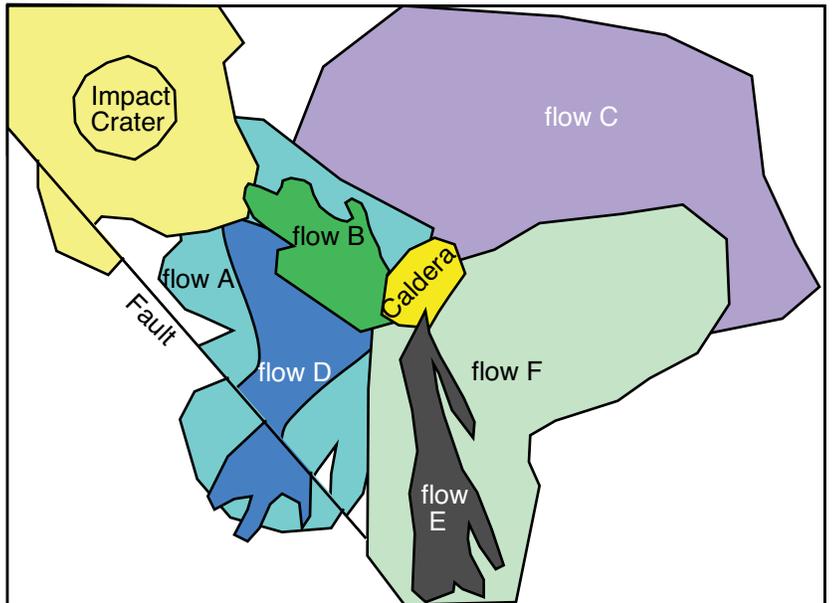


# Relative and Absolute Geologic Ages

Name: \_\_\_\_\_

## Geologic Sketch Map

This is a sketch map of several types of common planetary features. We will use crosscutting relationships and superposition relationships to decide the geologic order of events. In this image, there is a volcano with a central caldera and multiple flows, an impact crater with ejecta blanket, and a fault.



## Superposition and crosscutting

If a feature is on top of or cuts across another feature, it is younger.

## What's on top?

This is a stratigraphic decision table. For each box in the table, decide if the item in the row heading or the column heading is on top in the image. Put the name of the item stratigraphically later or on top in the box. Work through all the boxes in the left part of the table first, and then go to the far right column labeled "total # in boxes". To find the total, count all of the times you wrote each item, and then note it in the box to the right of its name. For example, there are 66 decision boxes. If you have five boxes with "Fault" written in them, then write "5" in the box just to the right of "Fault" on the right.

								Total # in boxes
	Flow A							Flow A
Flow B		Flow B						Flow B
Flow C			Flow C					Flow C
Flow D				Flow D				Flow D
Flow E					Flow E			Flow E
Flow F						Flow F		Flow F
Impact Crater							Crater	Crater
Caldera							Caldera	Caldera
Fault								fault

## Construct a Stratigraphic Column

Now, put the unit or feature name with the highest total in the top box to the right, and the lowest total in the bottom box, and the other units in order between them. This puts the youngest units or events on top, and the oldest on the bottom. If you like, color the boxes to match the unit colors on the map.


Suppose you have an absolute date for the bottom flow unit of 1.1 million years, and a date for the top flow unit of 0.1 million years. Assume the remaining units are evenly spaced in over time. (write ages next to your column at each flow) What is the average time between eruptions? \_\_\_\_\_

