

The background features a dark blue gradient with a field of small white stars. On the left side, there are several white circular diagrams. One large diagram is a scale from 140 to 260 with tick marks and arrows. Other diagrams show concentric circles and arcs, some with arrows indicating direction, resembling astronomical or geometric models.

# ONZE STERRENHEMEL

*INITIATIE CURSUS STERRENKUNDE  
MICHIEL COIGNET OBSERVATORIUM*

*ROGER VAN DER LINDEN*

# OVERZICHT

- De hemelkoepel
- De grote hemelcirkels
  - De horizon
  - De hemelevenaar
  - De ecliptica
- De positie en de afstand van sterren
- De sterrenbeelden
- De helderheid van sterren
- De sterrenkaart
- Circumpolaire sterren
- Zichtbare evolutie van sterren
- De melkweg
- Sterrenhopen
- Satellieten



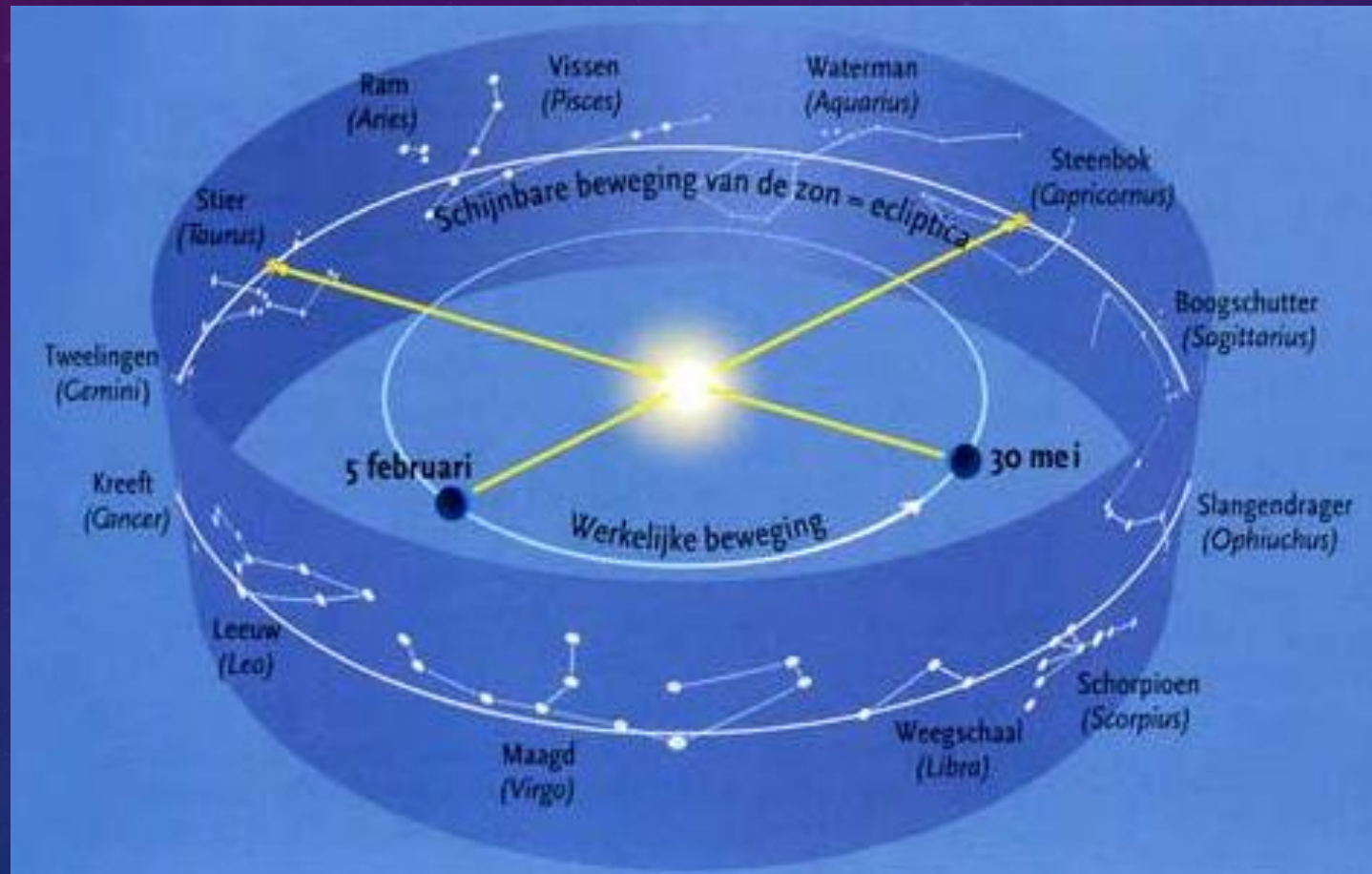
# DE HEMELSFEER



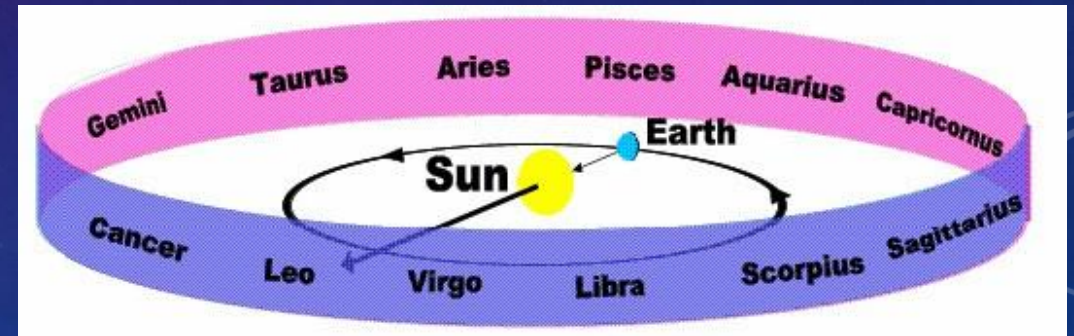
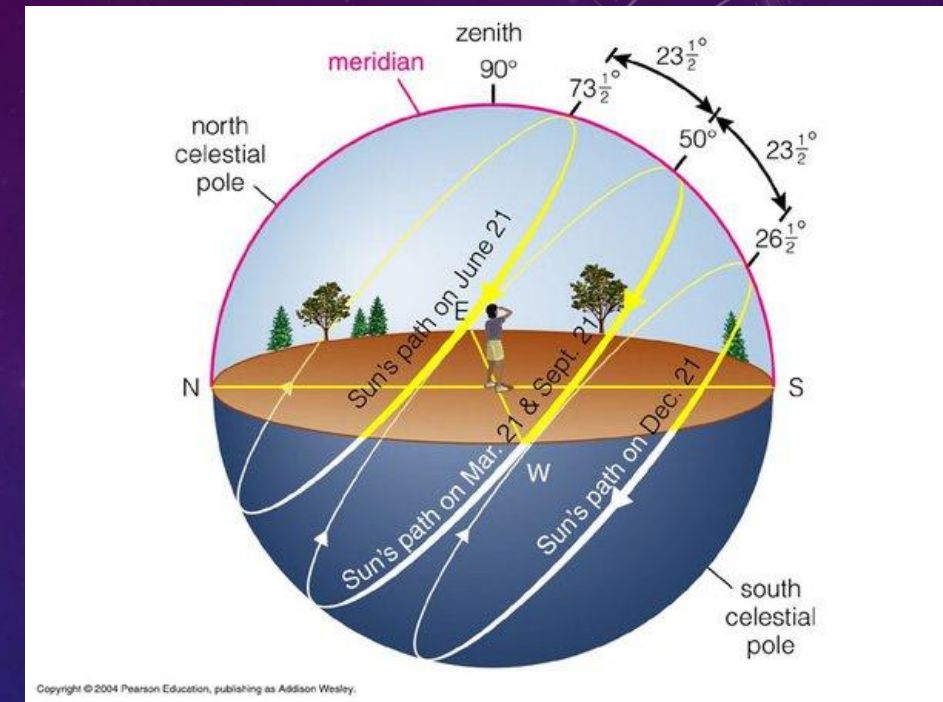
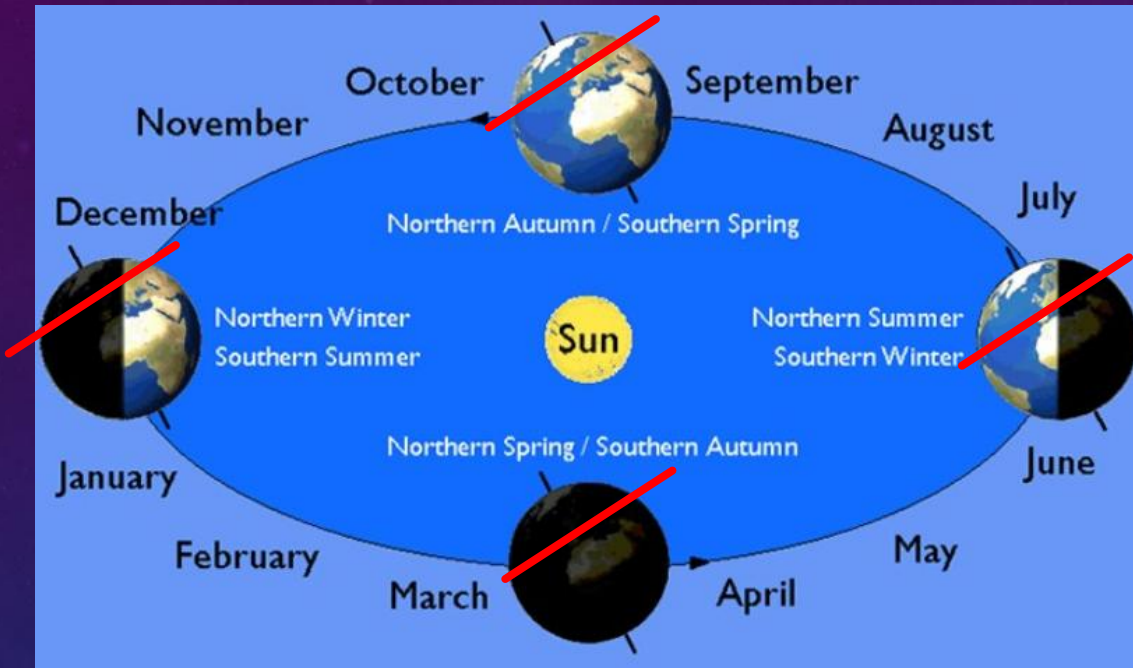
# DE STERRENHEMEL

- De zichtbare sterrenhemel is afhankelijk van
  - 1) de plaats van de waarnemer, die de horizon bepaalt
  - 2) de datum, bepaald door de plaats t.o.v. de zon
  - 3) het uur, bepaald door de draaiing van de aarde om zijn as

