Name: _____

Class: _____

ACTIVITY SHEET

3.2 Multiple-choice questions

Answer the following multiple-choice questions.

1 In a chemical reaction between elements in nuclear waste it is possible to:

A form compounds that change the nuclei of the waste elements.

B form compounds that affect the electrons of the waste elements.

C produce new chemicals, by changing the nucleons within the waste elements.

D make the nuclear waste no longer hazardous.

2 Nuclides are species of atoms classified according to the number of:

A nucleons only.

B nucleons and energy state.

C protons and energy state.

D neutrons and energy state.

3 A pure sample of 1024 radioactive nuclides decays for 3 half-lives. The number of nuclides remaining is:

A 103

B 128

C 0.125 108

D 0.125 102 4

4 In the radioactive decay of $^{211}_{87}\text{Fr}$ an alpha-particle is emitted. The daughter nucleus is:

A $^{211}_{88}\text{Fr}$

B $^{207}_{85}\text{At}$

C $^{211}_{87}\text{Fr}$

D $^{209}_{85}\text{At}$

5 The main system/s of the body affected by severe radiation sickness are the:

A gastrointestinal tract.

B circulatory system and gastrointestinal tract.

C circulatory system, gastrointestinal tract and central nervous system.

D circulatory system, gastrointestinal tract, central nervous system and lymph system.

6 The amount of radiation received by a body is measured by:

A the activity of the source, in becquerels (Bq).

B the dose, in milligrays (mGy).

C the absorbed dose, in millisieverts (mSv).

D the quality factor times the absorbed dose, in millisieverts (mSv).