Identify the odd one out in each of the terms given below and suggest a reason why it is the odd one out.

For example:

Crust	**Wegener**	Core	Mantle

Reason:

Wegener proposed continental drift theory. Crust, Core and Mantle are all concerned with the structure of the Earth.

Find the odd one out

Transform faults	Rift valleys	Ocean ridges	Island arcs

Reason:

San Andreas Fault	Volcanoes	North American Plate	Pacific Plate

Reason:

Benioff zone	Ocean trench	Subduction	Iceland

Reason:

Eurasian Plate	Philippine Plate	Pacific Plate	Nazca Plate
Reason:			

Cotapaxi, Chile	Himalayas	Andes	Peru/Chile Trench
Reason:			

Iceland	Japan	Indonesia	Marianas Islands
Reason:			

Mauna Loa, Hawaii	Mount Fuji, Japan	Mount Etna, Italy	Cotapaxi, Chile
Reason:			

Plinean/Pelean	Composite/Caldera	Pyroclastic flows	Basalt
Reason:			

Answers

Transform faults	**Rift valleys**	**Ocean ridges**	**Island arcs**

Reason
Island arcs are features associated with destructive boundaries. The other three features are all found at constructive boundaries.

San Andreas Fault	**Volcanoes**	**North American Plate**	**Pacific Plate**

Reason
Volcanoes are not found at conservative plate boundaries.

Benioff zone	**Ocean trench**	**Subduction**	**Iceland**

Reason
Iceland is found at a constructive boundary on the Mid Atlantic Ridge. The other three features are all associated with destructive boundaries.

Eurasian Plate	**Philippine Plate**	**Pacific Plate**	**Nazca Plate**

Reason
Eurasian is a continental plate. The other three are all oceanic plates.

Cotapaxi, Chile	**Himalayas**	**Andes**	**Peru/Chile Trench**

Reason
Himalayas formed where two continental plates are moving towards each other. The others are features of an oceanic plate (Nazca) moving towards a continental plate (South American).

Iceland	**Japan**	**Indonesia**	**Marianas Islands**

Reason
Iceland is a result of a constructive boundary. The other islands are all created by the process of subduction.

Mauna Loa, Hawaii	**Mount Fuji, Japan**	**Mount Etna, Italy**	**Cotapaxi, Chile**

Reason
A result of hotspot activity therefore lava is basaltic in nature at Mauna Loa. The other volcanoes occur at destructive boundaries and are andesitic in nature.

Plinean/Pelean	**Composite/Caldera**	**Pyroclastic flows**	**Basalt**

Reason
Basalt is associated with Icelandic/Hawaiian eruptions. Plinean/Pelean volcanoes produce composite cones/calderas and exhibit pyroclastic flows associated with acidic lava.

Extension activity

Students can use notes to create their own odd one out 'Plate boundaries' activity. This can be shared with other students in the class.