis and epidermis of the skin. The job of melanocytes is to make a pigment called melanin, which helps to protect the body from UV radiation. Melanin is responsible for the colour of your skin. People who are very fair skinned, especially with fair or red hair, are more at risk of developing melanoma. So are people with a lot of freckles. People with naturally darker skins have more active melanocytes, and make more of the pigment. Exposing your skin to UV radiation causes the melanocytes make more of the pigment.

- 1 a) Where does melanoma occur most commonly on:
 - i) men?
 - ii) women?
- b) Suggest reasons to explain the differences.

Use the data on the information sheet about melanoma to answer the following questions.

- 2 a) i) What was the average rate of diagnosis of melanoma in 2004?
ii) The population of the UK is approximately 60 000 000. How many people in the UK were found to have melanoma in 2004?
 - b) Draw a graph to show the incidence of melanoma for the years from 1975 to 2004.
 - c) i) Describe what the graph shows about the incidence of melanoma from 1975 to 2004.
ii) Are there any years that show anomalies (deviation or changes) from this pattern?
 - d) i) What is the difference between the incidence of melanoma for males and females?
ii) Suggest a reason for this difference.
- 3 a) Using the data on the information sheet about melanoma, draw a graph to show the age-related incidence of melanoma for 2004.
 - b) i) Describe the general trend the graph shows about the incidence of melanoma.
ii) Suggest a reason for this trend.
 - c) Which is the most common age group to be diagnosed with melanoma?
 - d) What is the average rate of incidence of melanoma for people aged between 10 and 14?
 - e) In which age group are the same number of males and females diagnosed with melanoma?
 - f) Why do you think children in the age group 0–4 don't get melanoma?