# DE DIERENRIEM

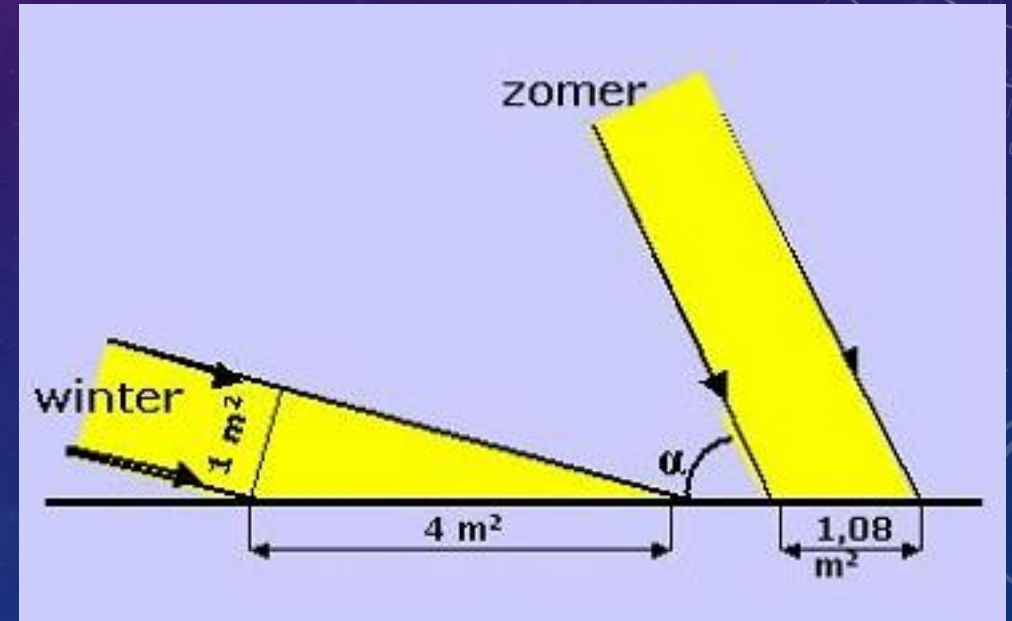


# DE ECLIPTICA/ZODIAC/DIERENRIEM

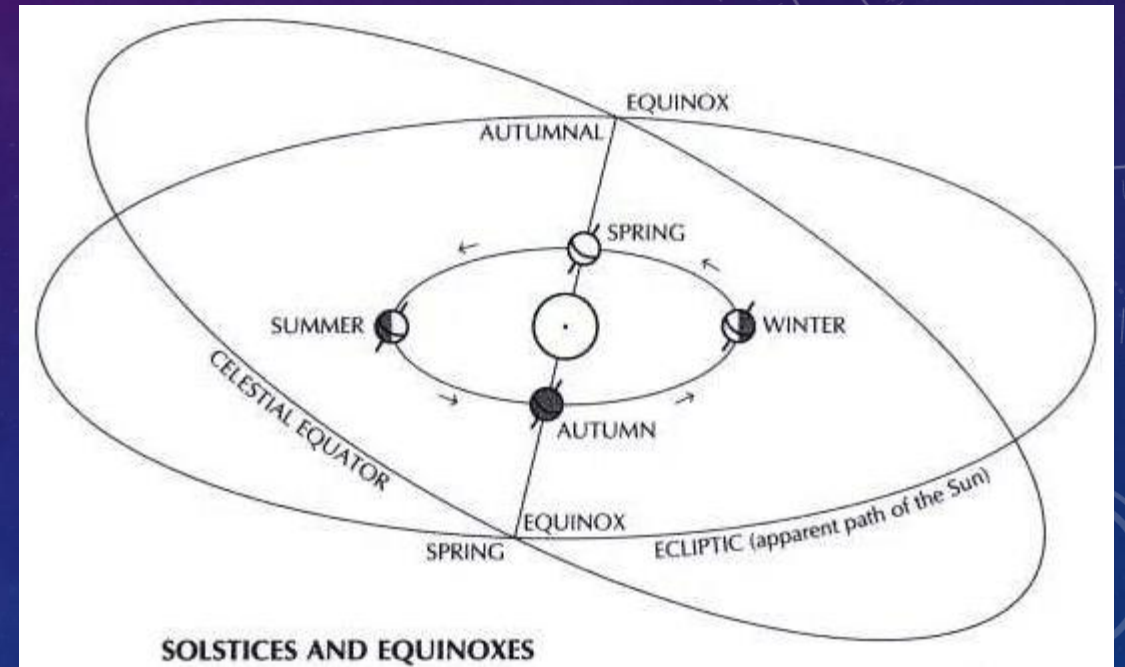
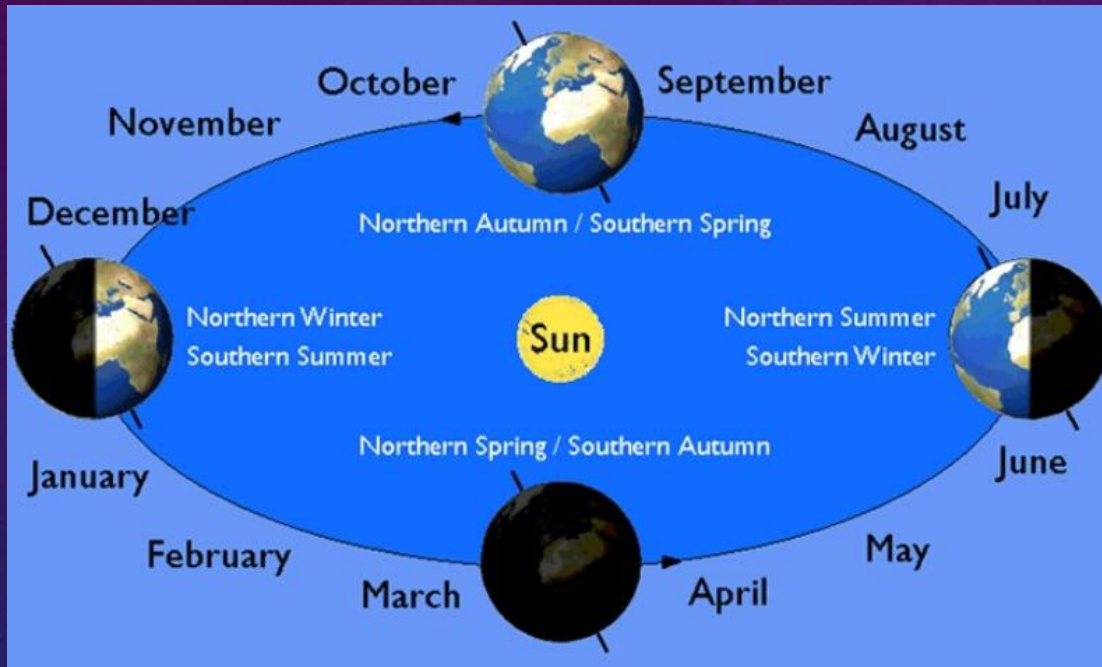


Elke dag schuift de aarde  $360^\circ/365 \approx 1^\circ$  op

# ZONNESTAND



# HET LENTEPUNT



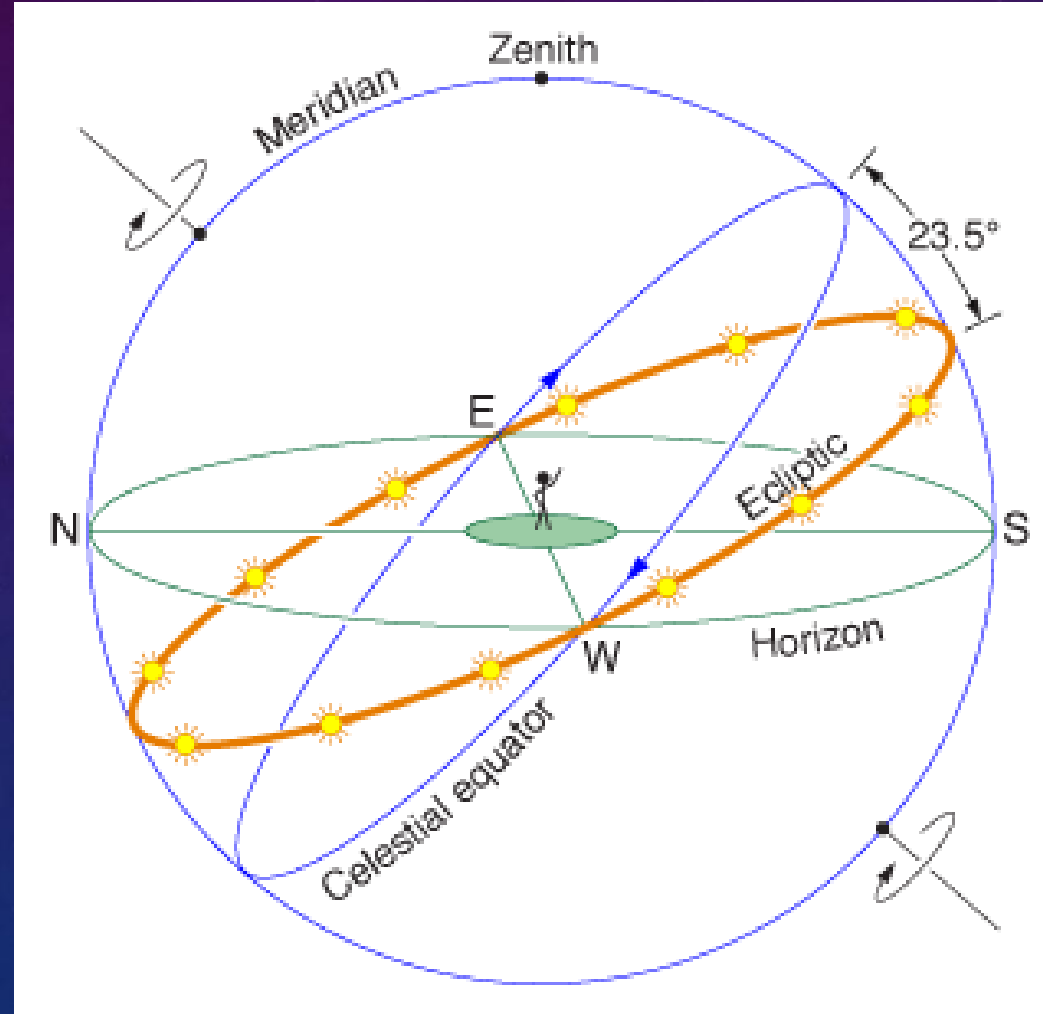
# DE HEMELBANEN

Hemelsfeer :

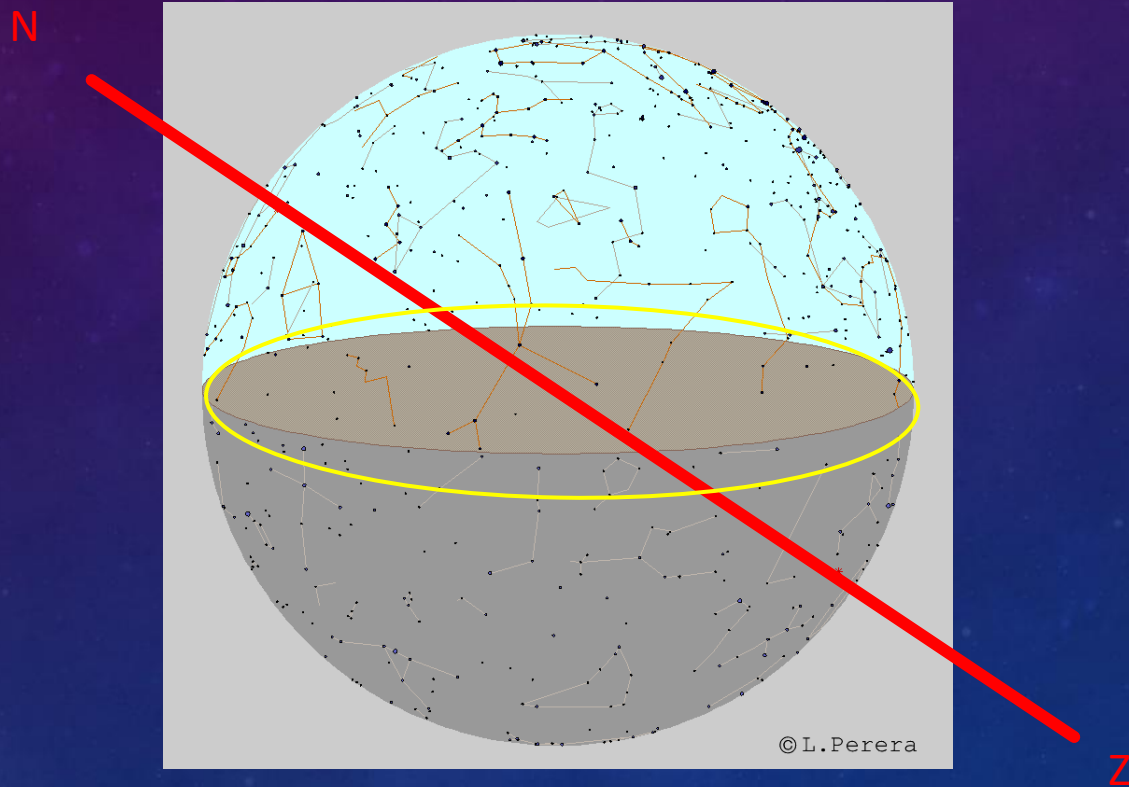
Horizon

Hemelevenaar

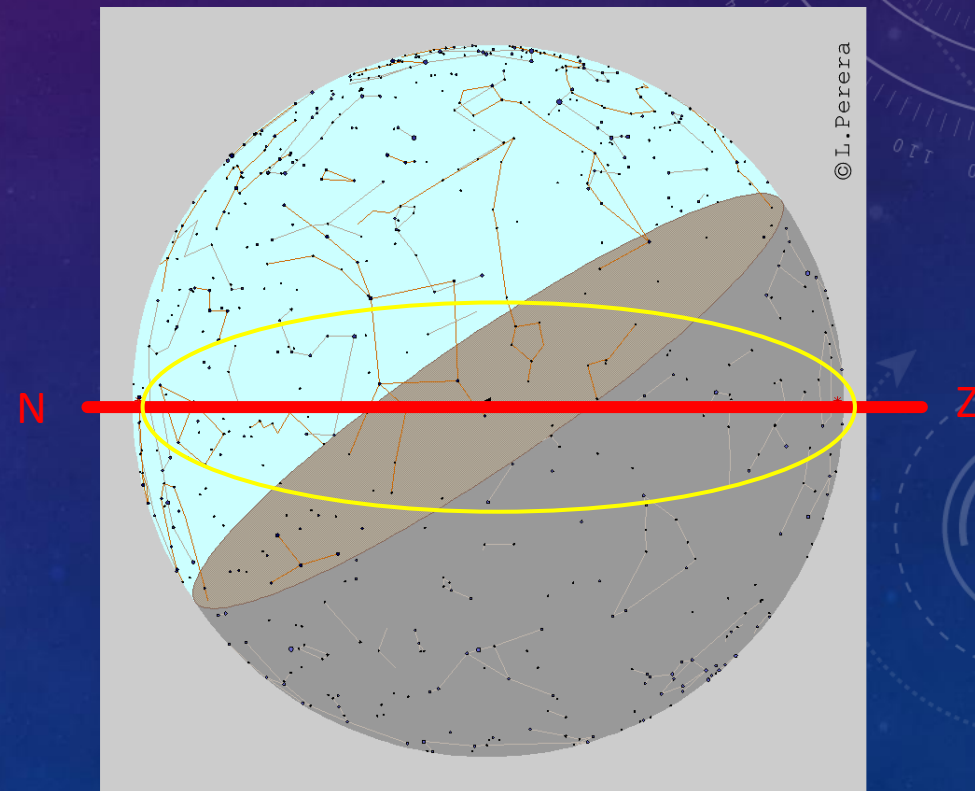
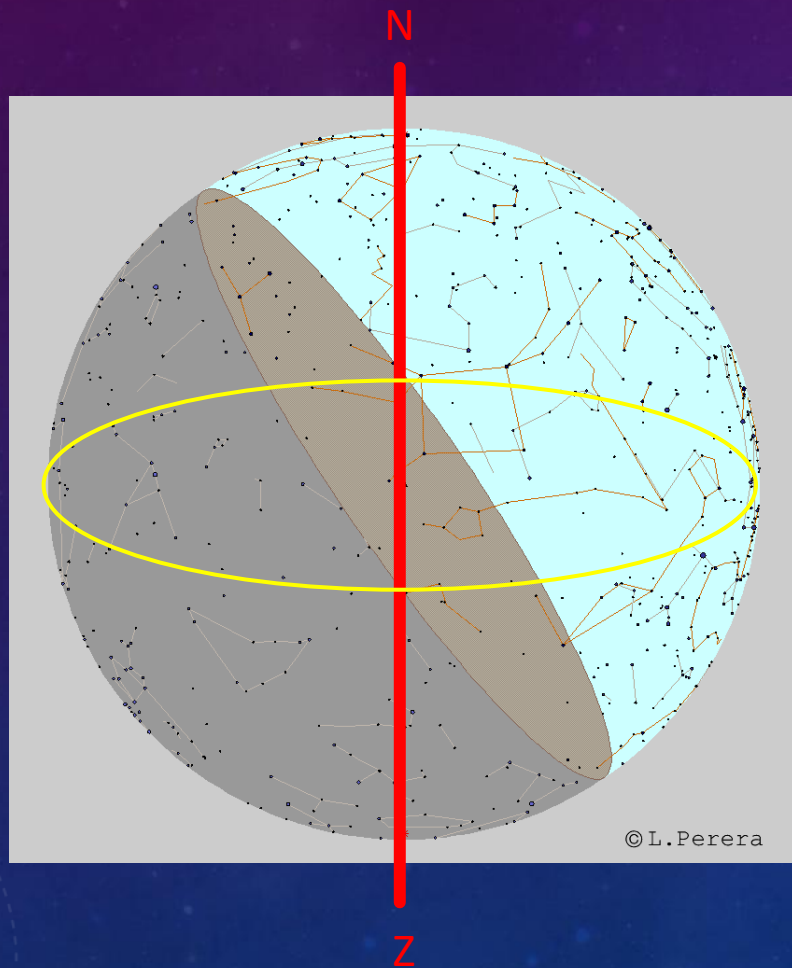
Ecliptica (zodiac, dierenriem)



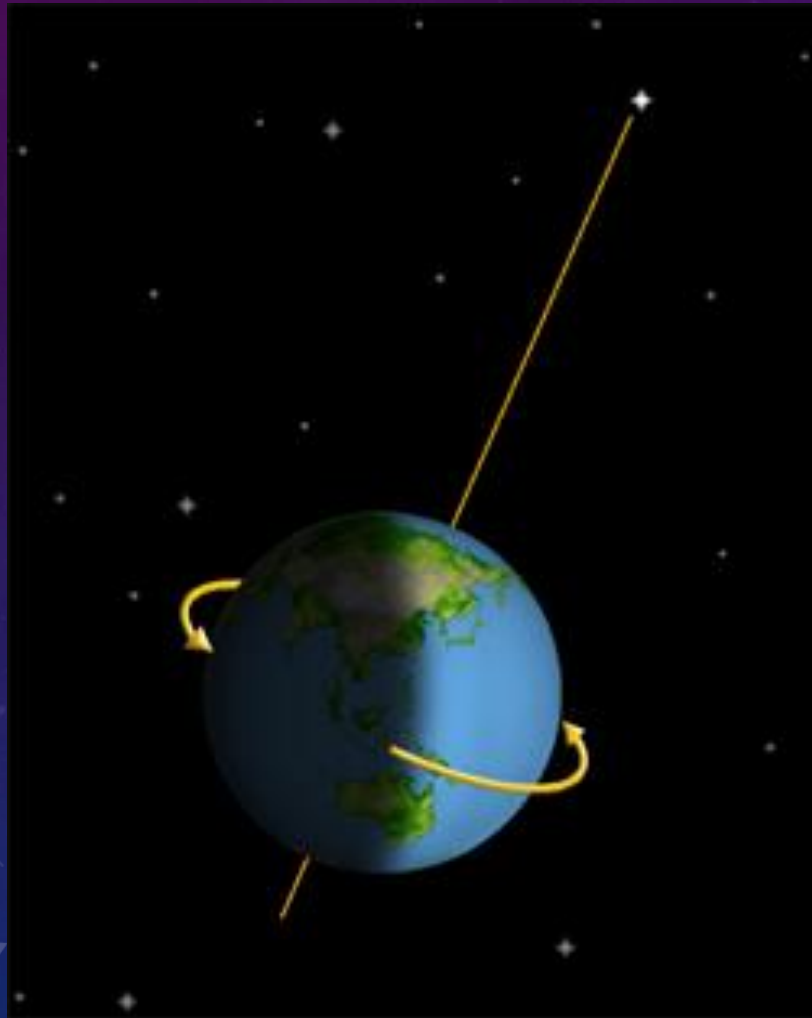
# DE HEMELKOEPEL



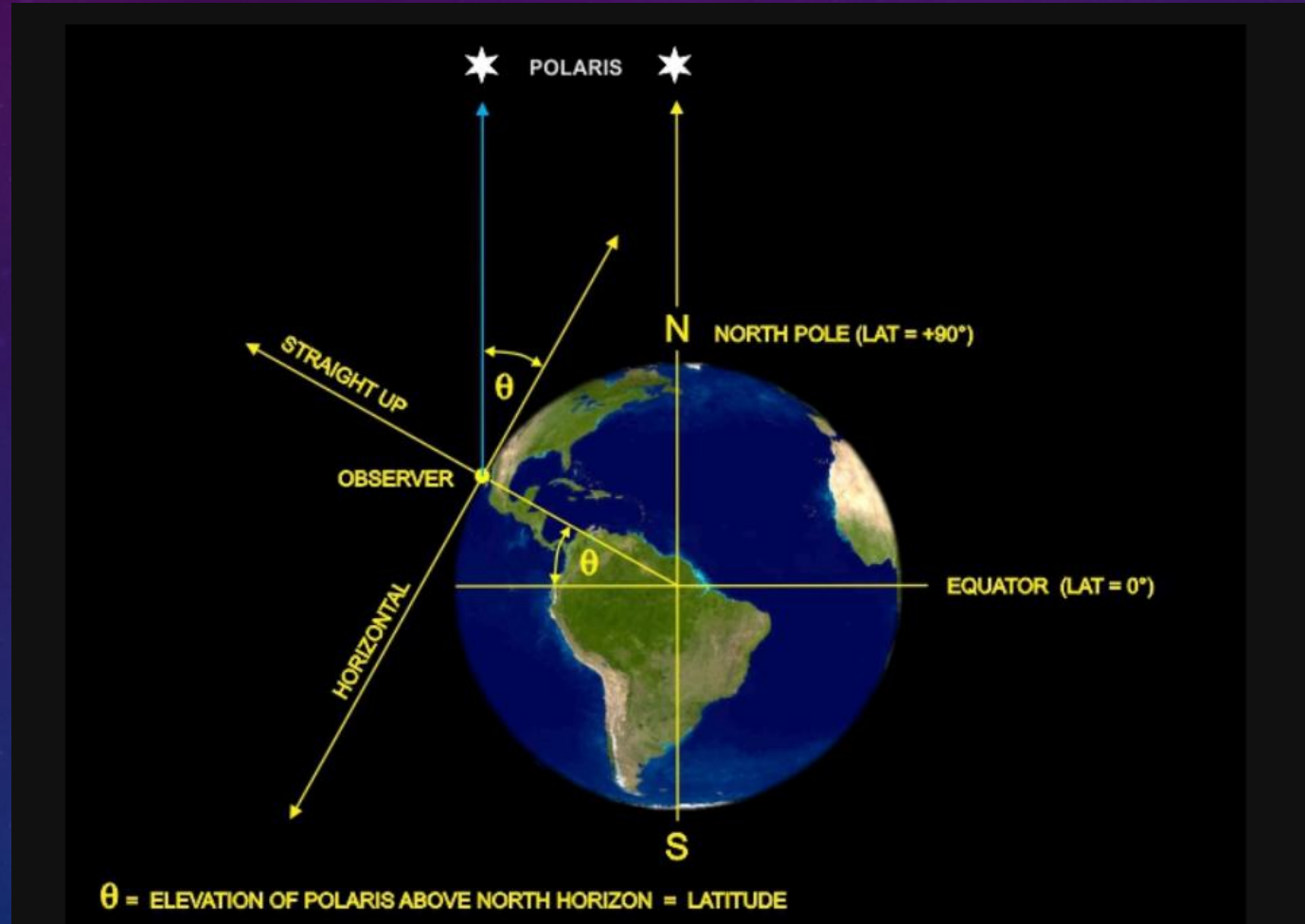
# OP DE NOORDPOOL EN DE EVENAAR



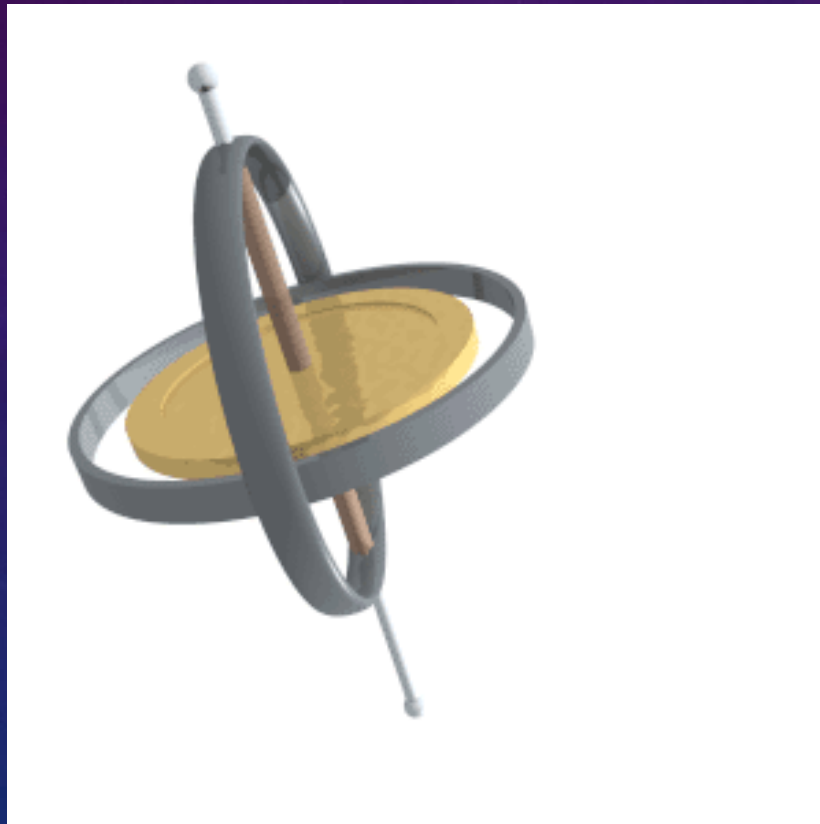
# WAAROM BLIJFT DE POOLSTER OP HAAR PLAATS?



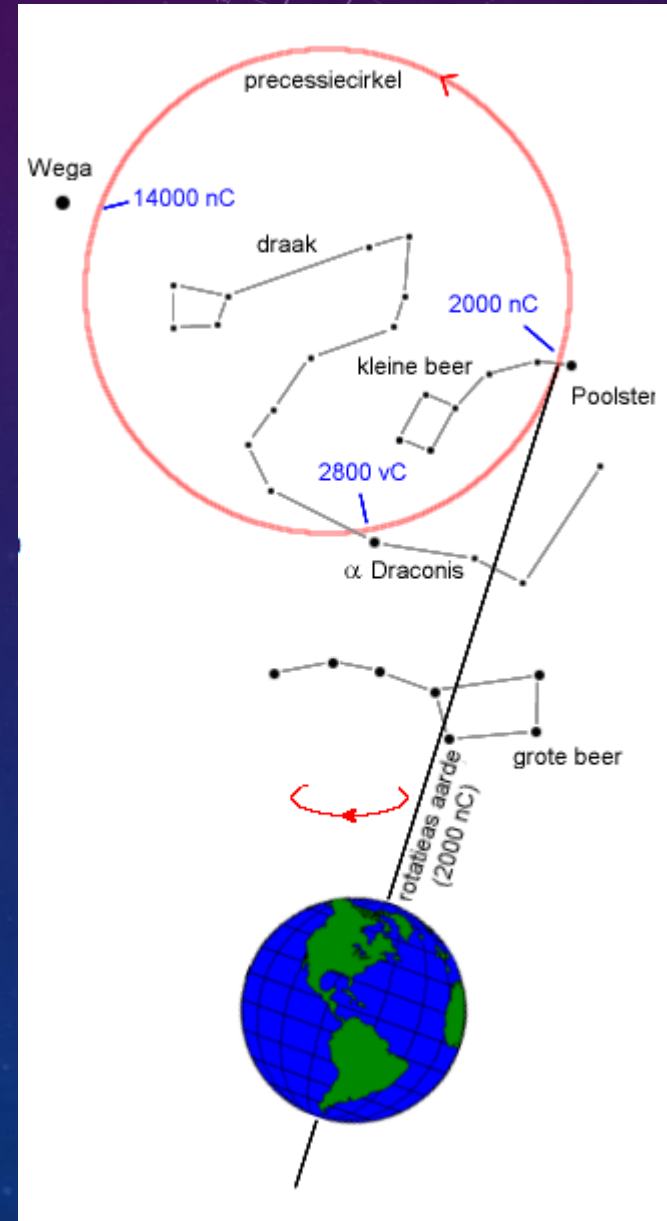
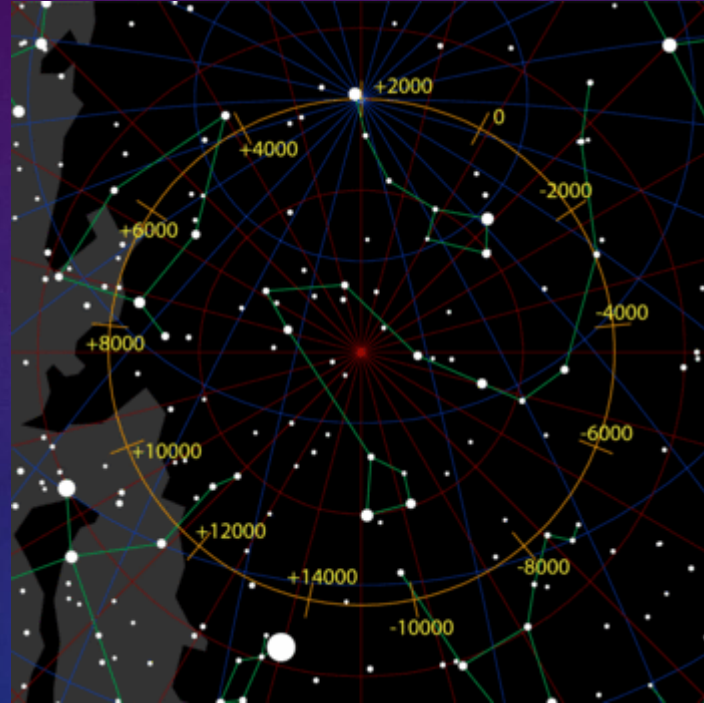
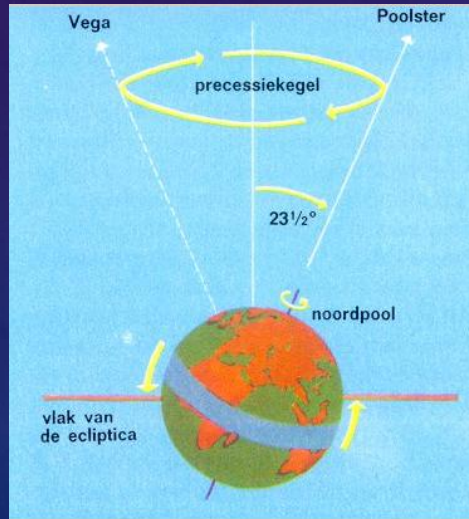
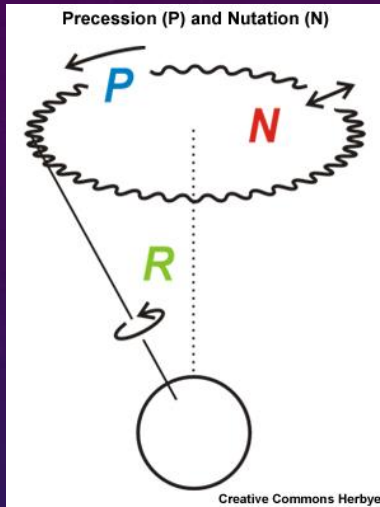
# POOLSHOOGTE NEMEN



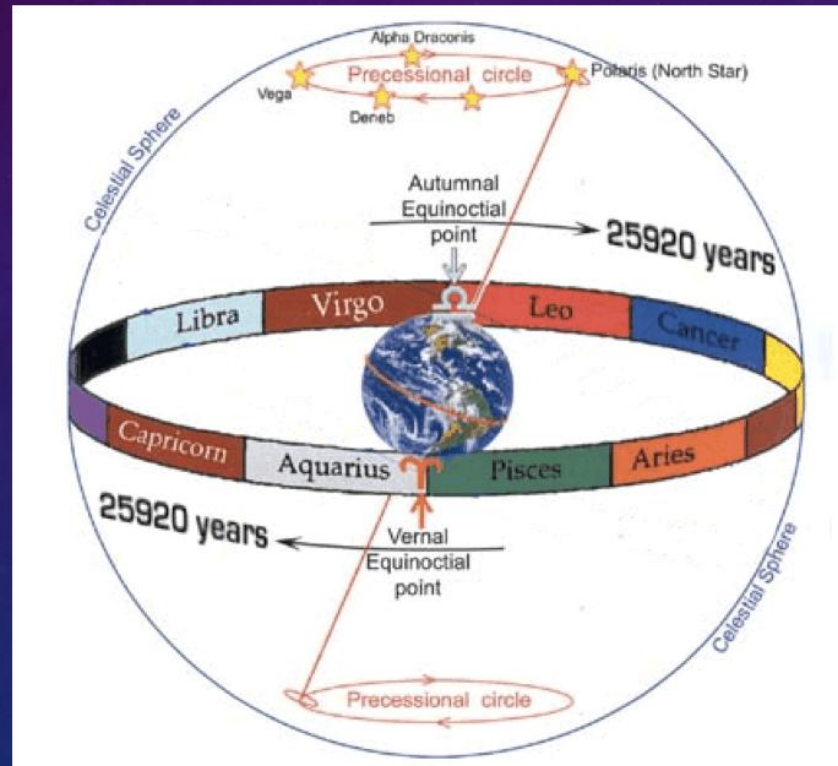
# DE GYROSCOOP



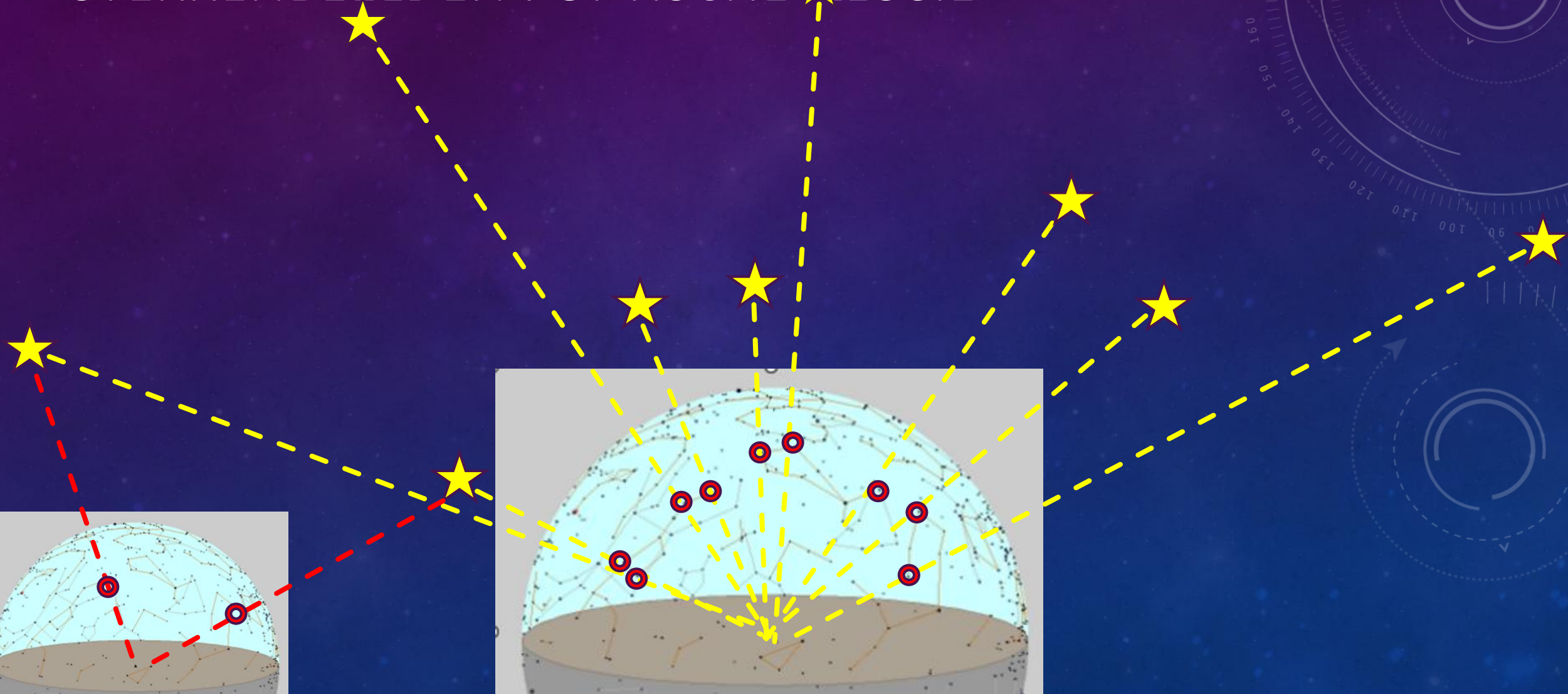
# DE PRECESSIEBEWEGING VAN DE AARDE



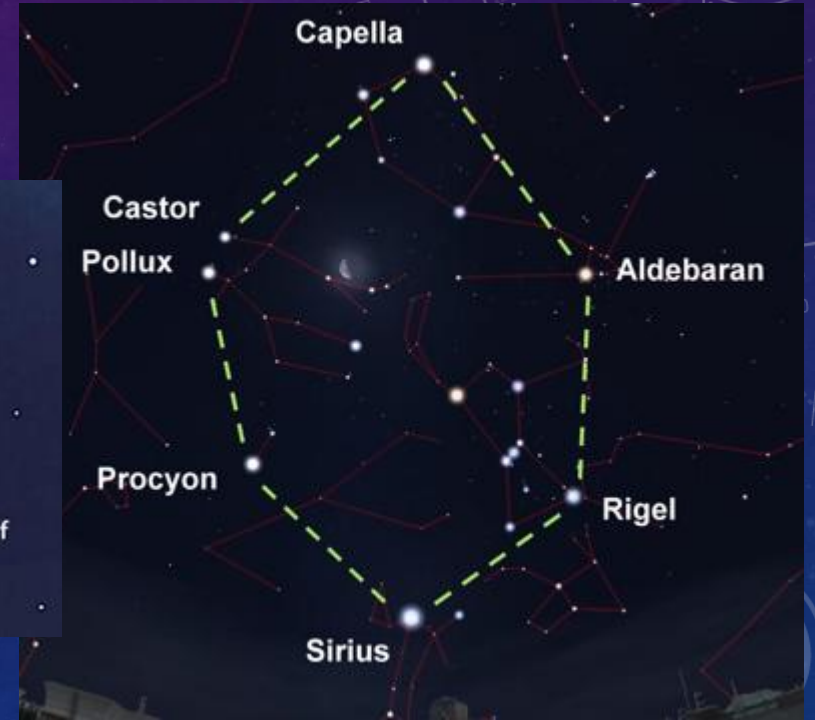
# DE PRECESSIE OVER DE DIERENRIEM



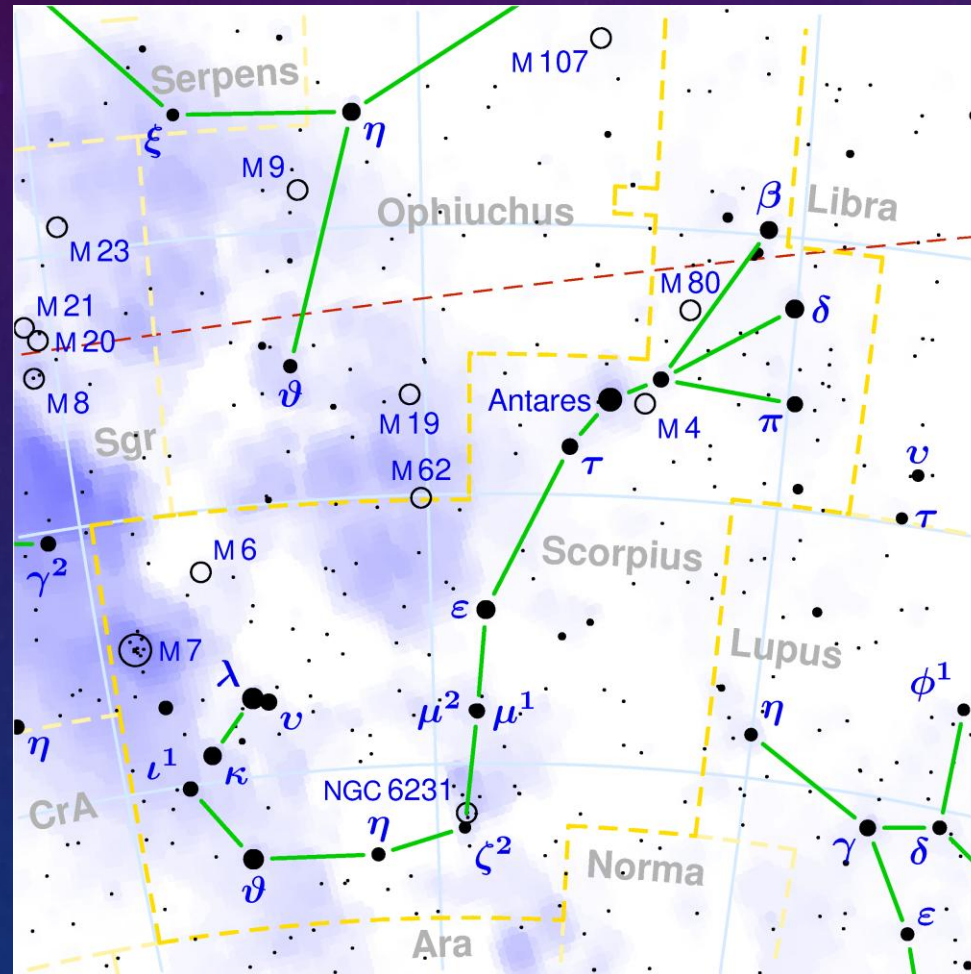
