DNA AND REPRODUCTION HOMEWORK 3

Read the paragraph below and then answer the questions that follow.

Women who smoke during pregnancy have a higher risk of miscarriage than non-smokers and tend to give birth to smaller babies. Nicotine in tobacco smoke causes the blood vessels in the placenta to collapse which prevents sufficient food and oxygen reaching the baby. The baby's brain development may also be affected resulting in babies with lower intelligence.

If excessive alcohol is consumed during pregnancy the baby may be born with foetal alcohol syndrome (FAS). These babies may be mentally retarded or have defects of the heart, face and other organs. Alcohol affects the developing baby much more than an adult because the alcohol stays in the baby's blood-stream for a longer time since it is unable to break it down as quickly as an adult.

Drugs are also able to cross the placenta. In the 1960's the drug thalidomide was given to women who suffered from 'morning sickness', a common condition during pregnancy. This drug affected the development of the baby's arms and legs resulting in babies being born with missing or poorly developed limbs. Even the commonly used drug aspirin can cause problems during pregnancy by delaying labour and causing heart and lung problems in the developing baby.

German measles is a virus that can cross the placenta from the mother to the baby and have serious affects on the baby's development. However, the MMR vaccine introduced in 1969 has drastically reduced the number of cases of German measles in the human population.

1. Why must a pregnant woman be careful of what she eats and drinks?
2(a) State one way in which smoking can affect the developing baby.
(b) Which substance in tobacco causes the problems in the developing baby?
3. Foetal alcohol syndrome is caused by drinking too much alcohol during pregnancy.
(a) Why is alcohol much more toxic (poisonous) to a baby than an adult?
(b) State one way in which drinking alcohol during pregnancy might affect the baby.
4. Which part of the baby's body did the drug thalidomide affect?
5. Why were pregnant women given this drug?
6. Name a commonly used drug, mentioned in the passage, that women should not take during pregnancy.
7. How has the number of cases of German measles been reduced in the human population?