The Hebrew Calendar.

Since biblical times the Hebrew calendar has been based on the lunar year. Months were declared by the sighting of the new moon. The Mishnah describes an elaborate system of communication whereby the sighting of the new moon was announced from hilltop to hilltop by lighting signal fires (Rosh Hashanah 22b–4). In the middle of the 1st millennium a perpetual calendar was instituted and the declaration of the month was no longer made on the basis of visual sighting. The time of the new month could then be announced in advance, in the synagogue. The Hebrew calendar runs on a nineteen-year cycle. Lunar months are actually 29½ days, so some months are 29 and others 30 days. The lunar year is 354 days, and in order to keep the lunar calendar in sync with the solar year, an extra lunar month—a second Adar—is added in the spring, seven times during the nineteen-year cycle.

The Sefer Torah is brought forward, and the leader holds it while announcing the new month:

The congregation repeats the announcement of the month, and the leader then continues:

The common rabbinic phrase has many shades of meaning. It implies a consciousness of God’s presence in one’s life, so that one does that which is right in the eyes of God.
Prayer for the New Month
May the new month bring renewal to our lives:
a renewal of wonder
a renewal of freedom
a renewal of love
a renewal of justice
a renewal of friendship
a renewal of holiness.
Amen.

Renewal
The midrash teaches that while the Israelites were still in Egypt, God showed Moses the new moon, saying, "When the moon renews itself like this, it will be the beginning of the month for you." The German Orthodox thinker Samson Raphael Hirsch understood this as a sign that the Jewish people would continually renew itself. Just as the rainbow was a sign to Noah that humanity would have a new future, in the same way, in Egypt, at the threshold of the new Jewish future, God called Moses and Aaron into the open, showed them the silver crescent of the new moon, and said, "The renewal of this moon is a sign of the call to continuous renewal."

Announcing the New Month
Recited on the Shabbat before Rosh Hodesh (except Tishrei).
We rise.

May it be Your will,
ADONAI our God and God of our ancestors,
grant that this month bring us
goodness and blessing,
and bestow on us a long life,
a life that is peaceful,
a life that is good,
a life that is blessed,
a life with proper sustenance,
a life with physical vitality,
a life conscious of heaven's demands and wary of sin,
a life free of shame and reproach,
a life of abundance and honor,
a life of love of Torah, conscious of heaven's demands,
a life in which the worthy desires of our hearts are fulfilled.
Amen.

The Sefer Torah is brought forward, and the leader holds it while announcing the new month:
May God who wrought miracles for our ancestors, redeeming them from slavery to freedom, redeem us soon and gather our dispersed from the four corners of the earth. May the entire people Israel be united in friendship, and let us say: Amen.

The new month of __________ will begin on __________.
May it hold blessing for us and for all the people Israel.
Rosh Hodesh ______ yihye b'yom ______ haba aleinu v'al kol yisrael l'tovah.

The congregation repeats the announcement of the month, and the leader then continues:
May the Holy One bless this new month
for us and for the entire people, the house of Israel,
with life and peace, Amen
joy and gladness, Amen
deliverance and consolation. And let us say: Amen.
Y'hadshenuha ha-kadosh barukh hu aleinu v'al kol amo beit yisrael,
l'haiim u-l'shalom, (amen,) l'sason u-l'sim'ah, (amen,)
lishuah u-l'nehamah, v'nomar: amen.