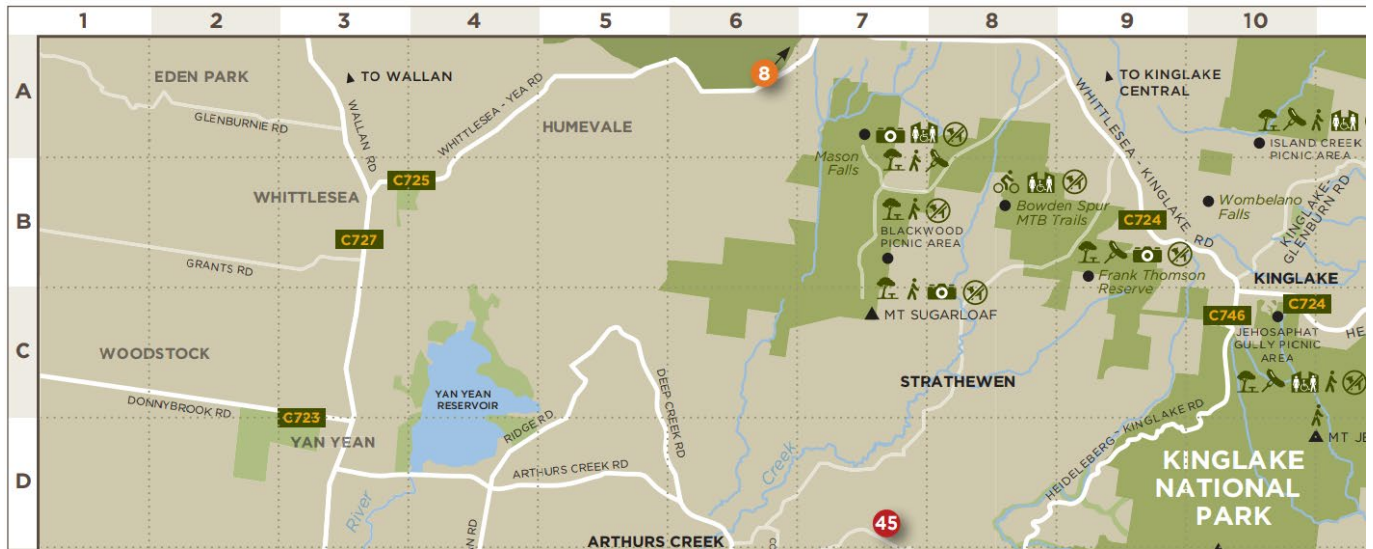


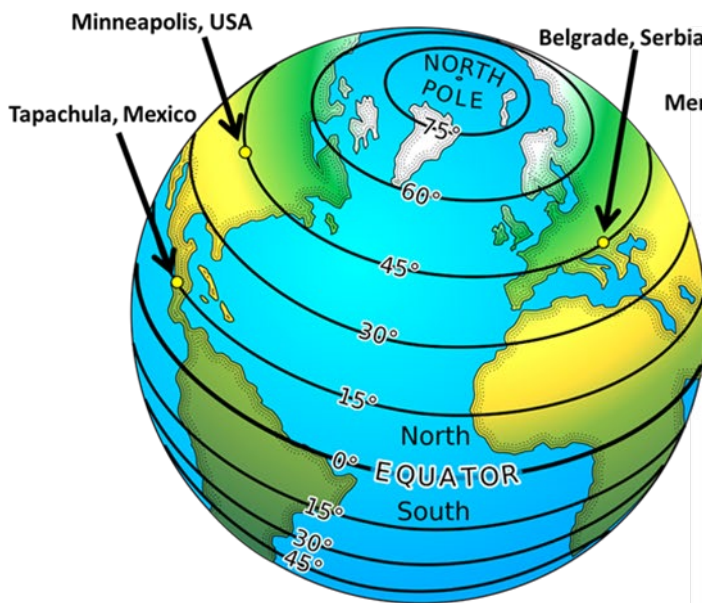
QS4: STAR LAWS (Shedding Light on Astronomy) Episode IV: What is your Latitude and Longitude?

Name: _____

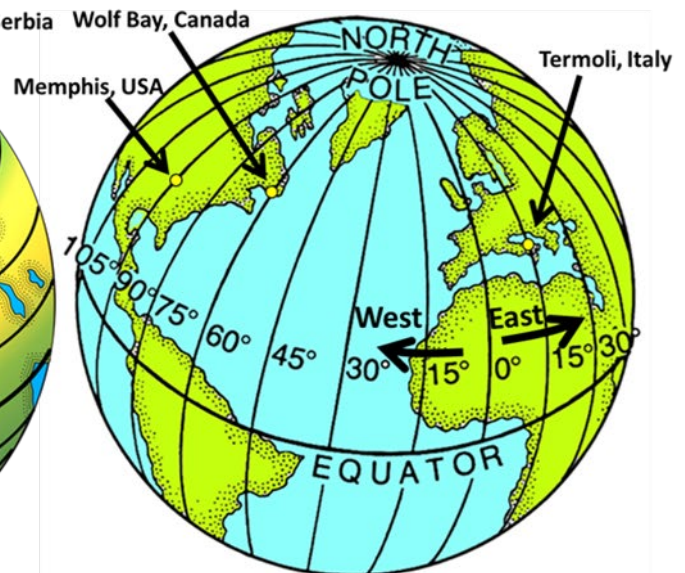
1. Which reservoir is in grid squares C4 and D4? _____
2. Which mountain is located in C7? _____
3. In which grid square is Wombelano Falls? _____
4. In which grid square is Island Creek Picnic Area? _____



5. Use the lines of longitude and the lines of latitude marked on these pictures of the Earth to fill in the tables below. Include the direction (N, S, E, or W).



