



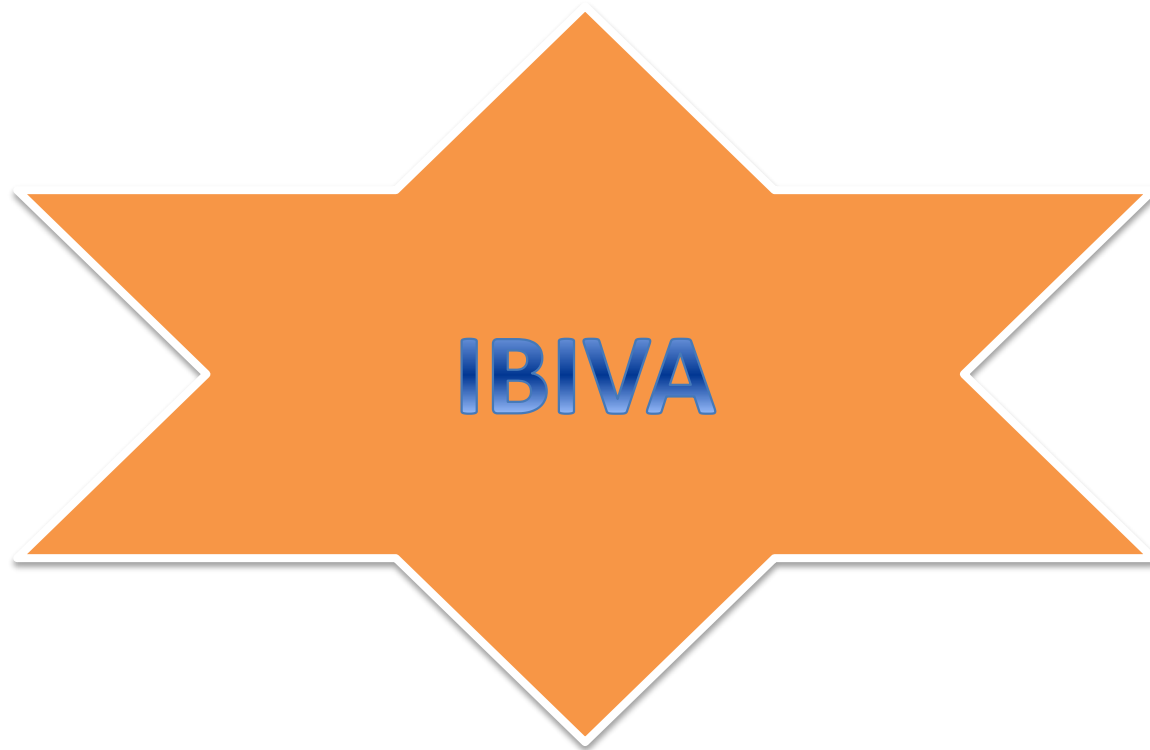
ISANZURE

ISANZURE

Ubusobanuro: Mu kirere aho Biiliya yita isanzure habamo ibintu byinshi bitandukanye, harimo ibyashyizweho n'abantu ndetse hari n'ibyashyizweho n'Imana byibera yo ku bw'ubushobozi bwayo. **Itang 1:14-19**

Mu bumenyi bw'isanzure higwa :

- Ibiva
- Sayiri cg imibumbe (planetes)
- Inyenyeri
- Imitwe y'inyenyeri (constellation)



IBIVA

❑ **Ubusobanuro:** Ibiva ni ibiremwa byaremwe n'Imana ku umunsi wa wa Kane , mu cyumweru cy'irema. **Itang 1:14-**

❑ **Umumaro:**

- gutandukanya amanywa n'ijoro.
 - Kwerekana ibihe n'iminsi , n'imyaka
- Ibiva** : Izuba n'ukwezi.

IBIVA

Izuba

Izuba ni ikiva kinini Imana yashyize mum kirere ngo gitegeke amanywa.

- Izuba riruta isi inshuro 109 kuko rifite umurambararo wa 1 390 000 km.
- Ku zuba haba ubushyuhe 6000°C
- Hagati yaryo n'isi hari 150 000 000 km
- Ku girango urumuri rwaryo rugere ku isi rukoresha 8min 18 sec

SAYELI

- ❑ Aho byakomotse: ubundi ijambo Planete riva ku ijambo ry'ikiratini Planetus ,naryo rikomoka ku ijambo ry'ikigereki"Planeta" bishatse kuvuga ikiremwa cyo mu isanzure kigenda.(astres en mouvement).
- ❑ Imibumbe cg Sayeli ni ibiremwa biba mu isanzure ,bikaba bizengurutse izuba , bikaba biba mu kirere nta kiyifashe ,mbese ninkuko washyira umupira(ballon) mu kirere. Bishatse kuvuga ko bibayo ku bw'imbaraga z'Imana.
- ❑ **IBIGENDERWAHO BEMEZA SAYELI.**
 - Bigomba kugira uburemere: 5×10^{20} kg
 - Umurambararo wa : **800 km**
 - Bitagira urumuri rwabyo bwite(**bidakora réactions thermonucléaires**)
 - Bigomba kuba bizenguruka izuba cg inyenyeri.

AHO SAYELI ITANDUKANIRA N'INYENYERI

SAYELI

- ✓ Nta imurika
- ✓ Zigizwe n'ubutaka buba muri diske (l'agrégation de poussières dans un disque)
- ✓ ziragenda.
- ✓ Bimurika urumuri bikomora ku izuba.

