IFAS LUNAR 100 OBSERVING CHALLENGE

	Feature Name	Significance	Observing Notes (including equipment and magnification)
1	Moon	Large satellite	
2	Earthshine	Twice reflected sunlight	
3	Mare/highland dichotomy	Two materials with distinct compositions	
4	Apennines	Imbrium basin rim	
5	Copernicus	Archetypal large complex crater	
6	Tycho	Large rayed crater with impact melts	
7	Altai Scarp	Nectaris basin rim	
8	Theophilus, Cyrillus, Catharina	Crater sequence illustrating stages of degradation	
9	Clavius	Lacks basin features in spite of its size	
10	Mare Crisium	Mare contained in large circular basin	
11	Aristarchus	Very bright crater with dark bands on its walls	
12	Proclus	Oblique-impact rays	
13	Gassendi	Floor-fractured crater	
14	Sinus Iridum	Very large crater with missing rim	
15	Straight Wall	Best example of a lunar fault	
16	Petavius	Crater with domed & fractured floor	
17	Schröter's Valley	Giant sinuous rille	
18	Mare Serenitatis dark edges	Distinct mare areas with different compositions	
19	Alpine Valley	Lunar graben	
20	Posidonius	Floor-fractured crater	

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	Feature Name	Significance	Observing Notes (including equipment and magnification)
21	Fracastorius	Crater with subsided & fractured floor	
22	Aristarchus Plateau	Mysterious uplifted region mantled with pyroclastics	
23	Pico	Isolated Imbrium basin-ring fragment	
24	Hyginus Rille	Rille containing rimless collapse pits	
25	Messier & Messier A	Oblique ricochet-impact pair	
26	Mare Frigoris	Arcuate mare of uncertain origin	
27	Archimedes	Large crater lacking central peak	
28	Hipparchus	First drawing of a single crater	
29	Aridaeus Rille	Long, linear graben	
30	Schiller	Possible oblique impact	
31	Taruntius	Young floor-fractured crater	
32	Arago Alpha & Beta	Volcanic domes	
33	Serpentine Ridge	Basin inner-ring segment	
34	Lacus Mortis	Strange crater with rille & ridge	
35	Triesnecker Rilles	Rille family	
36	Grimaldi basin	A small two-ring basin	
37	Bailly	Barely discernible basin	
38	Sabine & Ritter	Possible twin impacts	
39	Schickard	Crater floor with Orientale basin ejecta stripe	
40	Janssen Rille	Rare example of a highland rille	

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	Feature Name	Significance	Observing Notes (including equipment and magnification)
41	Bessel ray	Ray of uncertain origin near Bessel	
42	Marius Hills	Complex of volcanic domes & hills	
43	Wargentin	A crater filled to the rim with lava or ejecta	
44	Mersenius	Domed floor cut by secondary craters	
45	Maurolycus	Region of saturation cratering	
46	Regiomontanus central peak	Possible volcanic peak	
47	Alphonsus dark spots	Dark-halo eruptions on crater floor	
48	Cauchy region	Fault, rilles, & domes	
49	Gruithuisen Delta & Gamma	Volcanic domes formed with viscous lavas	
50	Cayley Plains	Light, smooth plains of uncertain origin	
51	Davy crater chain	Result of comet-fragment impacts	
52	Crüger	Possible volcanic caldera	
53	Lamont	Possible buried basin	
54	Hippalus Rilles	Rilles concentric to Humorum basin	
55	Baco	Unusually smooth crater floor & surrounding plains	
56	Australe basin	A partially flooded ancient basin	
57	Reiner Gamma	Conspicuous swirl & magnetic anomaly	
58	Rheita Valley	Basin secondary-crater chain	
59	Schiller-Zucchius basin	Badly degraded overlooked basin	
60	Kies Pi	Volcanic dome	

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	Feature Name	Significance	Observing Notes (including equipment and magnification)
61	Mösting A	Simple crater close to center of lunar near side	
62	Rümker	Large volcanic dome	
63	Imbrium sculpture	Basin ejecta near & overlying Boscovich & Julius Caesar	
64	Descartes	Apollo 16 landing site; putative region of highland volcanism	
65	Hortensius domes	Dome field north of Hortensius	
66	Hadley Rille	Lava channel near Apollo 15 landing site	
67	Fra Mauro formation	Apollo 14 landing site on Imbrium ejecta	
68	Flamsteed P	Proposed young volcanic crater & Surveyor 1 landing site	
69	Copernicus secondary craters	Rays & craterlets near Pytheas	
70	Humboldtianum basin	Multi-ring impact basin	
71	Sulpicius Gallus dark mantle	Ash eruptions northwest of crater	
72	Atlas dark-halo craters	Explosive volcanic pits on the floor of Atlas	
73	Smythii basin	Difficult-to-observe basin scarp & mare	
74	Copernicus H	Dark-halo impact crater	
75	Ptolemaeus B	Saucerlike depression on the floor of Ptolemaeus	
76	W. Bond	Large crater degraded by Imbrium ejecta	
77	Sirsalis Rille	Procellarum basin radial rilles	
78	Lambert R	A buried "ghost" crater	
79	Sinus Aestuum	Eastern dark-mantle volcanic deposit	
80	Orientale basin	Youngest large impact basin	

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	Feature Name	Significance	Observing Notes (including equipment and magnification)
81	Hesiodus A	Concentric crater	
82	Linné	Small crater once thought to have disappeared	
83	Plato craterlets	Crater pits at limits of detection	
84	Pitatus	Crater with concentric rilles	
85	Langrenus rays	Aged ray system	
86	Prinz Rilles	Rille system near the crater Prinz	
87	Humboldt	Crater with central peaks & dark spots	
88	Peary	Difficult-to-observe polar crater	
89	Valentine Dome	Volcanic dome	
90	Armstrong, Aldrin & Collins	Small craters near the Apollo 11 landing site	
91	De Gasparis Rilles	Area with many rilles	
92	Gylden Valley	Part of the Imbrium radial sculpture	
93	Dionysius rays	Unusual & rare dark rays	
94	Drygalski	Large south-pole region crater	
95	Procellarum basin	The Moon's biggest basin?	
96	Leibnitz Mountains	Rim of South Pole-Aitken basin	
97	Inghirami Valley	Orientale basin ejecta	
98	Imbrium lava flows	Mare lava-flow boundaries	
99	Ina	D-shaped young volcanic caldera	
100	Mare Marginis swirls	Possible magnetic field deposits	

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