

## MACH Exam Analysis/Study Guide *(Released Sp13 MSL & Fa16 NCFE)*

Mark each question missed and then total the number missed from each unit. Then, use this as a study guide for which units and topics you should spend the most time studying for the final exam.

Sp13 MSL Question	Unit Name/Number	Topic
1	Astronomy/10	Kepler's Laws
2	Astronomy/10	Seasons
3	Astronomy/10 & Oceans/5	Tides
4	Astronomy/10 & Natural Resources/9	Nuclear Energy
5	Astronomy/10 & Plate Tectonics/2	Energy Transfer
6	Astronomy/10 & Meteorology/6	Solar Radiation
7	Plate Tectonics/2	Plate Boundaries
8	Plate Tectonics/2	Earthquakes
9	Plate Tectonics/2	Graphing P and S Waves
10	Rocks, Minerals, and Soil/3 & Oceans/5	Erosion
11	Rocks, Minerals, and Soil/3	Weathering
12	Fresh Water/4	Flood Prevention
13	Rocks, Minerals, and Soil/3	Vegetation, Soil Formation, and Erosion Control
14	Oceans/5	Beach (Re)Nourishment
15	Natural Resources/9	Fossil Fuels vs. Nuclear Energy
16	Oceans/5	Ocean Currents
17	Oceans/5	Ocean Currents
18	Rocks, Minerals, and Soil/3 & Fresh Water/4	Ground Water
19	Rocks, Minerals, and Soil/3 & Fresh Water/4	Ground Water
20	Fresh Water/4 & Ecology/8	Populations and Resources
21	Fresh Water/4 & Ecology/8	Impacts of Dams
22	Fresh Water/4 & Oceans/5	Salt Water Intrusion
23	Meteorology/6	Atmospheric Layers
24	Meteorology/6	Atmospheric Composition
25	Meteorology/6	Air Masses and Pressure
26	Meteorology/6	Air Masses and Fronts
27	Severe Weather and Climate/7	Hurricane Formation
28	Severe Weather and Climate/7	Air Pollution
29	Severe Weather and Climate/7	Ozone Layer Depletion
30	Meteorology/6 & Severe Weather and Climate/7	Climate vs. Weather
31	Ecology/8 & Natural Resources/9	Heat Islands
32	Natural Resources/9	Fossil Fuels
33	Fresh Water/4 & Oceans/5 & Ecology/8	Thermal Pollution
34	Severe Weather and Climate/7	Global Temperature Change
35	Fresh Water/4 & Ecology/8	Ecosystem Diversity
36	Ecology/8	Population Interactions
37	Ecology/8	Invasive Species
38	Ecology/8	Biodiversity
39	Ecology/8 & Natural Resources/9	Human Population Growth
40	Ecology/8 & Natural Resources/9	Carrying Capacity and Human Population Growth

Fa16 NCFE Question	Unit Name/Number	Topic
1	Rocks, Minerals, Soil/3	Weathering & Erosion
2	Natural Resources/9	Urbanization
3	Rocks, Minerals, and Soil/3	Soil & Farming Techniques
4	Oceans/5	Density Ocean Currents
5	Fresh Water/4	Groundwater
6	Fresh Water/4	Freshwater/Groundwater Pollution
7	Fresh Water/4	Freshwater Conservation
8	Severe Weather and Climate/7	Typhoons & Air Masses
9	Severe Weather and Climate/7	Chlorofluorocarbons (CFCs)
10	Astronomy/10 & Meteorology/8	Earth's Axial Rotation
11	Meteorology/6 & Natural Resources/9	Urban Heat Island Effect
12	Ecology/8 & Natural Resources/9	Deforestation & CO <sub>2</sub> Emissions
13	Ecology/8	Biodiversity
14	Astronomy/10 & Meteorology/6	Axis Tilt & Seasons
15	Ecology/8	Non-Native Species
16	Natural Resources/9	Agricultural Sustainability
17	Ecology/8 & Natural Resources/9	Non-Renewable Resources & Population Growth
18	Severe Weather and Climate/7 & Ecology/8	Ground Level Ozone & Photosynthesis
19	Plate Tectonics/2	Divergent Boundary & Continental Rift Valleys
20	Plate Tectonics/2	Volcanoes
21	Fresh Water/4 & Rocks, Minerals, and Soil/3	Water Table & Soil Permeability
22	Fresh Water/4 & Natural Resources/9	Freshwater Conservation
23	Meteorology/6 & Astronomy/10	Layers of Atmosphere & Solar Radiation
24	Ecology/8	Biotic vs Abiotic
25	Rocks, Minerals, and Soil/3	Weathering & Erosion
26	Natural Resources/9	Mining & Drilling

Student Analysis

Unit	Total Number Missed
1—Scientific Literacy	
2— Plate Tectonics	
3— Rocks, Soil, & Erosion	
4— Freshwater	
5— Oceans	
6— Atmosphere & Weather	
7— Climate & Severe Weather	
8— Ecology & Biomes	
9— Natural Resources & Sustainability	
10—Astronomy	

Rank the units in terms of what to study 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, etc. based on how many questions you missed: