

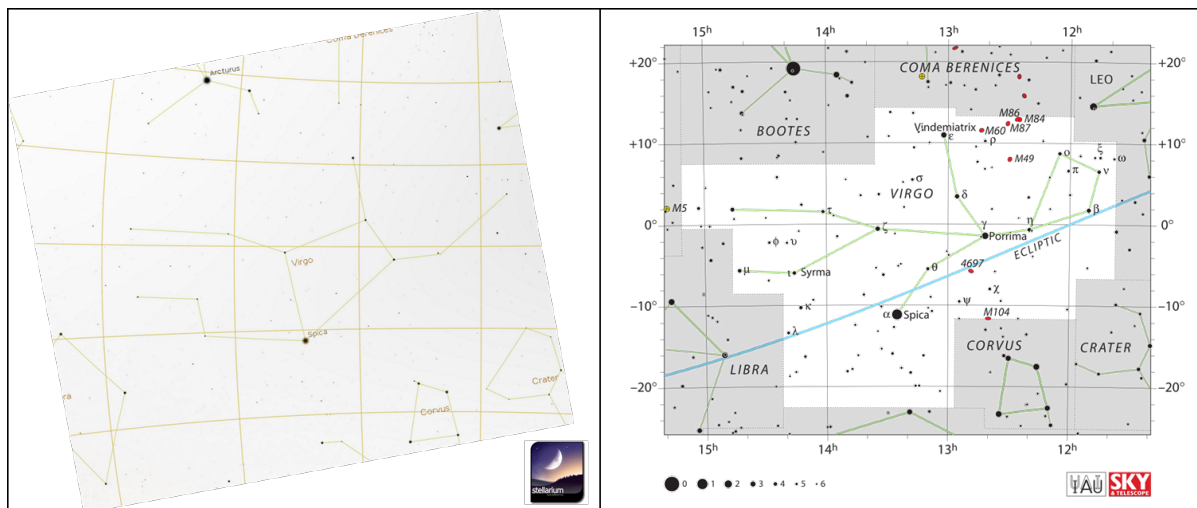
Classroom Test part 1: Navigating the night sky

Student Code number: _____ Country: _____

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Instructions:

1. You have 40 minutes in total to solve this part.
2. In this exercise, you are given two wide-field maps (around 100° wide) of the night sky, labeled as “Map 1” and “Map 2”. Map 1 is for an observer of the southern hemisphere, while Map 2 is for an observer of the northern hemisphere. The Milky Way is not depicted on the maps.
3. Write your answers on the maps themselves.
4. You will be asked questions about both of these maps. You can spend the available time as you wish between the two maps.
5. For all of the following questions, if you provide more than the requested answers, following rules will apply:
 - A. For questions 1a, 1b, 2a and 2b, there will be no penalty for one extra answer, i.e. if you are asked to mark **N** objects in any sub-question and you mark **N+1** objects.
 - B. For **each extra object** after that you will lose partial points (negative marking).
 - C. You will not receive negative marking for any wrong answers though.
6. Whenever you are asked to draw constellations on the map, you can use any common stick figure drawing depicted in atlases or planetarium softwares (such as Stellarium). We will accept all reasonable drawings, but you are advised to keep your drawing as simple and recognisable as possible. For example, it would be preferable to depict Andromeda as the two back legs of Pegasus rather than a stick figure (a person) as in the IAU maps. Below you are given an example depicting two acceptable drawings of Virgo.





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Map 1 – Southern sky:

- a) Draw stick figures for any 10 constellations on the map and write their IAU code next to them. **(10 points)**

Notes:

- In case you do not know how to draw the constellation stick figure, but do know the area in which it resides, you can still provide the IAU code of the constellation in that area. You can refer to the table given for a list of IAU codes.
- You should draw and name only those constellations that are (almost) completely visible in the map. The constellations that are partially cut-off from the map will not be accepted as valid answers.

- b) Identify any 20 stars on the map and provide either their proper name or their Bayer designation in English. **(10 points)**

Notes:

- Both proper name and Bayer name are acceptable, but you do not get extra points for knowing both.
- It is not compulsory to only choose the stars from the constellations you picked in the previous question.

- c) A very bright star is missing from the map. Mark the position of the missing star with an “x” on the map. **(2.5 points)**

Map 2 – Northern sky:

- a) Draw stick figures of any 10 constellations on the map and write their IAU code next to them (same instructions as question 1a). **(10 points)**

- b) Identify on the map 20 stars and provide either their proper name or their Bayer abbreviation in English. (same instructions as 1b). **(10 points)**

- c) A Supernova is present in the sky map. Identify and circle the same. **(2.5 points)**



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IAU Constellations List

No	Constellation	IAU code	No	Constellation	IAU code
1	Andromeda	And	45	Lacerta	Lac
2	Antlia	Ant	46	Leo	Leo
3	Apus	Aps	47	Leo Minor	LMi
4	Aquarius	Aqr	48	Lepus	Lep
5	Aquila	Aql	49	Libra	Lib
6	Ara	Ara	50	Lupus	Lup
7	Aries	Ari	51	Lynx	Lyn
8	Auriga	Aur	52	Lyra	Lyr
9	Boötes	Boo	53	Mensa	Men
10	Caelum	Cae	54	Microscopium	Mic
11	Camelopardalis	Cam	55	Monoceros	Mon
12	Cancer	Cnc	56	Musca	Mus
13	Canes Venatici	CVn	57	Norma	Nor
14	Canis Major	CMa	58	Octans	Oct
15	Canis Minor	CMi	59	Ophiuchus	Oph
16	Capricornus	Cap	60	Orion	Ori
17	Carina	Car	61	Pavo	Pav
18	Cassiopeia	Cas	62	Pegasus	Peg
19	Centaurus	Cen	63	Perseus	Per
20	Cepheus	Cep	64	Phoenix	Phe
21	Cetus	Cet	65	Pictor	Pic
22	Chamaeleon	Cha	66	Pisces	Psc
23	Circinus	Cir	67	Piscis Austrinus	PsA
24	Columba	Col	68	Puppis	Pup
25	Coma Berenices	Com	69	Pyxis	Pyx
26	Corona Australis	CrA	70	Reticulum	Ret
27	Corona Borealis	CrB	71	Sagitta	Sge
28	Corvus	Crv	72	Sagittarius	Sgr
29	Crater	Crt	73	Scorpius	Sco
30	Crux	Cru	74	Sculptor	Scl
31	Cygnus	Cyg	75	Scutum	Sct
32	Delphinus	Del	76	Serpens	Ser
33	Dorado	Dor	77	Sextans	Sex
34	Draco	Dra	78	Taurus	Tau
35	Equuleus	Equ	79	Telescopium	Tel
36	Eridanus	Eri	80	Triangulum	Tri
37	Fornax	For	81	Triangulum Australe	TrA
38	Gemini	Gem	82	Tucana	Tuc
39	Grus	Gru	83	Ursa Major	UMa
40	Hercules	Her	84	Ursa Minor	UMi
41	Horologium	Hor	85	Vela	Vel
42	Hydra	Hya	86	Virgo	Vir
43	Hydrus	Hyi	87	Volans	Vol
44	Indus	Ind	88	Vulpecula	Vul



2nd International Olympiad on Astronomy and Astrophysics Junior

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