

Gravity and Physics of the Earth Learning Goals (Standard 4)

- 1. I can convert all numbers to scientific notation.
- 2. I can recall that a light-year (the distance light travels in one year) is a unit used to measure very large DISTANCES in space.
- 3. I can give a definition for both gravity and inertia.
- 4. I can explain how gravity is related to mass and distance.
- 5. I can recall what two things keep planetary bodies in their orbits.
- 6. I can recall that an object's orbital speed is the balance between gravity and inertia.
- 7. I can recall how orbital speed is related to gravity.
- 8. I can give the definition of orbital shape (ellipse).
- 9. I can recall that cycles of time (years and months) are determined by orbits.
- 10. I can name and describe the moon phases during the lunar cycle.
- 11. I can describe how a solar and a lunar eclipse occur.
- 12. I can describe how the Sun and moon affect the tides on the Earth.
- 13. I can define the types of tides (spring and neap tides).
- 14. I can describe what must occur to give the highest and lowest tides.
- 15. I can recall that the Earth's axis is tilted and rotates on this tilt.
- 16. I can describe why the seasons occur due to the Earth's tilted axis.
- 17. I can describe why Earth's poles and equator have different temperatures.
- 18. I can tell the difference between the geographic poles and the magnetic poles of the Earth.
- 19. I can recall that the Earth generates its own magnetic field.
- 20. I can explain how the Earth's magnetic field supports life on our planet.
- 21. I can explain why the Northern Lights occur.