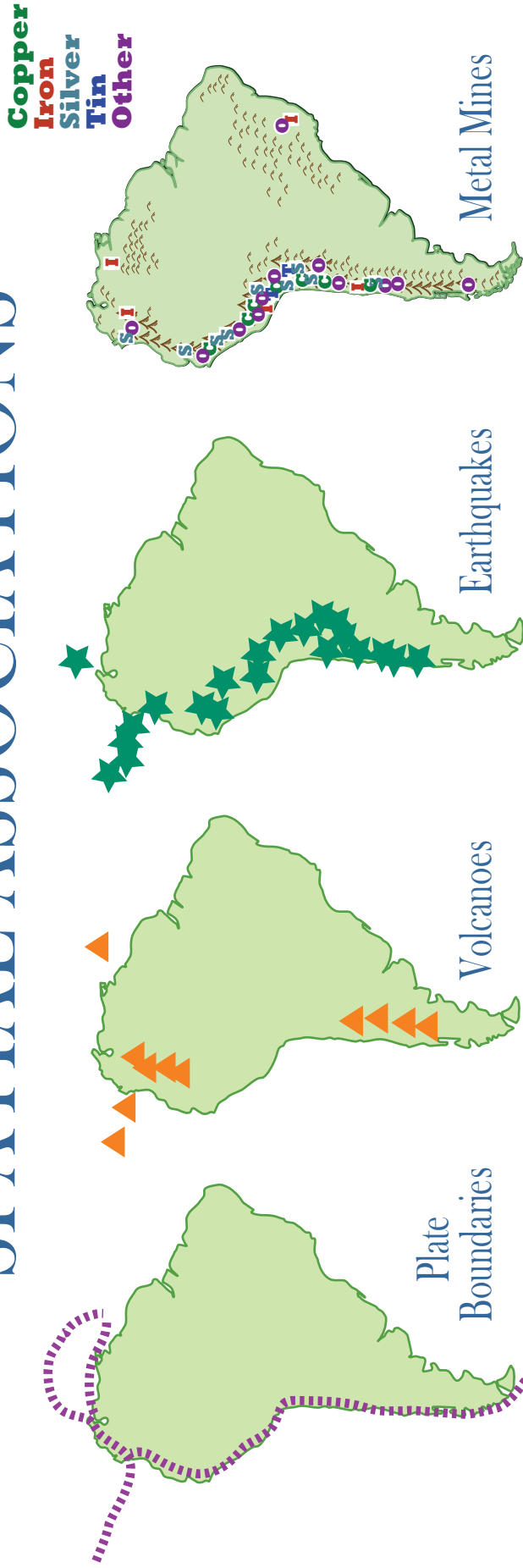


SPATIAL ASSOCIATIONS



A **spatial association** is two or more things that usually occur together in the same places, like plates and forks on a dinner table.

Spatial associations can be clues about causal connections. For example, earthquakes and volcanoes tend to be spatially associated, because they are both caused by rock movements near plate boundaries. These processes can lift and bend rock layers, which can build ranges of high mountains. The geologic forces that make mountains are also responsible for concentrating metal ores.

Knowing about spatial associations can also make it easier to remember facts about places. If two things are spatially associated, then you only have to remember one map, because the other one looks similar. (You might note where the patterns are different, because there might be reasons for them - like a local rock structure in the middle of the volcano pattern map.)

CAUTION: Association does not always mean causation. Even when it does, we must be careful when we decide which is the cause and which is the effect. For example, swimming pools are often seen in the back yards of houses where people make a lot of money, but that does not mean that building a swimming pool will automatically raise the income of people living in a house.

Sometimes, two patterns are both effects of a third cause, like the volcanoes and earthquakes in the illustration.

Sometimes, a spatial association is just accidental - pure luck!