# STERRENBEELDEN : OPTISCHE ILLUSIE



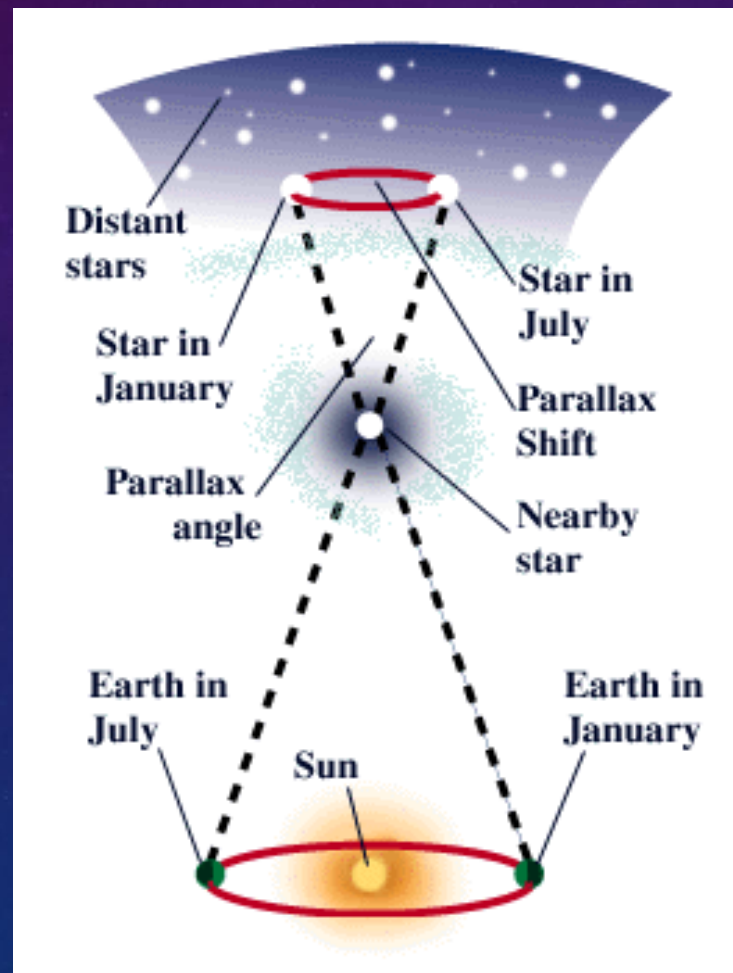
# CONSTELLATIES



# STERRENBEELDEN : BENAMING



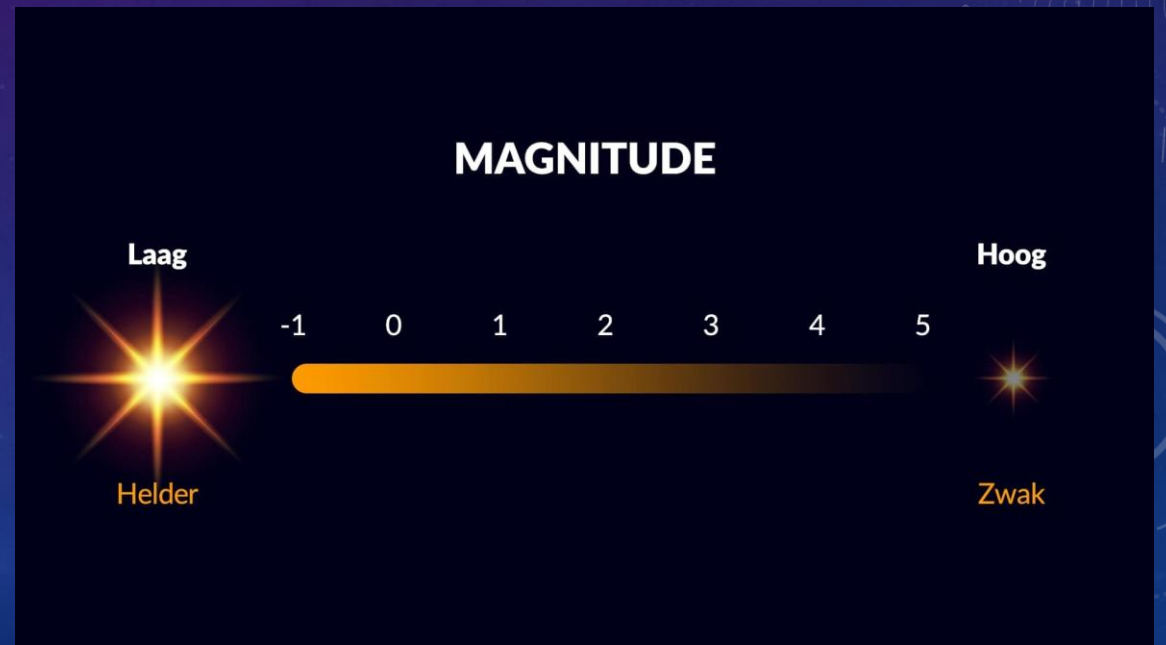
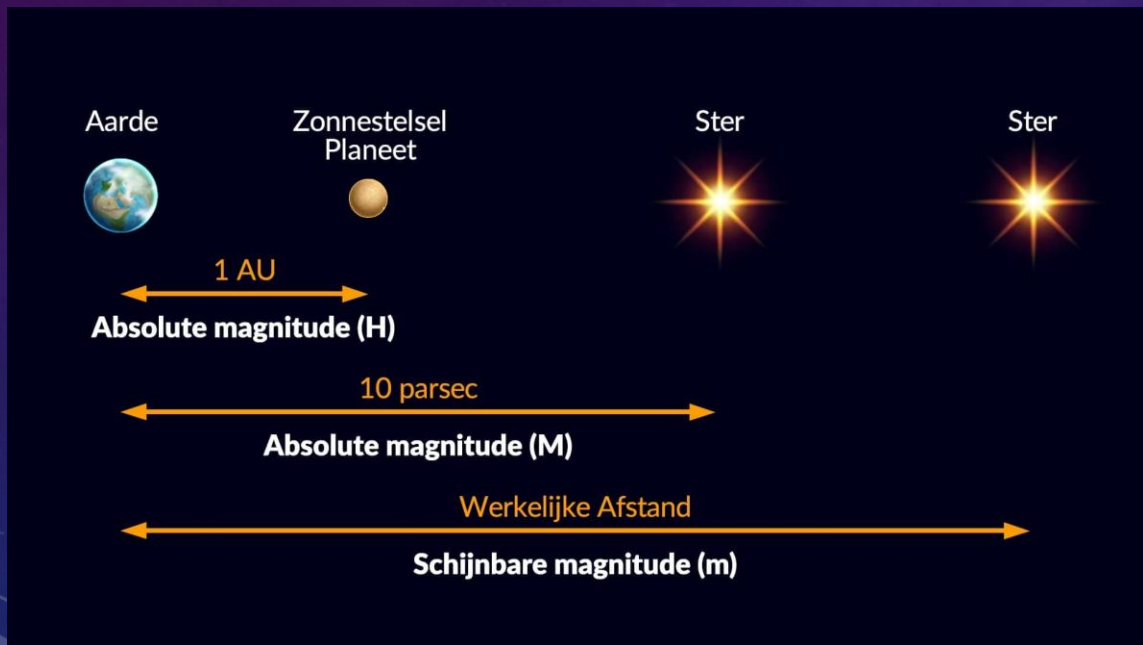
# AFSTAND VAN STERREN