City	Latitude
Tapalucha	
Minneapolis	
Belgrade	



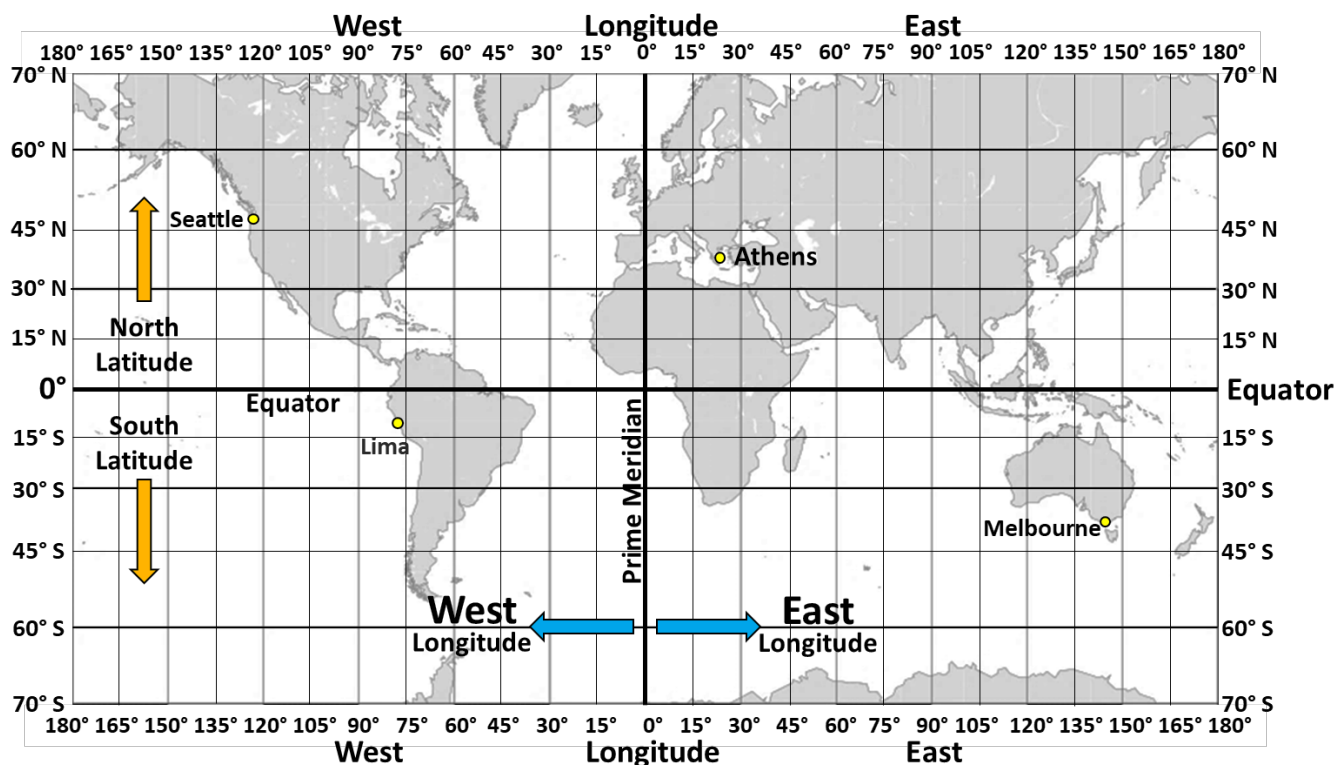
City	Longitude
Wolf Bay	
Memphis	
Termoli	

6. Lines of longitude are also called _____.
7. Lines of latitude are also called _____.
8. The North Pole has a latitude of _____ and the South Pole has a latitude of _____.

9. (a) Use the map below to find the latitude and longitude of Melbourne, Seattle, Athens, and Lima.
 (b) Use the co-ordinates in the table on the right to mark in the location of Perth, Cairns, Montevideo, and Anchorage.
 Remember: Latitude: how far from the equator (N or S); Longitude: how far from the prime meridian (W or E)

City	Latitude	Longitude
Melbourne		
Seattle		
Athens		
Lima		

City	Latitude	Longitude
Perth	32°S	116°E
Tokyo	36°N	140°E
Concepcion	37°S	73°W
Anchorage	61°N	150°W



10. If it isn't already marked, place a mark on the map of your city or town and determine its latitude and longitude.
 City or town: _____; Latitude: _____; Longitude: _____

11. What can be said about the length of all lines of longitude? _____

12. The equator is the longest line of _____.

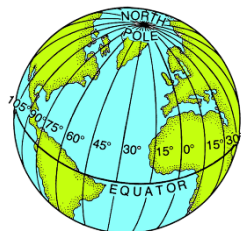
13. Lines of latitude get _____ (shorter or longer) and you get further from the equator.

14. How much distance (in kilometres) is 1 degree of latitude? _____ kilometres

15. If you start in Anchorage and you drive 222 km to the north, what will your latitude be? _____

16. If you are in Perth, and you drive 999 km to the north, what will your latitude be? _____

17. How much distance (in kilometres) is 1 degree of longitude at the equator? _____



18. What happens to the distance between each degree of longitude as you get further from the equator? _____

19. 1 degree of latitude = _____ km

20. 0.1 degrees of latitude = _____ km

21. 0.01 degrees of latitude = _____ km = _____ metres

22. 0.001 degrees of latitude = _____ metres

23. 0.000 1 degrees of latitude = _____ metres

24. 0.000 01 degrees of latitude = _____ metres

25. 0.000 001 degrees of latitude = _____ metres

and so a co-ordinate expressed to 6 decimal places gives an accuracy of about _____ centimetres