INYENYERI

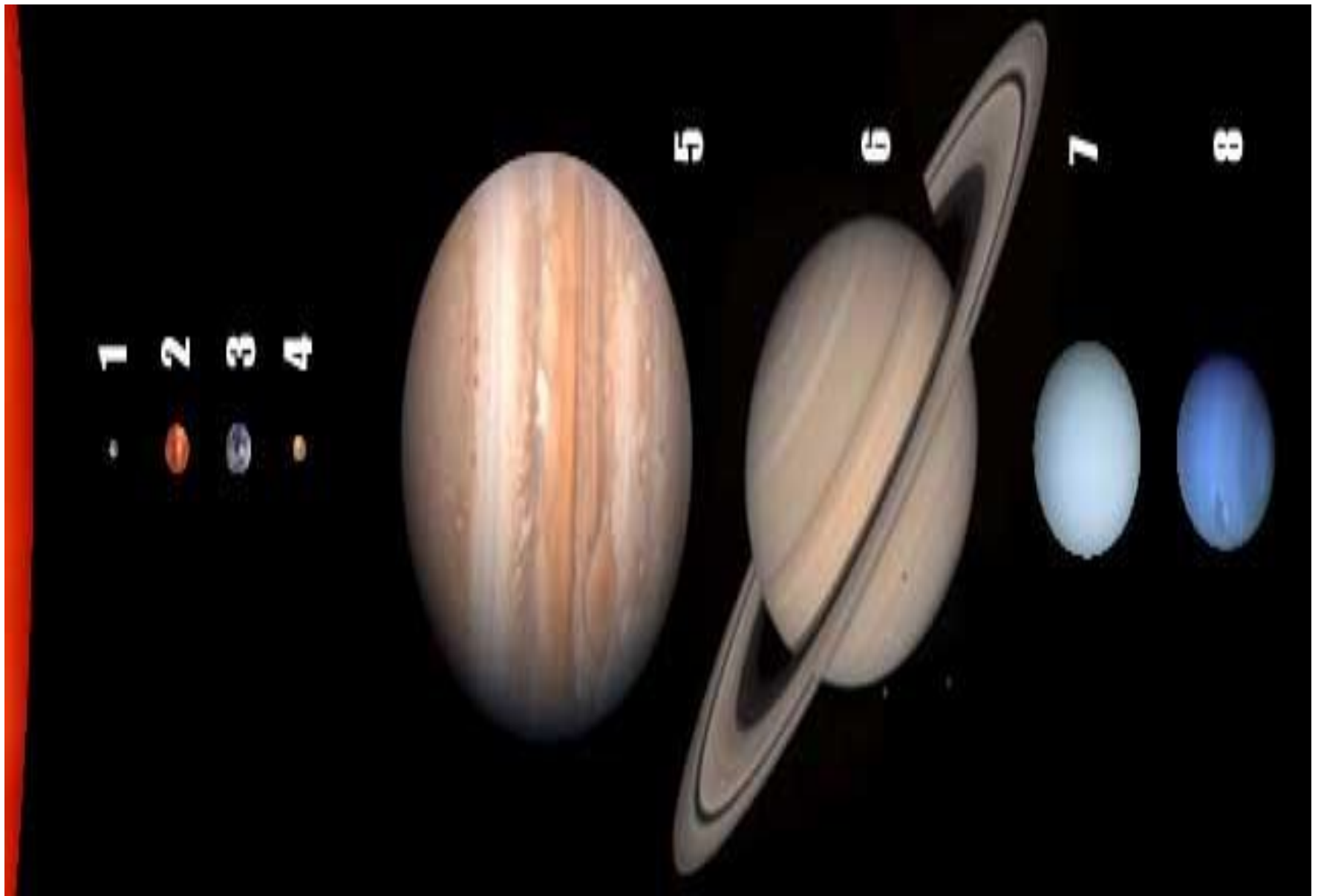
- ✓ Iramurika
- ✓ Zikozwe mu ishusho ya sphere ibamwo umwuka.
- ✓ Ntizigenda
- ✓ Zimurika urumuri rwazo bwite.

SAYELI

❑ Kugeza ubu sayeli zizwi ni 8:

1. [Mercure](#) (symbole ♿)
2. [Vénus](#) (♀)
3. [Terre](#) (⊕/♁)
4. [Mars](#) (♂)
5. [Jupiter](#) (♃)
6. [Saturne](#) (♄)
7. [Uranus](#) (♅)
8. [Neptune](#) (♆)

❑ **N B: Mu 2003: abahanga bavuze ko bavumbuye umubumbe mushya maze bawita SEDNA . Ariko nanone mu 2006 National Academy of Sciences Americaine , baza kuvuga ko atari umubumbe.**



IMITERERE YA SEYILI

Nº	Nom	Diamètre équatorial	<u>Période de révolution</u> (années)	<u>Atmosphère</u>
1	Mercure	0.382	0.24	<u>négligeable</u>
2	<u>Vénus</u>	0.949	0.62	<u>CO₂</u> , <u>N₂</u>
3	<u>Terre</u>	1.00	1.00	N ₂ , <u>O₂</u>
4	<u>Mars</u>	0.532	1.88	CO ₂ , N ₂
5	<u>Jupiter</u>	11.209	11.86	<u>H₂</u> , <u>He</u>
6	<u>Saturne</u>	9.449	29.46	H ₂ , He
7	<u>Uranus</u>	4.007	84.01	H ₂ , He
8	<u>Neptune</u>	3.883	164.8	H ₂ , He



INYENYERI

INYENYERI

❑ Amasomo:

- Yobu 38:31-32
- Amosi 5:8
- Daniel 12:3

❑ **Ubusobanuro:** inyenyeri ni ibiremwa byo mu isanzure bitangaje, bikaba byararemewe ku murika ndetse n'indi mimaro itandukanye:

❑ Umugambi wo kwiga inyenyeri:

- Kwiyo bora no kuyobora abandi. **Mat 2:1-2**
- Bituma tumenya ubushobozi bw'Imana butagira icyo twabugereranya: **Yob 38:31-32 ; Amos 5:8**
- Bidufasha gusobanukirwa n'ubwiza, urukundo, ugutungana, n'ubuhanga bw'Imana.

AMOKO Y'AMABARA Y'INYENYERI

- ❑ Ubusanzwe zigaraga mu mabara atandukanye. Ariko nane bitewe ni uko aho ziri ari kure cyane uvuye ku isi dutuye, bibabigoye kuzirebesha amaso , maze ngo umenye ibara ryayo bwite. Gusa ayiganje kuruta ayandi ni atatu. ariyo:
 - ❖ **Umweru ujya kuba ubururu.**
 - Eg: Rigel
 - ❖ **Umweru ujya kuba umuhondo: inyenyeri zo ku mpera y'isi (Etoile polaires).**
 - ❖ **Umweru ujya gutukura.**
 - Eg: Antares (Scorpion).

UBURYO KUREMWA KW'INYENYERI GUTANGAJE.

- ✓ Inyenyeri ya Riger yo mu mutwe wa Orion iruta izuba inshuro 20.000 ikarirutisha kubonesha 3.600
- ✓ Beltegieuse ni nini (umurambararo) kandi irikure y'isi cyane, hagati yayo n'isi harimo annee lumiere $300 \cdot (300 \cdot 10\,000\,000 \cdot 1000\,000\text{ km}) = 3\,000\,000\,000\,000\,000\text{ km}$.
- ✓ Inyenyeri yegereye cyane isi dutuyemo kurusha izindi ni Proxima centouree iri kuri 4.2 annee lumiere.
- ✓ Mu gihe cy'umwuzure Satan yahungiyemo mu nyenyeri, yitwa Kirimiya.
- ✓ Yesu asubiye mu ijuru yanyuze mu mutwe w'inyenyeri witwa Orion, mu nyenyeli yitwa Beltegieuse.
- ✓ Inyenyeri nto ni Episilor (Eridan) kuva aho iri uza ku isis hari 10.5 Annee lumiere.
- ✓ Inyenyeri ibonesha kurusha izindi ni SIRIUS

INYENYELI ZEGEREYE ISI KURUSHA IZINDI.