# ZICHTBARE GESCHIEDENIS



# HELDERHEID VAN STERREN

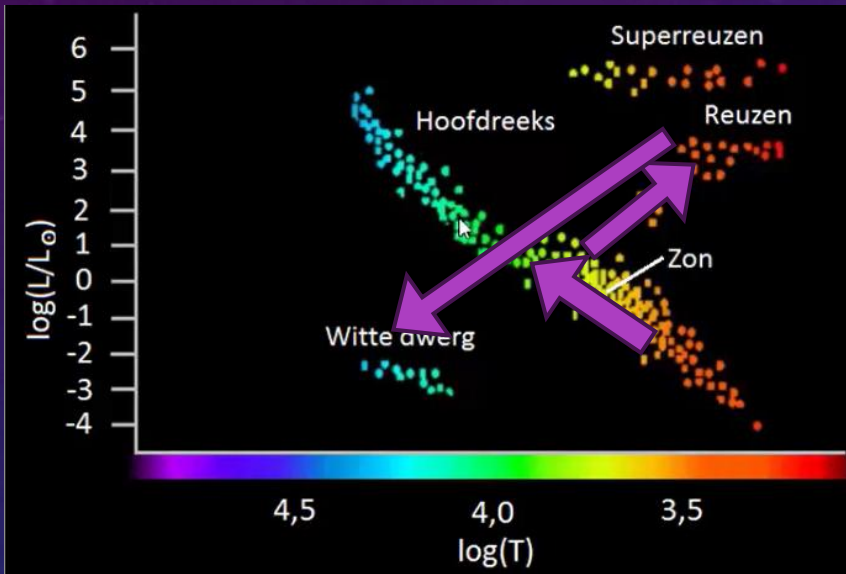


# ZICHTBARE EVOLUTIE VAN STERREN

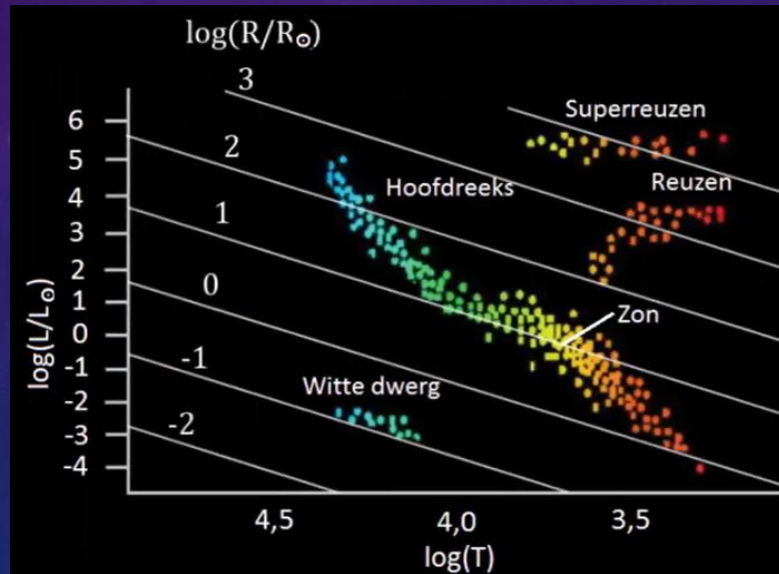


# KLASSIFICATIE VAN STERREN

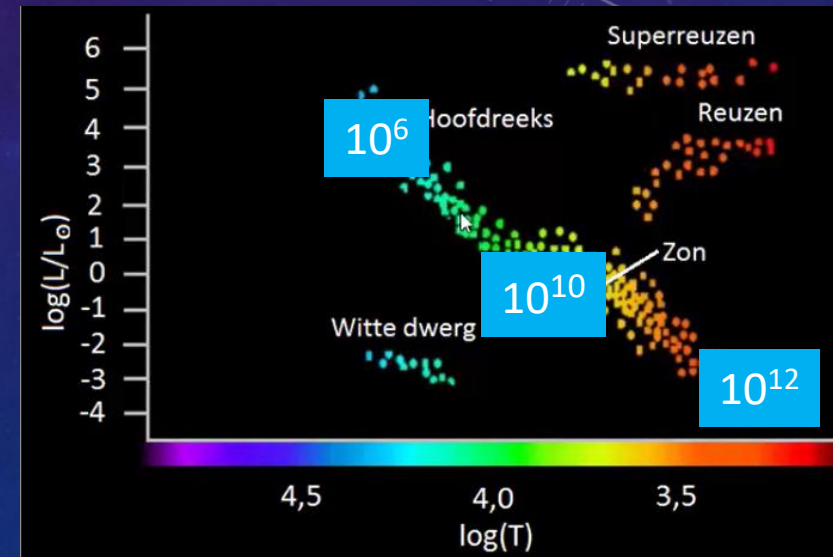
Evolutie



Straal

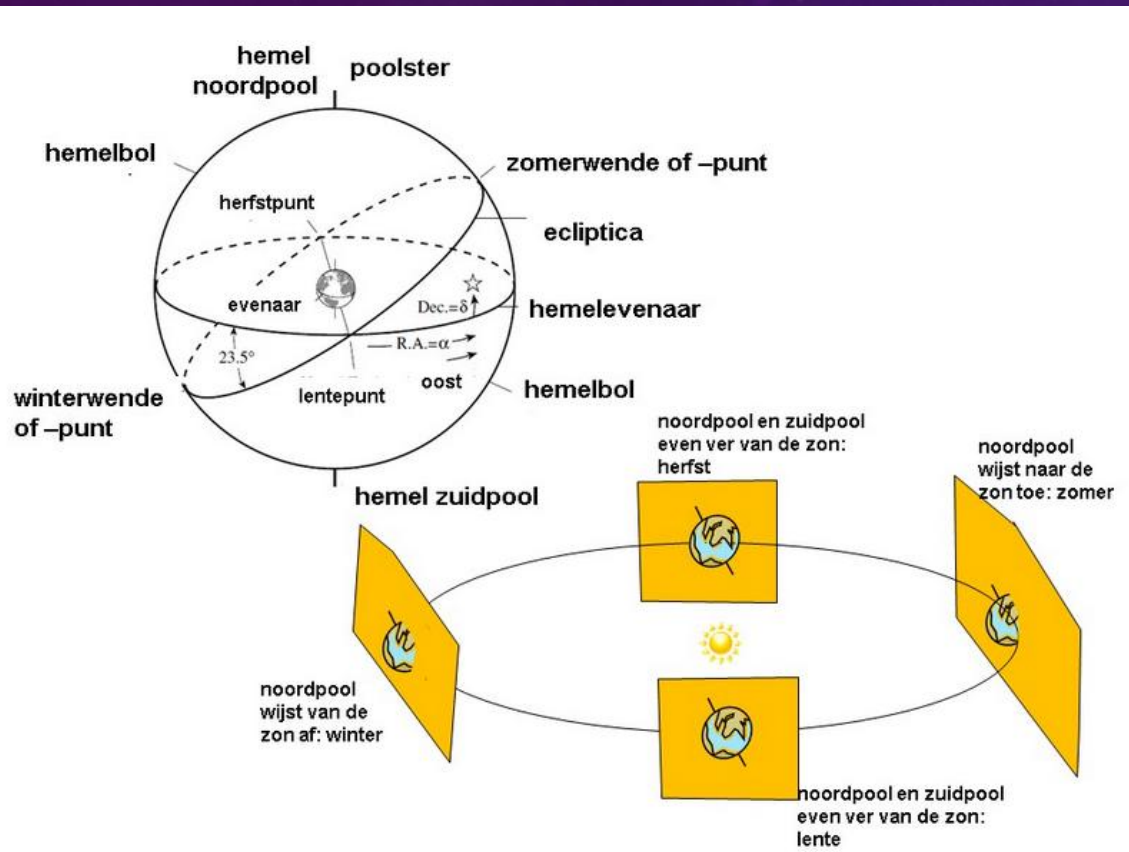


Levensduur



$$\tau_{\text{MS}} \approx 10^{10} \text{ years} \cdot \left[ \frac{M}{M_{\odot}} \right] \cdot \left[ \frac{L_{\odot}}{L} \right] = 10^{10} \text{ years} \cdot \left[ \frac{M}{M_{\odot}} \right]^{-2.5}$$

# POSITIE VAN STERREN



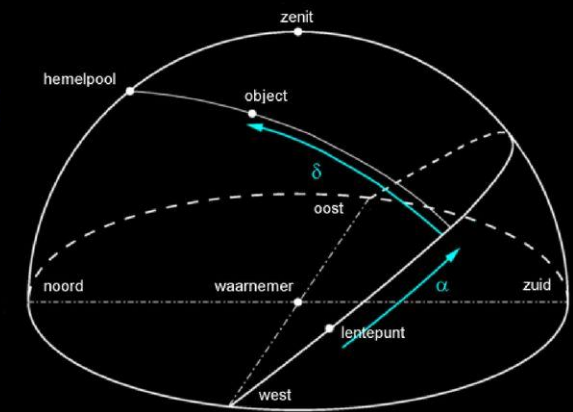
## Equator als grondvlak (Equatoriaal systeem)

1e coördinaat is de **rechte klimming** (RK)  
(van 0 tot 24h)

Nulpunt is het **lentepunt**

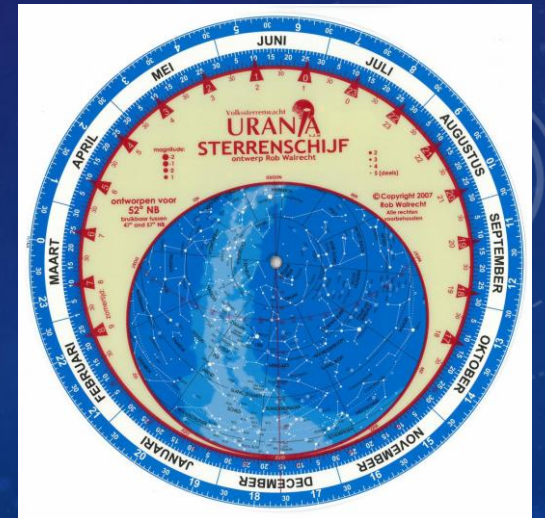
2e coördinaat is de **declinatie** (Dec)  
(van 0° tot +90° en 0° tot -90°)

