

MONTANA ANCIENT TEACHINGS EXTENSION RESOURCES

Extension: In The News. . .

In the News . . . is a collection of newspaper articles clipped, pasted on paper, trimmed again, and then laminated. Students are able to write on the newspaper articles with water-soluble pens to locate information, and then rinse away their marks.

Categories to consider in collecting and arranging articles:

- 1 ~ archaeology
- 2 ~ origins, earth
- 3 ~ origins, fossils
- 4 ~ origins, Ice Age
- 5 ~ origins, humans
- 6 ~ origins, environment
- 7 ~ technology, stone
- 8 ~ technology, atlals
- 9 ~ technology, art
- 10 ~ subsistence
- 11 ~ shelter

Articles are teaching tools and may be used in a variety of ways:

- ~ to locate sites and events geographically
- ~ to write a report based on who, what, where, when, how, why
- ~ to write a persuasive speech
- ~ as starting point for research
- ~ in reading instruction
- ~ as main idea

EXTENSION: EXPLORING TIME THROUGH CALENDARS

(Adapted from *Discovering Archaeology in Arizona*)

There are many ways of showing time. Even scholars can't agree on one approach. The first century of the Christian era began in A.D. 1, the second in A.D. 101, and so on. In order to avoid the specific reference to Christianity, some writers use **C.E.** (Common Era) instead of **A.D.** and **B.C.E.** (Before the Common Era) instead of **B.C.**

A.D. In ancient calendars, years were generally numbered according to the year of a ruler's reign. About A.D. 525, a Catholic monk named Dionysius Exiguus suggested that years be counted from the birth of Christ. The number of years are preceded by the Latin words *Anno Domini*, which mean "in the year of the Lord." It is usually abbreviated A.D. and is still used today. Today, scientists believe that Dionysius was wrong about the year of Christ's birth. Most believe the year of Christ's birth was a few years earlier.

B.C. The year before A.D. is called B.C. (Before Christ).

B.P. Some archaeologists prefer not to use A.D. and B.C. to show time. In part because of radiocarbon dating and other dating methods which measure time from the present, they use "Before the Present" or "B.P." For example, 100 B.C. would be 2005 B.P. That is A.D. 1995 + 100 B.C. = 2005 B.P. Many archaeologists have adopted the use of B.P., even though they are not involved in dating methods, since A.D. and B.C. are so specific to Western culture.

What might be a problem with using this designation? [Hint: today is tomorrow's yesterday—the present is always moving!]

Years Ago This is used to show how many years ago some event occurred. Paleontologists use it to show things that happened millions of years ago.

Ancient Calendars

A *calendar* is a system for showing the year and dividing it into smaller units. Calendar systems were created thousands of years ago. Sometimes people kept track of the solar year by standing in one special spot and watching the sun rise daily. They watched specific landmarks or special stone markers on the horizon to see when the sun would reach them. As the sun's movement in the sky changed with the seasons, this told them what time of year it was. Scientists have also found ancient notched sticks that might have been used for counting and marking the passage of each lunar (moon) month. Not all calendars were based on the moon and sun. The Mayans, for example, divided the year arbitrarily into eighteen twenty-day months, with a five-day period at the end.

The earliest complete calendars were probably based on observations of the moon. The moon's phases occur regularly and are easily watched. Early people began a new month when they first saw the new crescent moon. The time between a new moon and the next new moon is about 29 1/2 days. Because of this, lunar calendar months

contain either 29 or 30 days. Twelve lunar months total 354 1/3 days and form a lunar year. How much shorter than a solar year is a lunar year?

Since farmers are dependent on warm weather, a solar calendar works better for them. To make their calendars accurate for the sun, early farmers made combination lunar-solar calendars by adding an additional "leap" month to keep the seasons occurring at the same time of year every year.

Today, in the United States we use the **Gregorian calendar**. The Gregorian calendar was first introduced in A.D. 1582 by Pope Gregory XIII who worked with an astronomer named Christopher Clavius (A.D. 1537-1612). The average length of a Gregorian year is close to that of the solar year—about 365 and one-fourth days. Although some of the Gregorian calendar is based on the movement of the sun and the moon, the calendar is controlled by specific rules that define it rather than depending on observation. This keeps dates at the same time each year, which was important for many Catholic religious holidays and celebrations, like Easter.

Names of the Roman Months

In every Western European language, the names of the months are derived from their Roman (Latin) names. The months in English, for example, are:

January

for *Janus*, Roman god of beginnings and endings.

February

from *Februalia*, a time for religious purification.

March

named for *Mars*, the Roman god of war.