Nº	1. Common Name	Scientific Name	Distance (light years)	Apparent Magnitude	Absolute Magnitude	Spectral Type
1	Proxima Centauri	V645 Cen	4.2	11.05 (var.)	15.5	M5.5Vc
2	Rigel Kentaurus	Alpha Cen A	4.3	-0.01	4.4	G2V
3		Alpha Cen B	4.3	1.33	5.7	K1V
4	Barnard's Star		6.0	9.54	13.2	M3.8V
5	Wolf 359	CN Leo	7.7	13.53 (var.)	16.7	M5.8Vc
6		BD +36 2147	8.2	7.50	10.5	M2.1Vc
7	Luyten 726-8A	UV Cet A	8.4	12.52 (var.)	15.5	M5.6Vc
8						

INYENYELI ZEGEREYE ISI KURUSHA IZINDI

9		<u>Cet</u>				
10	<u>Sirius</u> A	Alpha <u>CMa</u> A	8.6	-1.46	1.4	A1Vm
11	<u>Sirius</u> B	Alpha <u>CMa</u> B	8.6	8.3	11.2	DA
12	Ross 154		9.4	10.45	13.1	M3.6Vc
13	Ross 248		10.4	12.29	14.8	M4.9Vc
14		Epsilon <u>Eri</u>	10.8	3.73	6.1	K2Vc
15	Ross 128		10.9	11.10	13.5	M4.1V
16		61 <u>Cyg</u> A (V1803 <u>Cyg</u>)	11.1	5.2 (var.)	7.6	K3.5Vc
17		61 <u>Cyg</u> B	11.1	6.03	8.4	K4.7Vc
18		Epsilon <u>Ind</u>	11.2	4.68	7.0	K3Vc

19						
20		BD +43 44 B	11.2	11.06	13.4	M3.8Vc
21	Luyten 789-6		11.2	12.18	14.5	
22	Procyon A	Alpha CMi A	11.4	0.38	2.6	F5IV-V
23	Procyon B	Alpha CMi B	11.4	10.7	13.0	DF
24		BD +59 1915 A	11.6	8.90	11.2	M3.0V
25		BD +59 1915 B	11.6	9.69	11.9	M3.5V
26		CoD -36 15693	11.7	7.35	9.6	M1.3Vc

UKUBONESHA KW'INYENYERI

No	Common Name	Scientific Name	Distance (light years)	Apparent Magnitude	Absolute Magnitude
1	Sirius	Alpha CMa	8.6	-1.46	1.4
2	Canopus	Alpha Car	74	-0.72	-2.5
3	RigilKentaurus	Alpha Cen	4.3	-0.27	4.4
4	Arcturus	Alpha Boo	34	-0.04	0.2
5	Vega	Alpha Lyr	25	0.03	0.6
6	Capella	Alpha Aur	41	0.08	0.4
7	Rigel	Beta Ori	~1400	0.12	-8.1
8	Procyon	Alpha CMi	11.4	0.38	2.6
9	Achernar	Alpha Eri	69	0.46	-1.3

10	Betelgeuse	Alpha Ori	~1400	0.50 (var.)	-7.2	M2Iab
11	Hadar	Beta Cen	320	0.61 (var.)	-4.4	B1III
12	Acrux	Alpha Cru	510	0.76	-4.6	B0.5Iv + B1Vn
13	Altair	Alpha Aql	16	0.77	2.3	A7Vn
14	Aldebaran	Alpha Tau	60	0.85 (var.)	-0.3	K5III
15	Antares	Alpha Sco	~520	0.96 (var.)	-5.2	M1.5Iab
16	Spica	Alpha Vir	220	0.98 (var.)	-3.2	B1V
17	Pollux	Beta Gem	40	1.14	0.7	K0IIIb
18	Fomalhaut	Alpha PsA	22	1.16	2.0	A3Va
19	Becrux	Beta Cru	460	1.25 (var.)	-4.7	B0.5III

IMITWE Y'INYENYERI

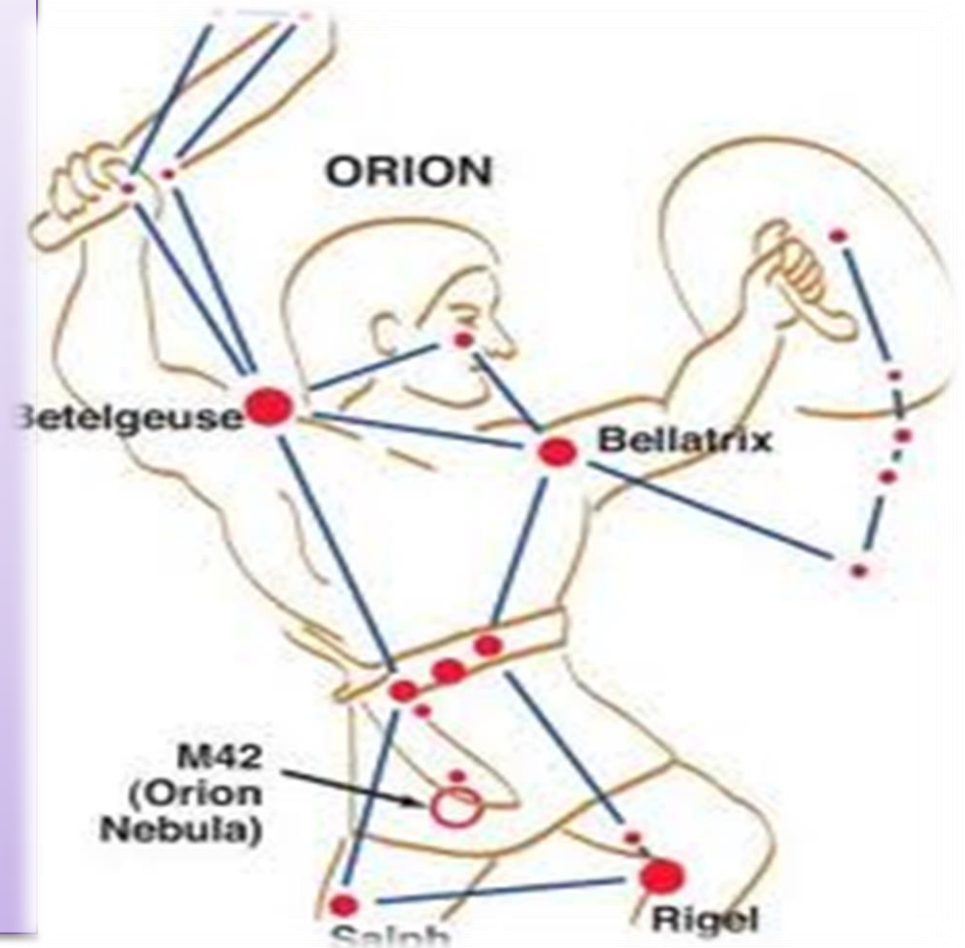
- ❑ **Ubusobanuro:** bavuga umutwe w'inyenyeri (constellation), mu gihe inyenyeri zibumbiye hamwe, maze zikaba zifite ishusho runaka .aho ishobora kuba ishusho y'inyamazwa; ibinyampande ndetse n'ibindi. Ikindi kandi zigomba kuba zarahawe izina n'abahanga, zikaba zifite izina rizwi.
- ❑ kugeza ubu , imitwe y'inyenyeri izwi ni 88. dore amazina yazo:

1. <u>Andromeda</u>	<u>s</u>	32. <u>Delphinus</u>	51. <u>Lynx</u>	68. <u>Puppis</u>	85. <u>Vela</u>
2. <u>Antlia</u>	17. <u>Carina</u>	33. <u>Dorado</u>	52. <u>Lyra</u>	69. <u>Pyxis</u>	86. <u>Virgo</u>
3. <u>Apus</u>	18. <u>Cassiopeia</u>	34. <u>Draco</u>	53. <u>Mensa</u>	70. <u>Reticulum</u>	87. <u>Volans</u>
4. <u>Aquarius</u>	19. <u>Centaurus</u>	35. <u>Equuleus</u>	54. <u>Microscopi</u>	71. <u>Sagitta</u>	88. <u>Vulpecula</u>
5. <u>Aquila</u>	20. <u>Cepheus</u>	36. <u>Eridanus</u>	<u>um</u>	72. <u>Sagittarius</u>	
6. <u>Ara</u>	21. <u>Cetus</u>	37. <u>Fornax</u>	55. <u>Monoceros</u>	73. <u>Scorpius</u>	
7. <u>Aries</u>	22. <u>Chamaeleo</u>	38. <u>Gemini</u>	56. <u>Musca</u>	74. <u>Sculptor</u>	
8. <u>Auriga</u>	<u>n</u>	39. <u>Grus</u>	57. <u>Norma</u>	75. <u>Scutum</u>	
9. <u>Boötes</u>	23. <u>Circinus</u>	40. <u>Hercules</u>	58. <u>Octans</u>	76. <u>Serpens</u>	
10. <u>Caelum</u>	24. <u>Columba</u>	41. <u>Horologium</u>	59. <u>Ophiuchus</u>	77. <u>Sextans</u>	
11. <u>Camelopardalis</u>	25. <u>Coma Berenices</u>	42. <u>Hydra</u>	60. <u>Orion</u>	78. <u>Taurus</u>	
12. <u>Cancer</u>	26. <u>Corona Austrina</u>	43. <u>Hydrus</u>	61. <u>Pavo</u>	79. <u>Telescopium</u>	
13. <u>Canes Venatici</u>	27. <u>Corona Borealis</u>	44. <u>Indus</u>	62. <u>Pegasus</u>	<u>m</u>	80. <u>Triangulum</u>
14. <u>Canis Major</u>	28. <u>Corvus</u>	45. <u>Lacerta</u>	63. <u>Perseus</u>	81. <u>Triangulum Australe</u>	
15. <u>Canis Minor</u>	29. <u>Crater</u>	46. <u>Leo</u>	64. <u>Phoenix</u>	82. <u>Tucana</u>	
	30. <u>Crux</u>	47. <u>Leo Minor</u>	65. <u>Pictor</u>	83. <u>Ursa Major</u>	
16. <u>Capricornu</u>	31. <u>Cygnus</u>	48. <u>Lepus</u>	66. <u>Pisces</u>	84. <u>Ursa Minor</u>	
		49. <u>Libra</u>	67. <u>Piscis Austrinus</u>		
		50. <u>Lupus</u>			

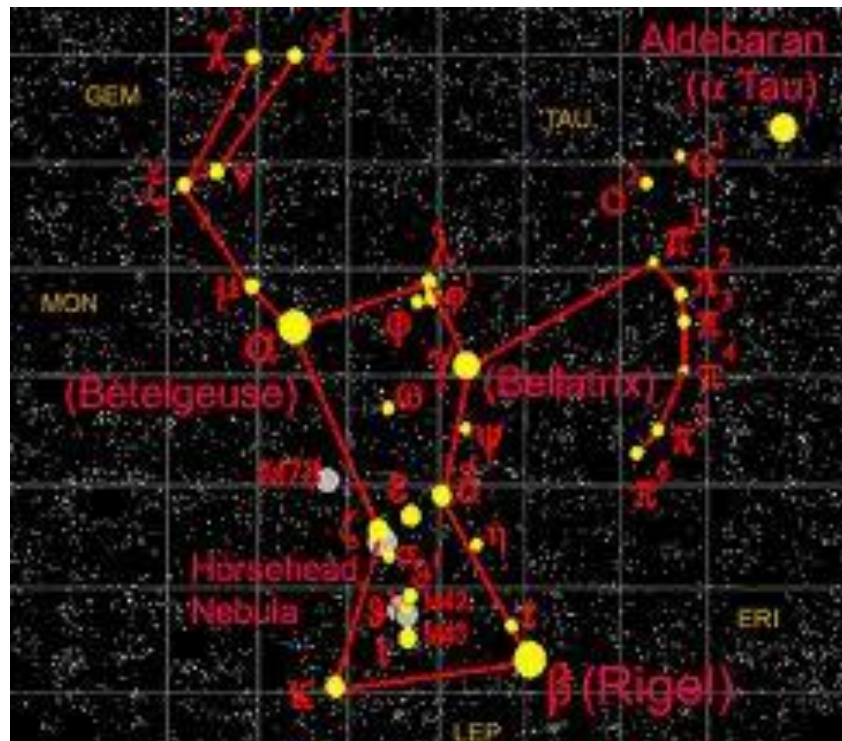
IMWE MU MITWE Y'INYENYELI

❑ ORION:

- Igizwe ni inyenyeri 3 zikurikiranye ku murongo ugororotse.
- Zifite ishusho yihariye. Umusirikare uri ku Rugamba, ufite :
 - ✓ Ingabo
 - ✓ Inkota
 - ✓ Umukandara
 - ✓ icyuma gikingira igituza.
 - ✓ N'indi...
- **Yesu asubiye mu ijuru yanyuze muri uyu mutwe w'inyenyeri. anyura mu nyenyeri yitwa Betelgeuse.**

