Calendars are much more complex than you might think! Throughout human history, and still today, different cultures have used very different calendars, with “years” of different lengths, different starting dates (“New Year”), and different subdivisions (“weeks”; “months”; “seasons”; etc.). Moreover, due to astronomical irregularities and mathematical complexities, no human calendar is perfectly consistent; all calendars require certain variations and adaptations.

**Astronomical Foundations**

- **Day** (terrestrial) = duration of the Earth’s rotation around its own axis (subdivided into 24 hours)
- **Month** (lunar) = duration of the Moon’s orbit around the Earth (~29½ days)
- **Year** (solar) = duration of the Earth’s orbit around the Sun (~365¼ days)

**Note:** a Week does not have any astronomical basis, but is merely a common convention of grouping seven days together. Unfortunately, complexities of nature cause problems for calendars: Sun and Moon and Earth are not in sync!

One solar year is not exactly 12 lunar months!

One solar year is not exactly 365 terrestrial days!

One lunar month is not exactly a whole number of days!

If our solar system were different: Things would be mathematically cleaner if each solar year had exactly 360 days, and each lunar month had exactly 30 days; then each year would have exactly 12 months. However, even if our solar system were this mathematically regular, fitting 7-day weeks into this scheme of months and years would still be problematic. Only if we had 6-day weeks would everything work out well mathematically, with exactly five 6-day weeks per 30-day month, and exactly sixty 6-day weeks per 360-day year.

**Three Main Types of Calendars**

Due to these astronomical irregularities in our solar system, it is difficult to fit lunar months and solar years together. Thus, there are three main choices for constructing calendars:

**Lunar:**
- The Muslim/Islamic calendar has exactly 12 lunar months (of 29 or 30 days) each year, totaling only 354 or 355 days per year!
- The first day of a new month is the day the crescent sliver of the new moon is first observed.
- Thus, each Muslim “year” is either 10 or 11 days shorter than the Western/solar year.
- As a result, the Muslim months slowly rotate throughout the four seasons; a particular day or month can occur during the Winter, Fall, Summer, or Spring.
- Another consequence is that a cycle of 33 "lunar years" on the Muslim calendar corresponds to only 32 "solar years" on the Western/Gregorian calendar.
Solar:

- The Julian/Gregorian calendar has 365 days in most years, but 366 days in "leap years"!
- The Julian calendar (from the time of Julius Caesar) provided a leap day every four years, which was slightly more often than needed to keep the calendar years perfectly in sync with the sun; by the 16th century, the vernal equinox fell on March 11, rather than March 21.
- The Gregorian reform (proposed by Pope Gregory XIII in 1582) made only slight changes to the Julian calendar: dropping 10 days that year, and changing the rule for how often leap years occur.
- Thus, the calendar year remains in step with the sun: the Spring and Fall Equinoxes and Summer and Winter Solstices occur at the same time (on almost the same calendar days) each year.
- On the other hand, the "months" are not lunar; the 12 months have between 28 and 31 days, but the first day of a new "month" is not tied to the "new moon."

Luni-solar: mixed lunar & solar calendars, with some features based on the moon and others based on the sun!

- The Jewish Calendar is based primarily on lunar months; new months begin at the time of the astronomical "new moon."
- Most Jewish years have 12 months (of 29 or 30 days each), with a total of 354 or 355 days each.
- However, a 13th month (a "leap month") is added about every three years, so that annual festivals always remain within the same solar seasons.
- Thus, Passover/Pesach is always celebrated in the Spring; Tabernacles/Sukkoth is always in the Fall.

Note: Christian Liturgical Calendars are based mostly on the solar calendar, but some features are based on the lunar calendar: Most annual festivals fall on the same calendar day each year; for example, Christmas is always on December 25. However, the dates for Easter and all related days (from Ash Wednesday to Pentecost) are based on lunar considerations.