Het **lentepunt** staat  
om 0 uur lokale  
sterrentijd in het zuiden

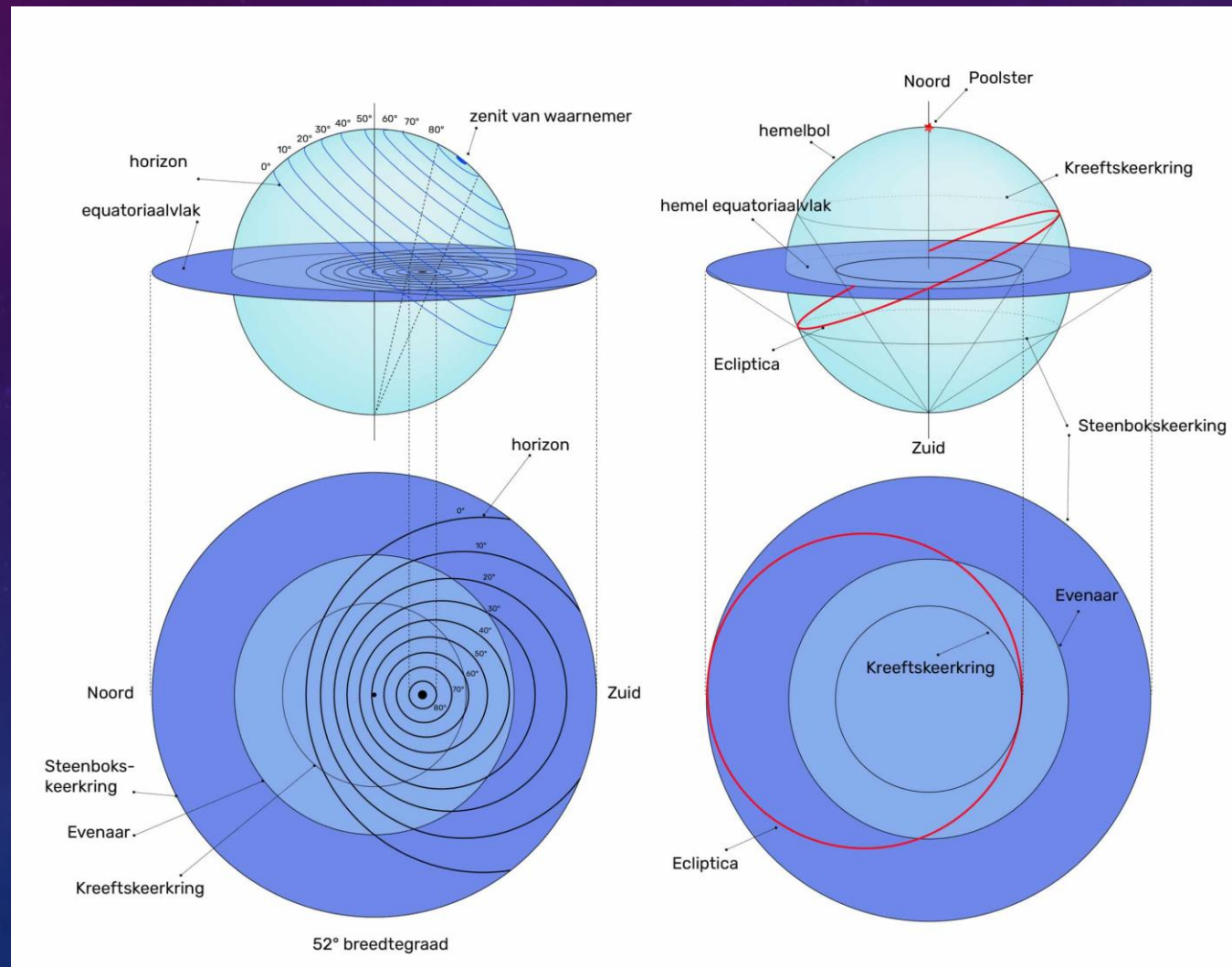


Equatorvlak met rechte klimming

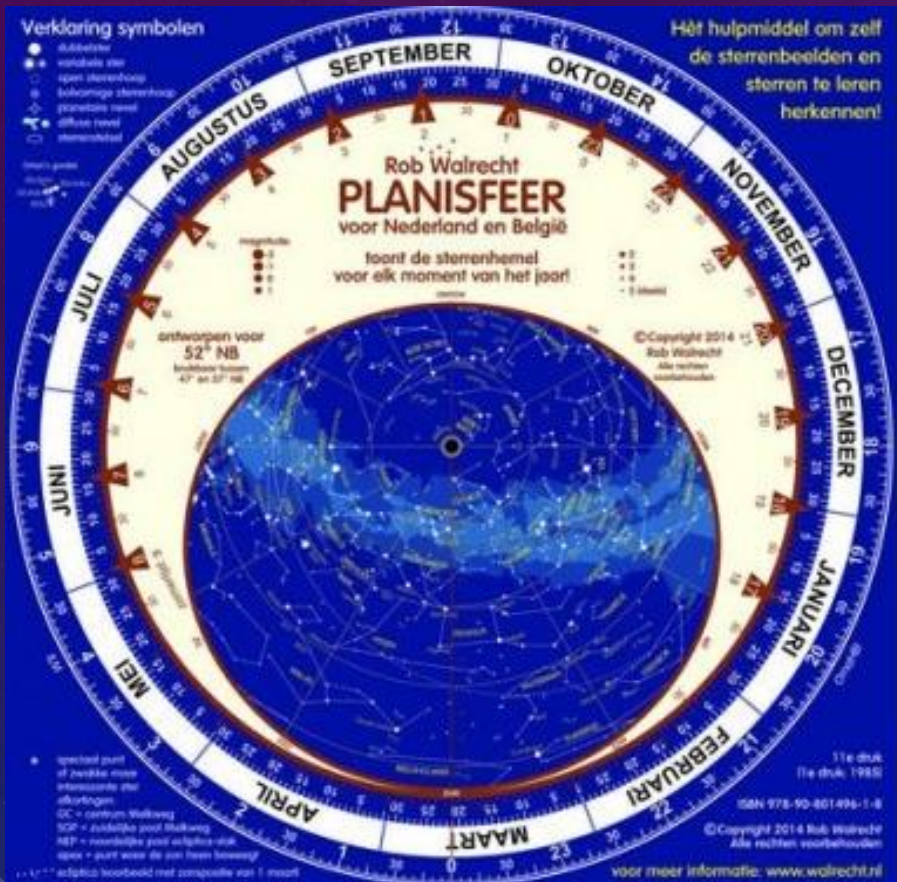
# LIBER VI : PROJECTIES



# DE STEREOGRAFISCHE PROJECTIE



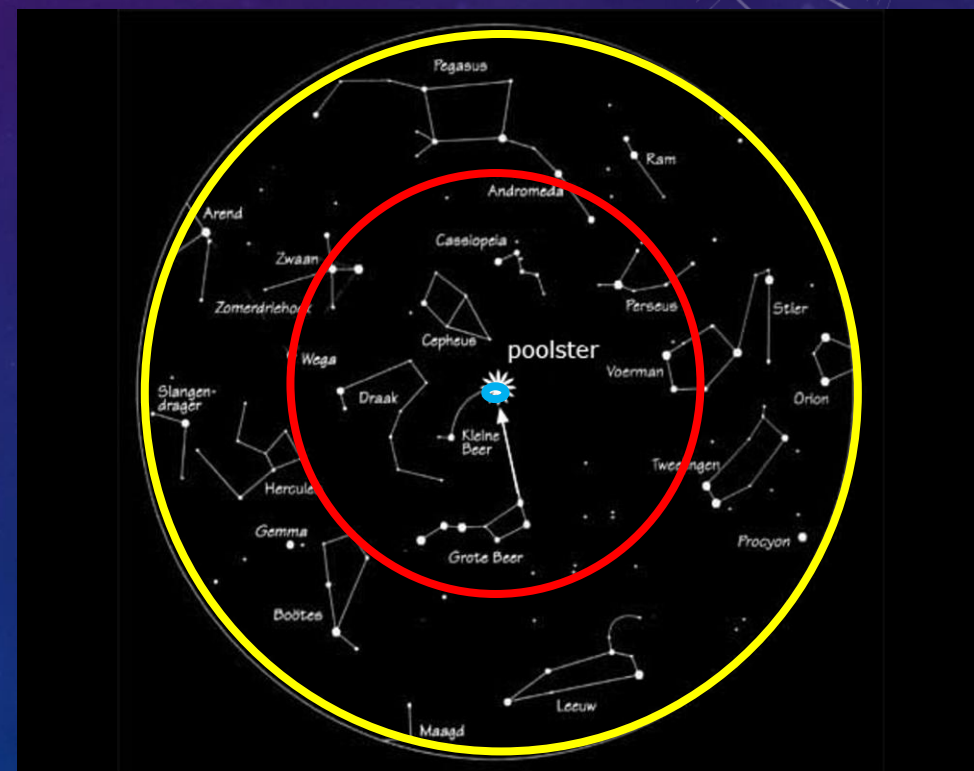
# DE STERRENKAART



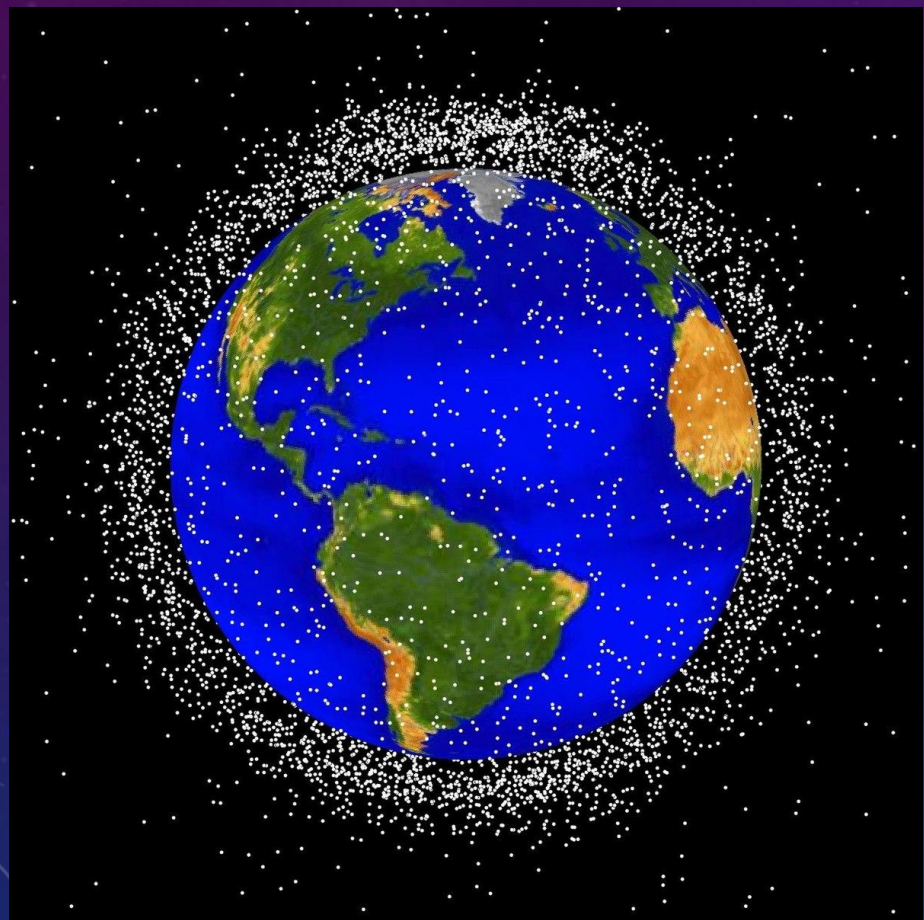
# STERRENHOPEN - DUBBELCLUSTER



# CIRCUMPOLAIRE STERREN



# SATELLIETEN



DE MELKWEG

RUBENS 1620



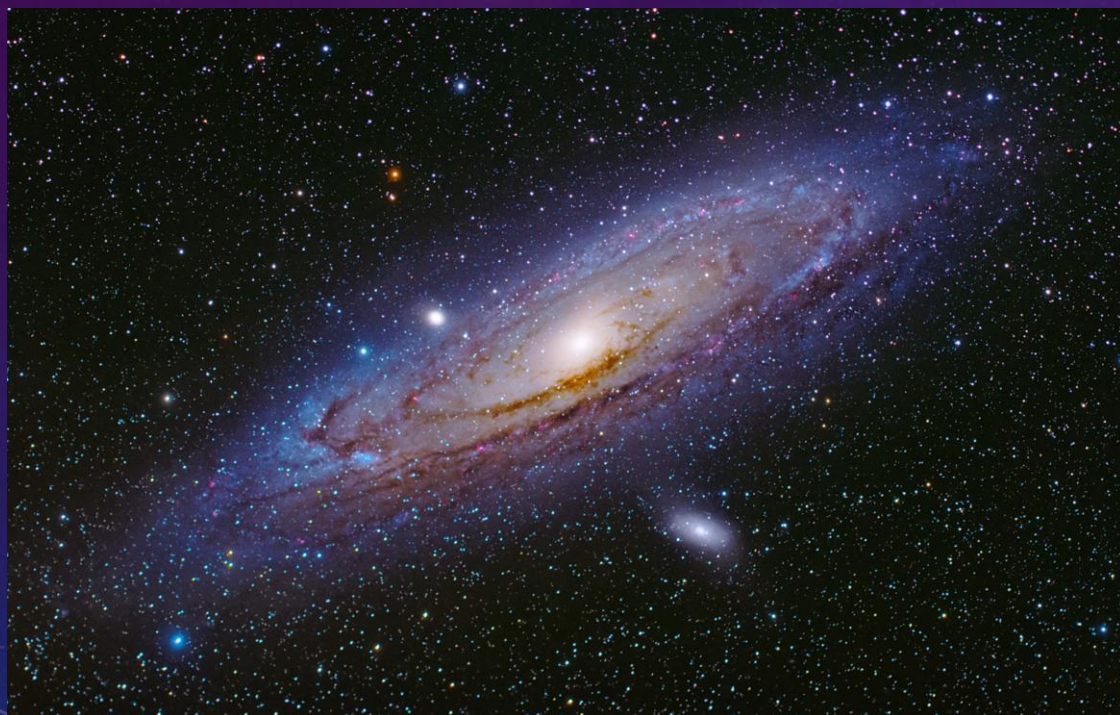
# ONS MELKWEGSTELSEL



$13.3 \cdot 10^9$  j oud  
 $250 \cdot 10^9$  sterren  
 $\emptyset: 100.000$  lj  
 $M = 5 \cdot 10^{44}$  g



# DE MELKWEG





**Einde**