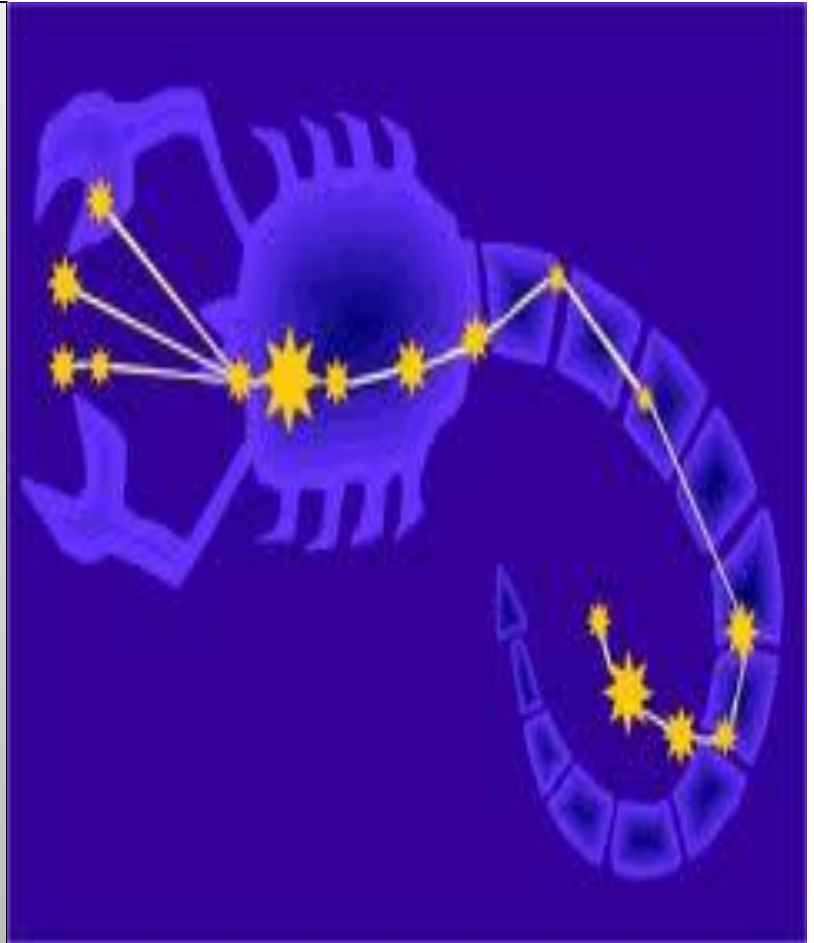


ORION

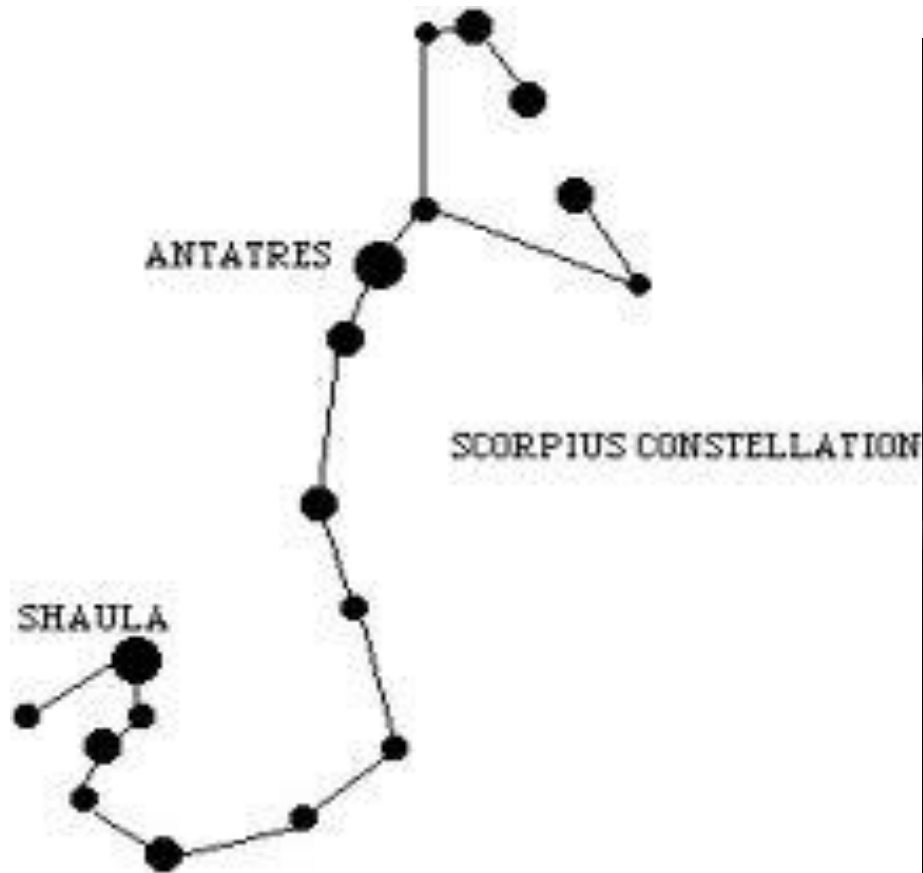


SCORPION

- Nkukom izina ryayo riri. Ni umtwe w'inyenyeri ufite ishusho nk'iyi **Indyanishamurizo(Scorpio)**.



SCORPION



VIRGO

- Yiswe Virgo, aribyo bisobanura Umwari cyangwa mu ndimi z'amahanga **Vierge**. Kubera ishusho yazo, aho zikora ishusho y'umukobwa

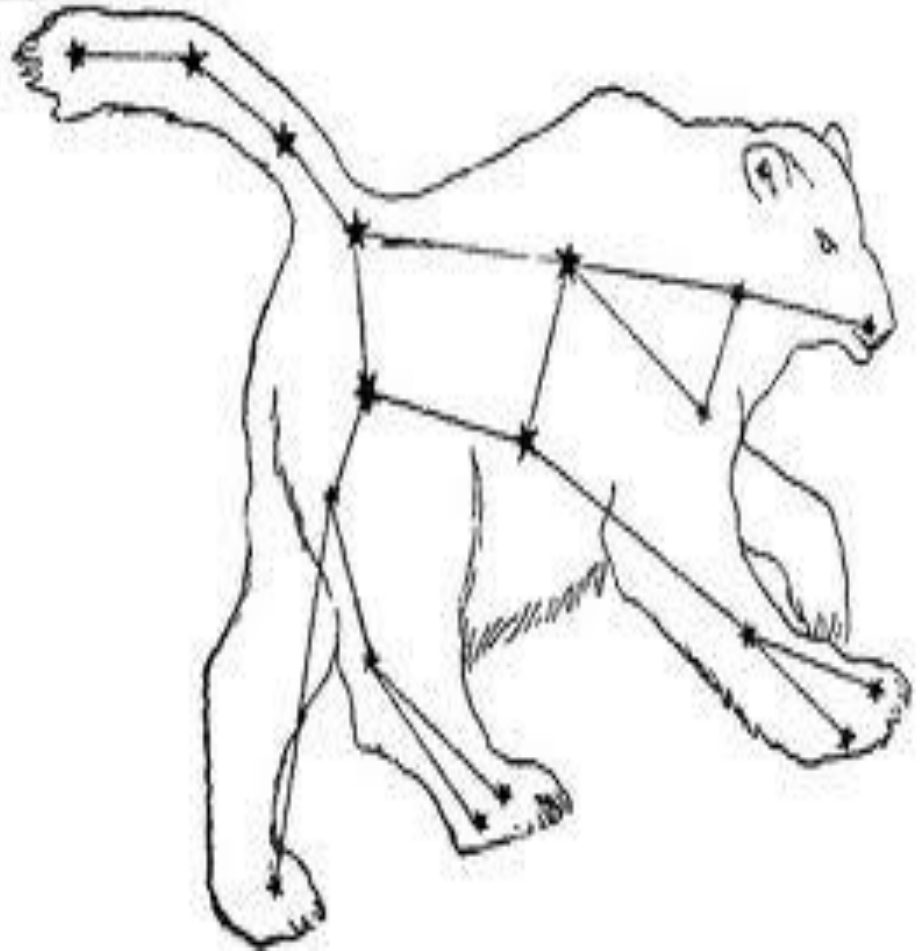


VIRGO.