Comparing Various Calendars

Common/Western/Gregorian Calendar

- Begins: January 1
- Length: usually 365 days, but 366 days in "Leap Years"
- Subdivisions: each week has 7 days, but the twelve months are of unequal length (28 to 31 days, not tied to the moon!)
- Main Seasons: Spring, Summer, Fall, Winter (beginning on the vernal equinox, summer solstice, autumnal equinox, and winter solstice, respectively)

Western Christian Liturgical Calendar

- Begins: First Sunday of Advent (between Nov. 27 and Dec. 3)
- Length: usually 52 weeks (364 days), but sometimes 53 weeks, as necessary.
- Subdivisions: weeks normally have 7 days, but some are considered "octaves" (8 days; e.g. from Sunday to Sunday); months are not important, but some periods last 40 days or even 50 days (7 full weeks).
- Main Seasons: Advent & Christmas (shorter); Lent & Easter (longer); Ordinary Time (the rest of the year)
Many Other Calendars
- African, Asian, Aztec, Mayan, Roman, Julian, etc.
- Other “Years” not beginning on Jan. 1: fiscal/financial year, academic/school year
- Other “Seasons” of varying lengths: tourist seasons, sports seasons (football, basketball, baseball, etc.), hunting & fishing seasons, rainy & dry seasons, etc.

Further Variations in Calendars

Different starting years, which cause differences in the numbering of years:
- Jewish: 1 Tishri 3760 BC (traditional date of creation of world)
- Roman: 21 April 753 BC (traditional date of founding of Rome)
- Christian: 25 March 1 AD (traditional date of conception of Jesus)
- Muslim: 1 Muharram 622 AD (traditional date of journey to Mecca)

When is “New Year’s Day”?
- Common/Gregorian: January 1
- Jewish: Rosh Hashanah (first day of month of Tishri; from mid-Sept. to early Oct.)
- Muslim: Day of Hijra (first day of month of Muharram; about 11 days earlier each Western year)
- Western Christian: 1st Sunday of Advent (Nov. 27 to Dec. 3)
- Eastern Christian: September 1 (some still follow the Julian calendar)

When does a new “day” start?
- At dawn? at midnight? at sunset?
- In modern Western thought, a new “calendar day” technically begins at midnight, although in popular usage, a new “day” begins when we wake up (around dawn).
- In the Jewish calendar, each new “day” begins at sundown (see the order in Gen 1: “evening & morning”).
- This affects some Christian liturgies: "vigils" are celebrated on the evening before major feast days (the tradition of "Midnight Masses" only started much later).

Major Seasons of the Liturgical Year

Different Traditions within Christianity
- There are many variations for Eastern Orthodox, Roman Catholic, Protestant, Evangelical, and Independent Christians.
- In early Christianity, feasts gradually developed around important events in the Life, Death, and Resurrection of Jesus.
- In Western Christianity, the most popular feast is Christmas; for most Eastern Christians, Epiphany is more important.
- For almost all Christians, the theologically most important feast is Easter, although the date of Easter may be different!
- The following explanations pertain to Roman Catholics and many (but not all) other Western Christians.
Season of **ADVENT**
- A time of watchful/joyful/hopeful preparation for the Coming of the Lord, both the "first coming" of Jesus (Christmas) and his "second coming" (Parousia).
- Advent begins four Sundays before Christmas (between Nov. 27 and Dec. 3); thus it is between three and four weeks long, but only rarely four full weeks.

Scripture Readings and Liturgical Prayers are slightly different for the three parts of Advent:
- **Beginning of Advent:** focus is on Eschatology and Messianic expectations, teachings about the future or end-times (esp. from the prophet Isaiah)
- **Middle of Advent:** readings from Isaiah continue, but focus shifts to Gospel texts about John the Baptist, the one who prepared for the coming of Jesus.
- **Dec. 17-24 (last week before Christmas):** focus is on the biblical events that immediately preceded the birth of Jesus; readings from Matt 1 & Luke 1 and special "O Antiphons."

