

Nuclear Decay

Activity 1: Particle Soup

Question Group 1

Question 1

Identify the type of particle being described by each statement.

A high-speed electron

A helium nucleus

The anti-particle of an electron

Question 2

Identify the type of particle being described by each statement.

The anti-particle of an electron

A high-speed electron

A helium nucleus

Question 3

Identify the type of particle being described by each statement.

A helium nucleus

The anti-particle of an electron

A high-speed electron

Question Group 2

Question 4

Match the given symbols to the type of particle it describes.



Question 5

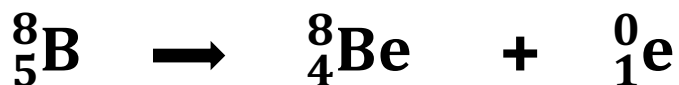
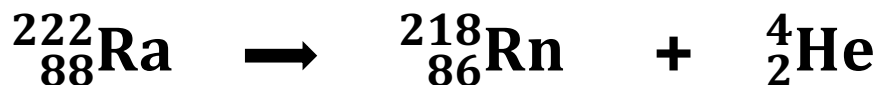
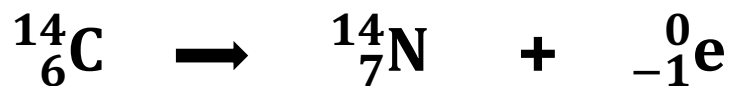
Match the given symbols to the type of particle it describes.

**Question 6**

Match the given symbols to the type of particle it describes.

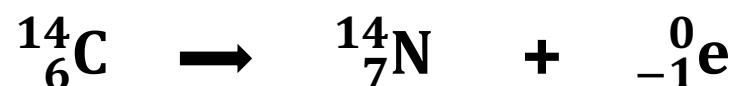
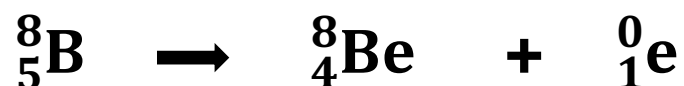
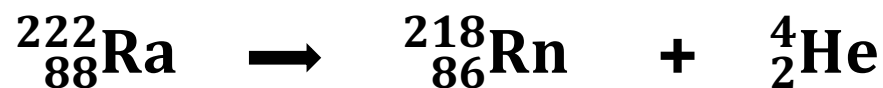
**Question Group 3****Question 7**

Identify the type of decay - alpha decay, beta decay, or positron emission - represented by each of the following processes:

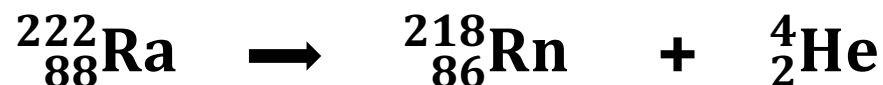
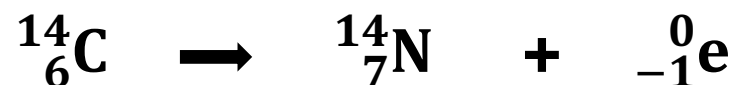
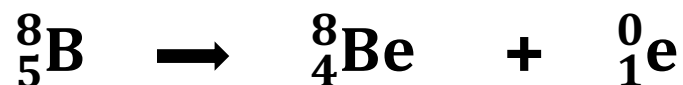


Question 8

Identify the type of decay - alpha decay, beta decay, or positron emission - represented by each of the following processes:

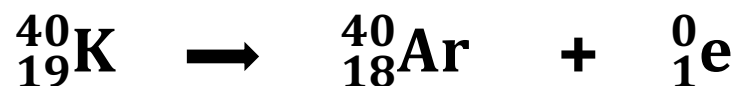
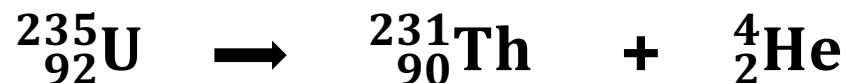
**Question 9**

Identify the type of decay - alpha decay, beta decay, or positron emission - represented by each of the following processes:

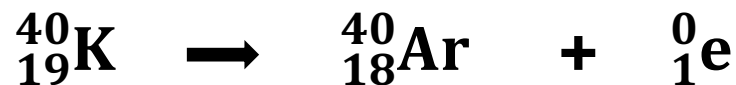
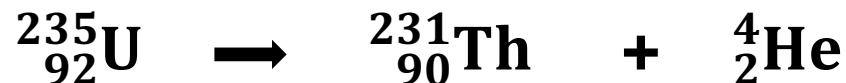


Question Group 4**Question 10**

Identify the type of decay - alpha decay, beta decay, or positron emission - represented by each of the following processes:

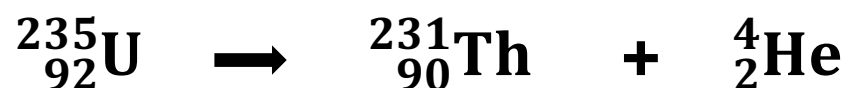
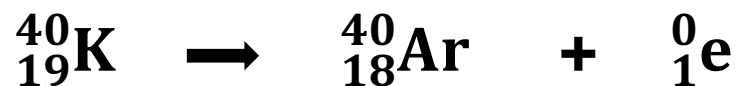
**Question 11**

Identify the type of decay - alpha decay, beta decay, or positron emission - represented by each of the following processes:

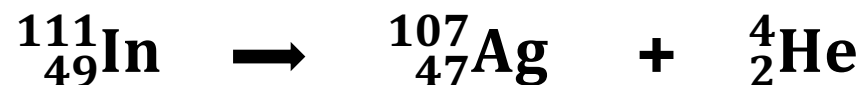
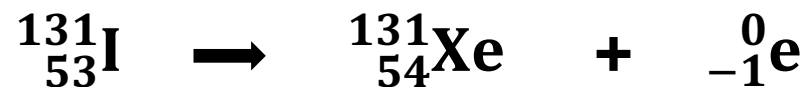


Question 12

Identify the type of decay - alpha decay, beta decay, or positron emission - represented by each of the following processes:

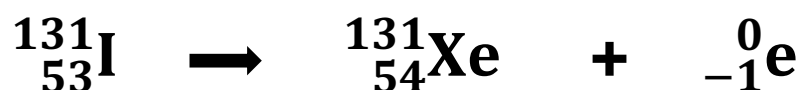
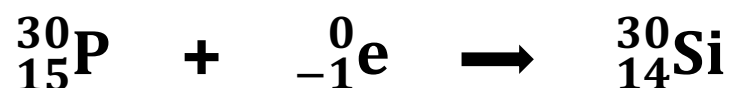
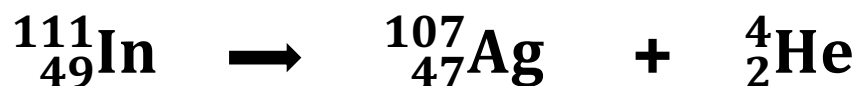
**Question Group 5****Question 13**

Identify the type of decay - alpha decay, beta decay, or electron capture - represented by each of the following processes:

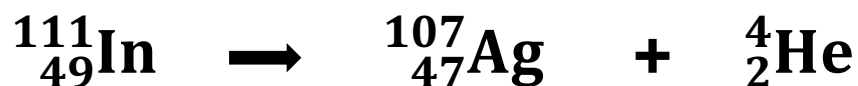
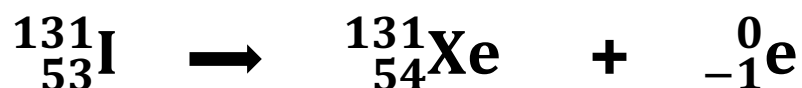
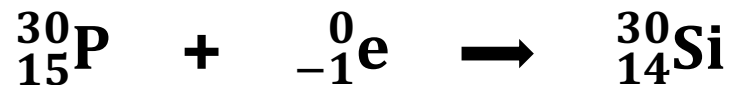


Question 14

Identify the type of decay - alpha decay, beta decay, or electron capture - represented by each of the following processes:

**Question 15**

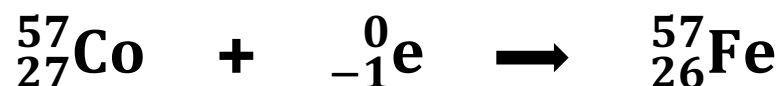
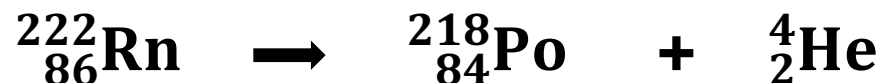
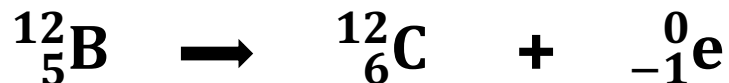
Identify the type of decay - alpha decay, beta decay, or electron capture - represented by each of the following processes:



Question Group 6

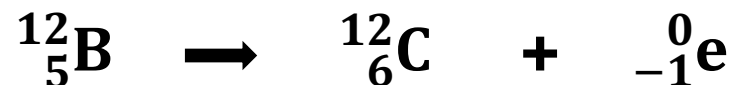
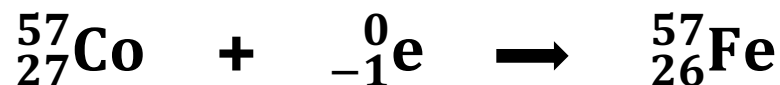
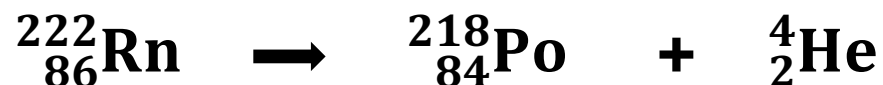
Question 16