URSA MAJOR

- Ursa ubundi bivuga ikirura.Ni ukuvuga ko uyumtwe wo ukora ishushio y'**ikirura**.



Ursa major

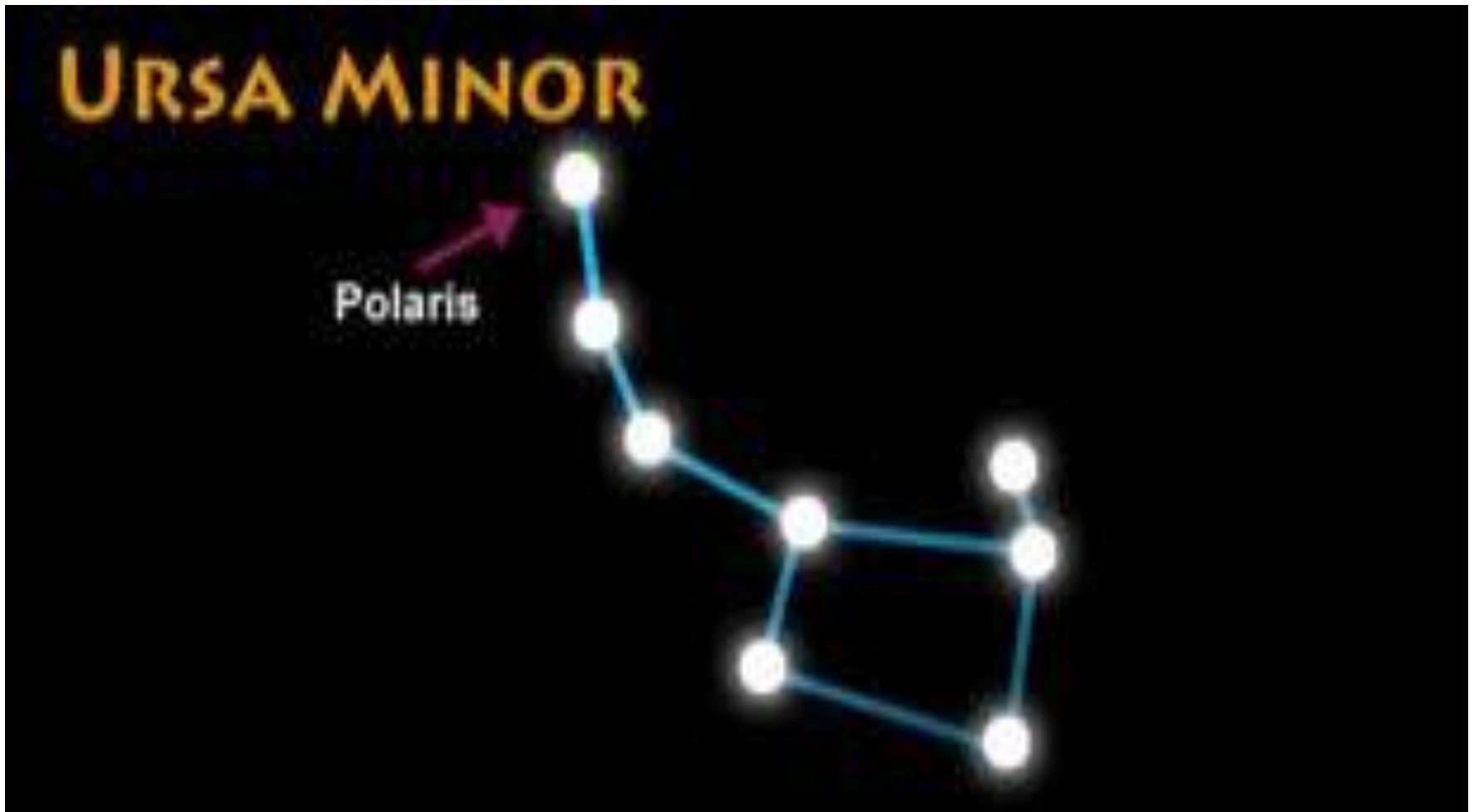


URSA MINOR

- Bayita gutyo ku bw'uko ikora ishusho ry'**ikirura gito**.



URSA MINOR

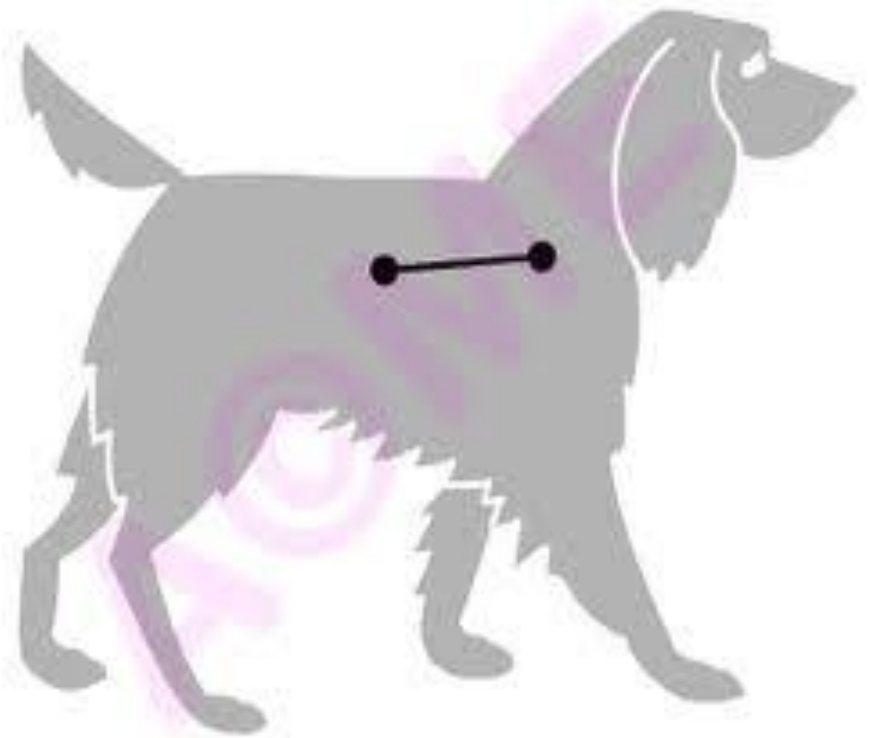


ANDROMEDA



CANIS MINOR

- Uyu mutwe w'inyenyeri,wo bawitirira ishusho yayo imeze nk'**imbwa nto**

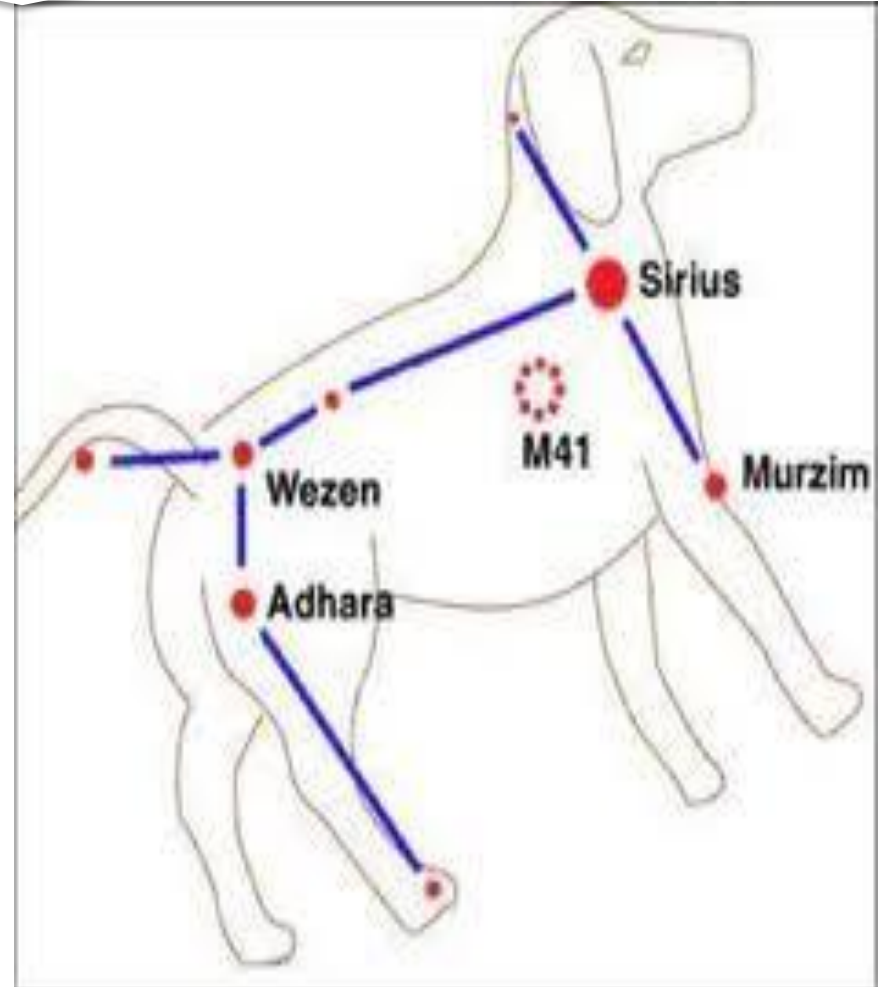


CANIS MINOR

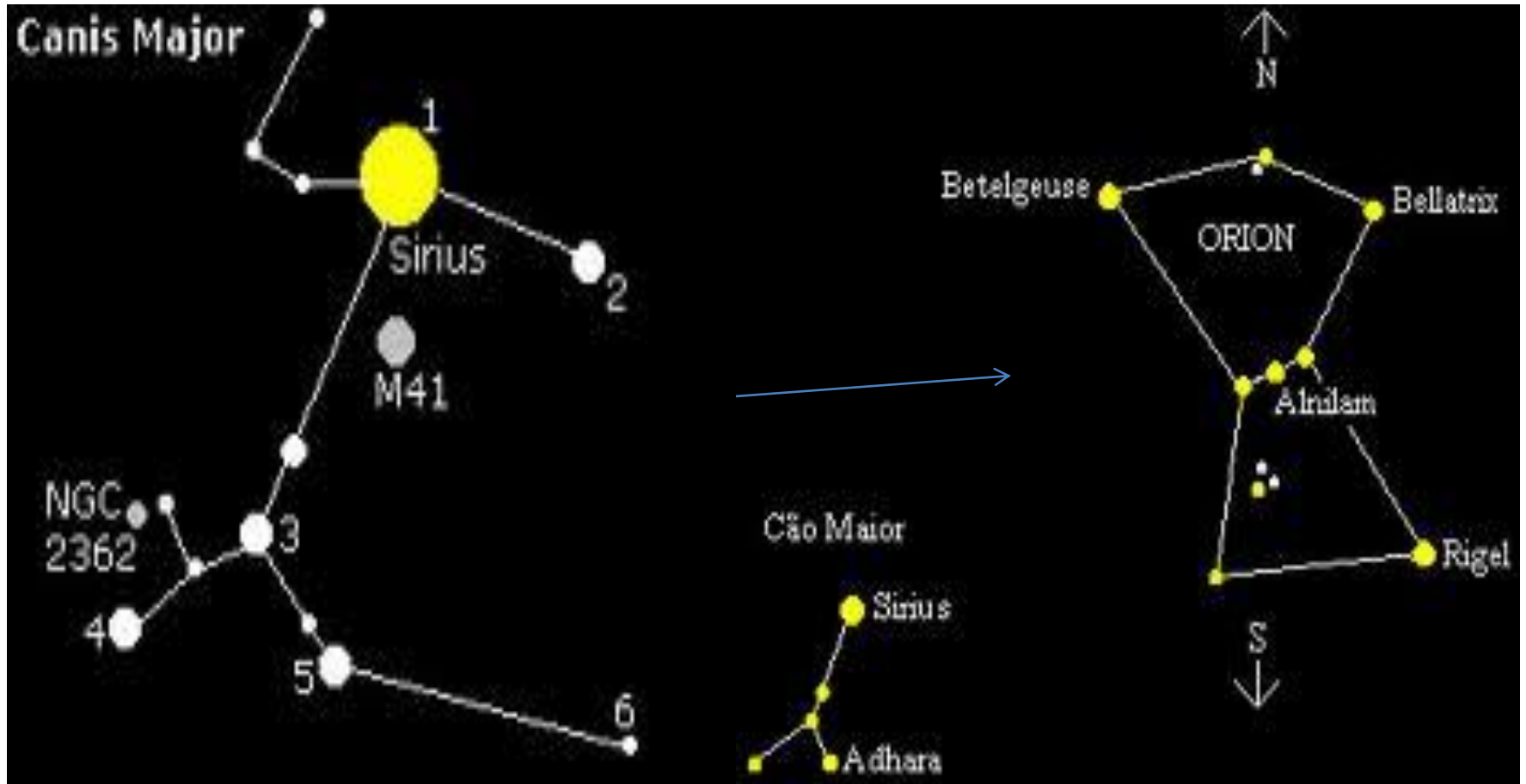


CANIS MAJOR

- ✓ Uyu mutwe ufite ishusho, y'imbwa, akaba ari nayo mpamvu wiswe kuriya “ **imbwa nini**”
- ✓ *Niwo mutwe w'inyenyeri ubonesha kuruta iy'indi.*

