



Table of Contents



Instructions

How to use your Field Journal and Test Manual

v

Timesheets

Record the time spent on Field Activities, Tests, and studying the sky

viii

Field Journal

A listing of Field Activities, along with tables for recording data and areas for sketching your observations, organized and presented for each chapter of Signs & Seasons

Chapter 1 - The Light He Called Day

Page 1

Create a Backyard Compass; Sunrise, Sunset and Noon; Noon shadows; Is your neighborhood "astronomically aligned?"; Exposures; Finding Direction Around Your Hometown; Twilight Activity; Earth's Rotation; Sun's Daily Motion; Historical Timeline; Seeing the Horizon; Make a Sun Volvelle.

Chapter 2 - The Darkness He Called Night

Page 15

Northern Constellations; Learn to find the constellation Orion; Rotation around Polaris; Globe Activity; Make a Northern Stars Volvelle; Meridian Activities; Circumpolar Circle Activity; Direction Activity; Celestial Globe Activity; Cardinal Line; Celestial Equator Activities; Make an Orion Volvelle.

Chapter 3 - The Cycle of the Month

Page 25

Basic Definitions; Moon Phases - First Month - Observe the Earthshine, Observe Moon Shadows, Waxing Gibbous Phases, Observe the Man in the Moon, Waning Gibbous Phases; Moon Phases - Second Month; Moon Phases - Third Month - Moonfinding; Globe Activity; Modified Sun Volvelle.

Chapter 4 - The Tabernacle for the Sun

Page 37

Visibility of the Night Sky; Sketching Activities - Sketch the Zodiac Constellations, Flat Map of the Zodiac; Observing the Constellations - Orion, the Zodiac, Identifying Stars, the Celestial Equator, the Northern Sky, Risings and Settings of the Zodiac; Research Activity - Precession; Celestial Globe Activity; Volvelle Activity - Modified Orion Volvelle

Chapter 5 - The Cycle of the Year

Page 47

Research Activities - Risings and Settings of the Sun; Flat Map Activity - Sun's Movement; Solar System Map - Earth's Position; Observing Activities - Sunrise and Sunset, Exposures, Equinoxes and Solstices, Shadows Due East and Due West; Finding Your Local High Noon; Noon Shadow Activity; Lag of the Seasons Activity; Globe Activities; Celestial Globe Activity; Modified Orion Volvelle.

Chapter 6 - The Seasonal Skies**Page 63**

Sketching, Flat Map and Celestial Globe Activities; Find Your Limiting Magnitude; Observing the Zodiac; Observe the First Magnitude Stars - Find Vega and Capella; Observe the Northern Sky; Observe Orion; Visual Acuity Activity; Globe Activity; Volvelle Activities - Label Stars, Find Orion, First Magnitude Stars, the Zodiac Constellations, Positions of the Northern Constellations.

Chapter 7 - The Wandering Stars**Page 77**

Solar System Map Activity; Observe Venus; Observe the Superior Planets; Observe the Conjunctions - Moon and Stars, Stars and Planets, Moon and Planets, Planets and Planets; Observing the Moon Along the Zodiac; Observing Moon Shadows; Half Moon at Meridian; Constellation Volvelle Activity - Constellations of the Moon's Quarters.

Volvelle Section**Page 91**

Create Rotatable Wheel Calculators that Simulate the Motions of the Sun, Moon and Stars: Base Circle; Sun Wheel; Sun Volvelle Horizon; Northern Sky Base Circle; Northern Sky Wheel; Northern Horizon; Orion Wheel; Orion Volvelle Horizon; Moon Phase Wheel; Window Wheel; Zodiac Wheel; Constellation Wheel; Sun Position Wheel; Moon Phase Position Wheel; Northern Stars Wheel.

Test Manual

A series of tests are presented for each chapter of Signs & Seasons, to measure a student's understanding of the subject matter and enable a course grade to be assigned

Test 1 - Prologue and Chapter 1**Page 121****Test 2 -Chapter 2****Page 125****Test 3 -Chapter 3****Page 129****Test 4 -Chapter 4****Page 133****Test 5 -Chapter 5****Page 137****Test 6 -Chapter 6****Page 141****Test 7 -Chapter 7****Page 147****Test 8 -Epilogue****Page 151****Test Answer Key****Page 153**