Identify the type of decay - alpha decay, beta decay, or electron capture - represented by each of the following processes:



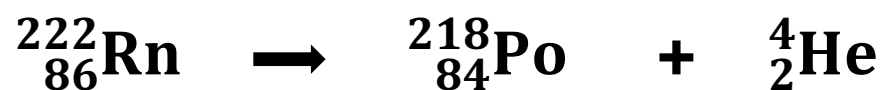
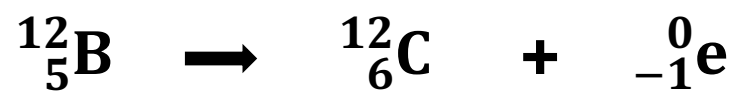
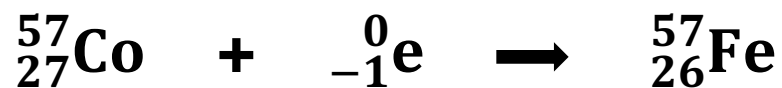
Question 17

Identify the type of decay - alpha decay, beta decay, or electron capture - represented by each of the following processes:



Question 18

Identify the type of decay - alpha decay, beta decay, or electron capture - represented by each of the following processes:

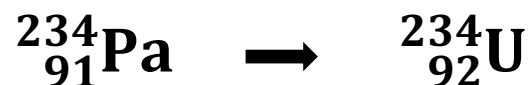


Activity 2: Decay Type

Question Group 7

Question 19

Identify the type of decay represented by the following process:



Question 20

Identify the type of decay represented by the following processes:



Question 21

Identify the type of decay represented by the following processes:



Question Group 8

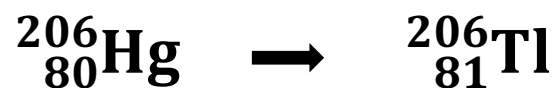
Question 22

Identify the type of decay represented by the following processes:



Question 23

Identify the type of decay represented by the following processes:

**Question 24**

Identify the type of decay represented by the following processes:

**Question Group 9****Question 25**

Identify the type of decay represented by the following processes:

**Question 26**

Identify the type of decay represented by the following processes:



Question 27

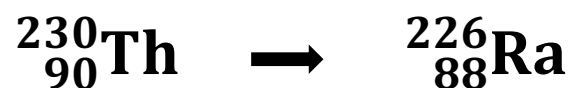
Identify the type of decay represented by the following processes:

**Question Group 10****Question 28**

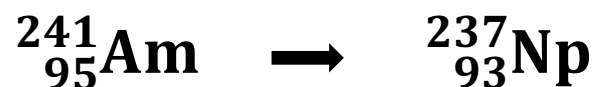
Identify the type of decay represented by the following processes:

**Question 29**

Identify the type of decay represented by the following processes:

**Question 30**

Identify the type of decay represented by the following processes:



Question Group 11

Question 31

Identify the type of decay represented by the following processes:



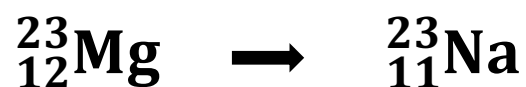
Question 32

Identify the type of decay represented by the following processes:



Question 33

Identify the type of decay represented by the following processes:



Question Group 12

Question 34

Identify the type of decay represented by the following processes:

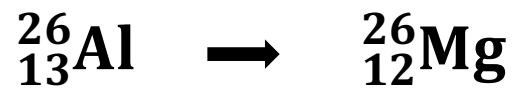


Question 35

Identify the type of decay represented by the following processes:

**Question 36**

Identify the type of decay represented by the following processes:



Activity 3: Name That Isotope

Question Group 13

Question 37

Plutonium-234 undergoes alpha decay. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.

Question 38

Americium-239 undergoes alpha decay. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.

Question 39

Neptunium-235 undergoes alpha decay. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.

Question Group 14

Question 40

Radium-210 undergoes alpha decay. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.

Question 41

Radon-200 undergoes alpha decay. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.

Question 42

Polonium-195 undergoes alpha decay. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.

Question Group 15

Question 43

Potassium-42 undergoes beta decay. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.

Question 44

Manganese-56 undergoes beta decay. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.

Question 45

Silver-108 undergoes beta decay. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.

Question Group 16**Question 46**

Tin-121 undergoes beta decay. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.

Question 47

Xenon-133 undergoes beta decay. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.

Question 48

Cesium-132 undergoes beta decay. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.

Question Group 17**Question 49**

Cesium-119 undergoes positron emission. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.

Question 50

Phosphorus-28 undergoes positron emission. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.

Question 51

Sulfur-29 undergoes positron emission. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.

Question Group 18**Question 52**

Sodium-21 undergoes electron capture. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.

Question 53

Oxygen-13 undergoes electron capture. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.

Question 54

Chlorine-31 undergoes electron capture. Identify the atomic and mass number of the product isotope by tapping on the appropriate cell of the table.