Season of **CHRISTMAS**
- Celebrates the Incarnation/Nativity/Birth of Jesus Christ; not just Christmas Day itself, but a season of continued celebration for several weeks *afterward*. The exact length of the Christmas Season varies from year to year.
- **Christmas Day:** always on Dec. 25 (technically beginning on the evening of Dec. 24), so it can occur on any day of the week. Four different Masses (with different sets of prayers and readings): Vigil, During the Night, Dawn, and During the Day.
- **Christmas Octave:** intensive celebration for eight days, up to and including Jan. 1. Includes several special feasts: St. Stephen, St. John, Holy Innocents, Holy Family, and Mary Mother of God.
- **Christmas Season:** celebration continues through the Epiphany, up to the Baptism of the Lord. The Epiphany of the Lord was traditionally celebrated on Jan. 6 (the twelfth day of Christmas); now it is often transferred to the Sunday between Jan. 2 and Jan. 8. The Baptism of the Lord is usually celebrated on the Sunday after Epiphany; but if Epiphany is Jan. 7 or 8, then the Baptism is celebrated on the following Monday.

Season of **Ordinary Time - I (begins)**
- This liturgical season can also be called “Ordered Time” or the “Season of the Year” (when Sundays are sequentially numbered).
- The first part of "Ordinary Time" begins after the Christmas season (the day after the Baptism of the Lord) and runs up until Lent (which begins on Ash Wednesday).
- It varies in length between 4 and 9 weeks (since the Christmas Season can end between Jan. 8 and Jan. 13, and Lent can begin as early as Feb. 5 or as late as March 10).
Season of **LENT**
A season of preparation for Easter, Lent has both a penitential and baptismal character.
- Traditional penitential practices during Lent include fasting, prayer, and almsgiving.
- For those preparing to be baptized at Easter, the “Rite of Christian Initiation of Adults” (R.C.I.A.) includes a “Rite of Election” (usually done early in Lent) and three “Scrutinies” (done on the 3rd, 4th, and 5th Sundays of Lent).

Lent is traditionally thought to be “forty days” long, but its actual length has changed over the centuries.
- In contemporary understanding, Lent begins on Ash Wednesday and ends on Holy Thursday afternoon.

**Ash Wednesday:** a day of fasting and abstinence; Catholic Christians receive a cross of ashes on their foreheads as a sign of our mortality and repentance.

**Palm Sunday or Passion Sunday:** the Sunday before Easter; the entry of Jesus into Jerusalem is commemorated and the Synoptic Passion Narratives are read (Matthew, Mark, and Luke, on a 3-year rotating cycle)

**Holy Week:** the week before Easter, beginning Palm Sunday (a.k.a. Passion Sunday) and including the Easter Triduum.

**Easter Triduum:** “three holy days” from Holy Thursday evening to Easter Sunday evening:
- **Holy Thursday:** commemorates the “Last Supper” of Jesus with his disciples; the liturgy traditionally includes “the Washing of the feet” and is followed by a Eucharistic procession and a period of veneration of the Blessed Sacrament.
- **Good Friday:** commemorates the Passion, Death, and Burial of Jesus; a special non-Eucharistic liturgy focuses on the Johannine Passion, the Veneration of the Cross, extensive Intercessory Prayers, and sharing of Communion.
- **Holy Saturday:** commemorates the time when Jesus was in the tomb; no liturgical rites should be celebrated on this day (not before sundown).
- **Easter Vigil:** begins the liturgical celebration of the Resurrection of Jesus; a special liturgy (celebrated Saturday after sunset, during the night, or Sunday before dawn) includes lighting of the Easter Fire and Easter Candle, proclamation of the Easter Exsultet, extensive readings from the Old Testament, and the Baptism of many new Christians.
- **Easter Sunday:** the day of Resurrection; the liturgy includes the renewal of Baptismal Promises for all the faithful.
Season of **EASTER**

- Celebrates the "Paschal Mystery": the Death & Resurrection of Jesus Christ (the core/central event of Christianity).
- The date of Easter is variable on the solar calendar; it falls on the first Sunday after the first full moon after the vernal equinox.
- It is celebrated on a different day by some Eastern Christians, who still base their liturgical calendar on the Julian calendar (in contrast to the Gregorian calendar).

**Easter Octave**: eight days of intensive celebration, from Easter Sunday to the 2nd Sunday of Easter (now a.k.a. "Divine Mercy Sunday" by Roman Catholics).

**Easter Season**: continued celebration for a full fifty days (seven weeks) up to and including the Feast of Pentecost.

- **Ascension of the Lord**: traditionally celebrated on the 40th day of Easter; now often moved to the following Sunday.

- **Pentecost Sunday**: seven weeks or fifty days after Easter, celebrating the coming of the Holy Spirit upon the first disciples. Pentecost closes the Easter Season.

**Season of Ordinary Time - II (continues)**

The rest of the liturgical year (up to 34 weeks total), from the Monday after Pentecost Sunday until the First Sunday of Advent, which begins the next liturgical year.

- Exactly when Ordinary Time resumes depends on the variable date of Pentecost.

Several special celebrations fall soon after Pentecost:

- **Most Holy Trinity**: on the Sunday after Pentecost
- **Body and Blood of Christ (Corpus Christi)**: traditionally Thursday, now the Sunday after Trinity Sunday
- **Sacred Heart of Jesus**: Friday after the 2nd Sunday after Pentecost

- Many other celebrations related to Jesus or to Mary or other Saints can be celebrated on weekdays during Ordinary Time. Some of these can even be celebrated on Sundays.
- The 34th or Last Sunday of Ordinary Time is celebrated as the Feast of Christ the King.
Liturgical Colors

- **Advent - Purple** on most days, except for Rose (optional) on the Third Sunday of Advent ("Gaudete Sunday")
  - **Christmas - White or Gold** (not red and green!), except for **Red on the feast days of martyrs**
- **Lent - Purple** on most days; Rose (optional) on the Fourth Sunday of Lent ("Laetare Sunday"); **Red on Passion/Palm Sunday**
  - **Easter Triduum - White or Gold** on Holy Thursday and at the Easter Vigil; **Red on Good Friday**
- **Easter Season - White or Gold on most days**, except for **Red on Pentecost Sunday**
- **Ordinary Time - Green**, except for particular feasts or occasions that have other designated colors

Special Colors for Particular Celebrations within any Liturgical Season:

- **White** - Solemnities of the Lord and the Saints; memorials of saints (other than martyrs); major local feasts; and funeral liturgies
- **Red** - Feasts and memorials of the Apostles, Evangelists, Martyrs, or the Holy Spirit

Categories of Special Masses and Liturgies

**Saints** - four categories, in decreasing order of importance: Solemnities, Feasts, Memorials, and Optional Memorials
  - some saints have their own “Propers” - prayers and readings specifically selected for the particular saint
  - for other feast days, texts and prayers are recommended from various "Commons" - Anniversary of the Dedication of a Church, Blessed Virgin Mary, Martyrs, Pastors, Doctors of the Church, Virgins, and Holy Men & Women

**Ritual Masses** - Includes Christian Initiation (of adults or children; baptism, confirmation, and first communion), Conferral of Holy Orders and other Ministries, Pastoral Care of the Sick and Dying, Sacrament of Marriage, Religious Profession, Blessing of a Church or Altar, etc.

**Masses for Various Needs**

Subcategories:
  - For the Holy Church (incl. pope, pastoral meetings, unity of Christians, etc.)
  - For Civil Needs (incl. civil leaders, peace and justice, in time of war, new year, harvest, refugees, natural disasters, etc.)
  - For Various Intentions (promotion of charity, for the family, for a happy death, etc.)


**Masses for the Dead** - Includes Funeral Liturgies and Memorial Masses, Funerals for Baptized Children, and Funerals for Children who Died before Baptism.