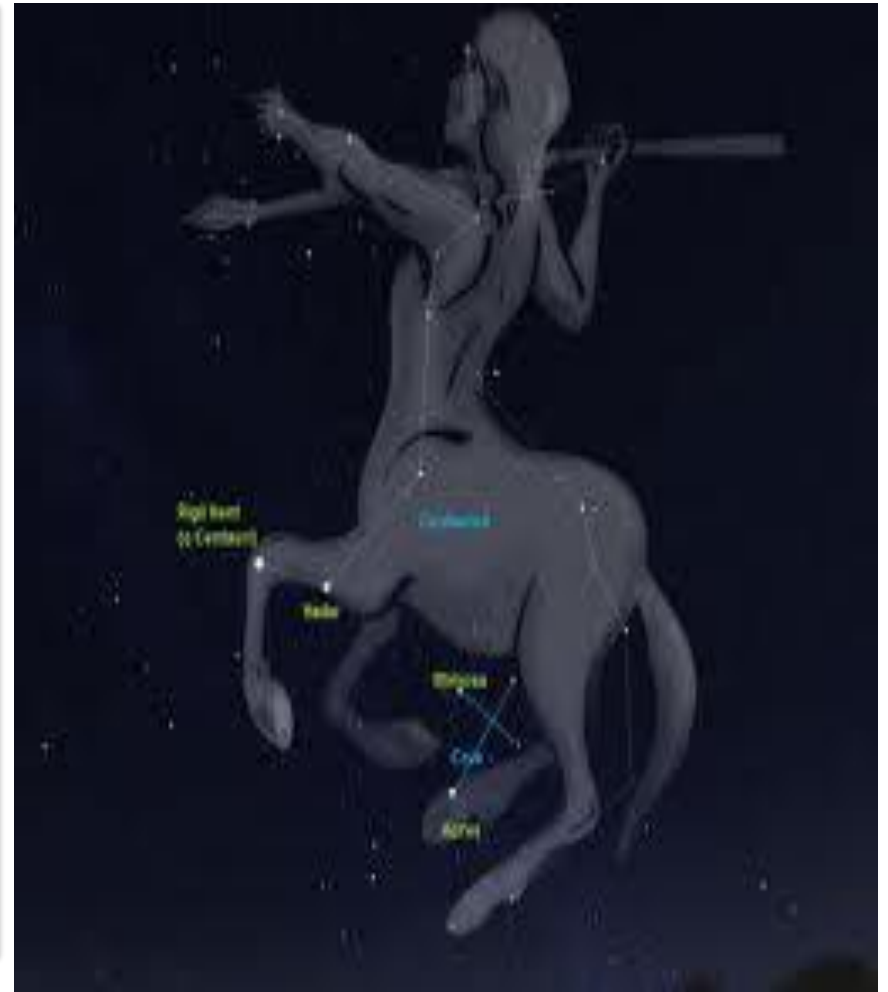


CANIS MAJOR

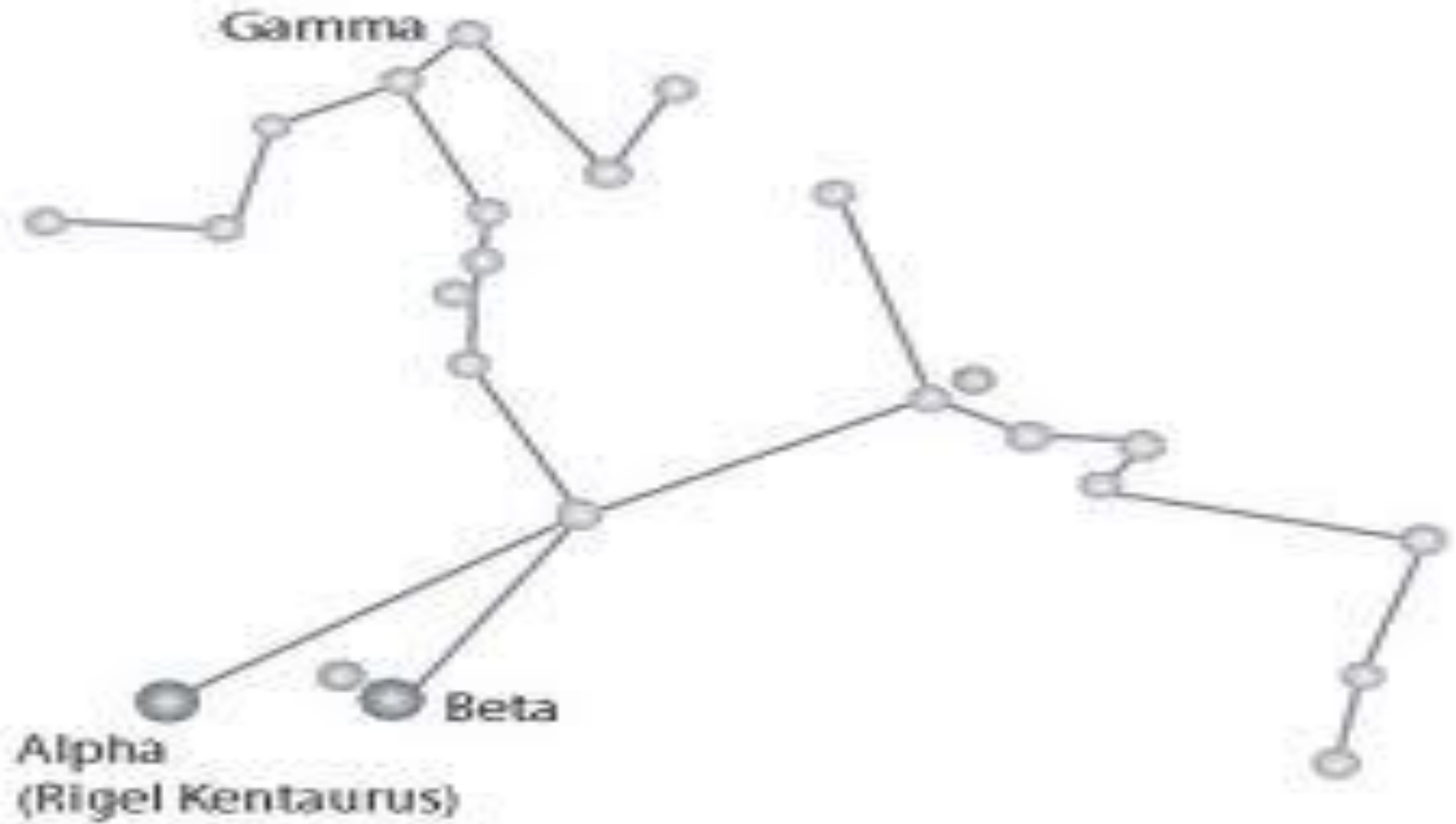


CENTAURIS

- Ifite ishusho idasanzwe. Aho ifite ishusho y'murwanyi uri ku ifarashi.



CENTAURIS





**SINGIZA IMANA
RUREMA**

References:

- Yobu 38:31-32
- Amosi 5: 8
- Daniel 12:3
- www.enwikipedia.org
- www.google.com
- AGAKIZA N' UMURIMO(GATSIMBANYI Aimable)

Byateguwe na:

- ✓ SEGATAMA Frobert
- ✓ Umunyeshuri muri Kigali Health Institute(KHI)
- ✓ Tél : 0727279270 / 0788778734
- ✓ E-mail:
Frobert2000@yahoo.fr
- ✓ 30 jan 2013

