

In Class Activity – Radiometric Dating

Name _____ Name _____

Name _____ Name _____

An analysis of a zircon crystal in a rock reveals that it contains the following parent/daughter isotopes:

Parent	Daughter	
50.0% ^{238}U	50.0% ^{206}Pb	(Half-life of ^{238}U = 4,500,000,000 years)
1.6% ^{235}U	98.4% ^{207}Pb	(Half-life of ^{235}U = 713,000,000 years)

How many half-lives of ^{238}U have passed since the formation of the zircon?

How many half-lives of ^{235}U have passed since the formation of the zircon?

What is the age of the zircon according to the ^{238}U data?

What is the age of the zircon according to the ^{235}U data?

Given what we have discussed about radiometric dating, which analysis would you expect to be more reliable? Why?

In Class Activity – Radiometric Dating

Name _____ Name _____

Name _____ Name _____

An analysis of a zircon crystal in a rock reveals that it contains the following parent/daughter isotopes:

Parent	Daughter	
50.0% ^{238}U	50.0% ^{206}Pb	(Half-life of ^{238}U = 4,500,000,000 years)
1.6% ^{235}U	98.4% ^{207}Pb	(Half-life of ^{235}U = 713,000,000 years)

How many half-lives of ^{238}U have passed since the formation of the zircon?

How many half-lives of ^{235}U have passed since the formation of the zircon?

What is the age of the zircon according to the ^{238}U data?

What is the age of the zircon according to the ^{235}U data?

Given what we have discussed about radiometric dating, which analysis would you expect to be more reliable? Why?