April

from Old English words *April*, *aperil*, and *averil* derived from Old French and Latin words. Probably also linked to the Etruscan word *apru*—April—and the Greek word *aphro*—short for *Aphrodite*, the goddess of love.

Maia, the Roman goddess of plant growth.

from the Latin word *Junius*, which probably came from *Juno*, the Roman goddess of women and marriage.

honors *Julius Caesar*.

August

the first Roman Emperor, *Caesar Augustus*, chose this month for himself.

The names of the rest of the months are based on the Latin (Roman) numbers for their original place in the calendar:

September

from Latin *septem* meaning seven. It was originally the seventh month.

October

from *octo*—eight.

November

novem—nine.

December

decem—ten.

Days of the Week

The Babylonians used a seven-day period of time, which today is known as the week, that had nothing to do with astronomy. This "week" was adopted by the Jews. The Romans also adopted the week and associated the cycle of seven days with the sun, the moon, and the five known planets. Thus, their names became attached to the days of the week:

Sunday

Dies solis, Sun's day

Monday

Dies lunae, Moon's day

Tuesday

Martis dies, Mar's day (the Roman god of war)

Wednesday

Martis dies, Mercury's day (the Roman god of commerce and messenger to the gods)

Thursday

Jovis dies, Jupiter's day (the Roman god of the sky)

Friday

Veneris dies, Venus's day (the Roman goddess of love, associated with the Greek Aphrodite)

Saturday

Dies Saturni, Saturn's day

Although the English words Sunday and Monday clearly derive from their Latin roots, the English words for the rest of the days of the week come indirectly from Germanic and Scandinavian peoples who substituted the names of their own gods who were similar to the Roman gods Mars, Mercury, Jupiter, and Venus. This resulted in the modern:

Tuesday

from *Tiu's* or *Tiw's* Day

Wednesday

from *Woden's* (or *Wotan's* or *Odin's*) day

Thursday

from *Thor's* day

Friday

from *Frigg's* (or *Fria's*) day

Other Calendars

The **Hebrew** calendar in use today begins at the Hebrew date of Creation, about 3,760 years before the Christian era. The week consists of seven days, ending with the Sabbath (religious day) on Saturday. The year consists of twelve lunar months—**Tishri**, **Cheschvan**, **Kislev**, **Tebet**, **Shebat**, **Adar**, **Nisan**, **Iyar**, **Sivan**, **Tammus**, **Ab**, and **Elul**—which are either twenty-nine or thirty days long. Because a year is eleven days longer than twelve lunar months, a thirteenth month, **ve-Adar**, is added seven times during every nineteen-year cycle.

Muslims begin their calendar at the day and year when Mohammed fled from Mecca to Medina (July 16, A.D. 622 by the Gregorian calendar). There are twelve lunar months of thirty or twenty-nine days, making the year only 354 days long. Because of this the months move backward through all the seasons, completing a cycle every thirty-two and a half years. The months are: **Muharram**, **Safar**, **Rabi I**, **Rabi II**, **Jumada I**, **Jumada II**, **Rajab**, **Shaban**, **Ramadan**, **Shawwal**, **Zulkadah**, and **Zulhijjah**.

EXPLORING TIME: WORKSHEET

Name: _____

Read the background information and then figure your birth date and year from the following calendars.

MONTHS

Gregorian (Basis: Sun) Month/Days	Jewish (Basis: Moon) Month/Days	Islamic (Basis: Moon) Month/Days	Hindu (Basis: Moon) Month/Days
January 31	Tishri Sept-Oct 30	Muhrram Sep-Oct 30	Caitra Mar-Apr 29-30
February 28-29	Heshvan Oct-Nov 29-30	Safar Oct-Nov 29	Vaisakha Apr-May 29-30
March 31	Kislev Nov-Dec 29-31	Rabi I Nov-Dec 30	Jyaistha May-Jun 29-30
April 30	Tevet Dec-Jan 30	Rabi II Dec-Jan 29	Asadha Jun-Jul 29-30
May 31	Shevat Jan-Feb 30	Jumada I Jan-Feb 30	Dvitiya Asadha
June 30	Adar Feb-Mar 29-30	Jumada II Feb-Mar 29	(leap years)
July 31	Adar Sheni	Shaban Apr-May 30	Sravana Jul-Aug 29-30
August 31	(leap years)	Ramadan May-Jun 30	Dvitiya Sravana
September 30	Nisan Mar-Apr 30	Shawwal Jun-Jul 29	Bhadrapada Aug-Sep 29-30
October 31	Iyar Apr-May 29	Dhuu al-Quadah Jul-Aug 30	Asvina Sep-Oct 29-30
November 30	Sivan May-Jun 30	Dhu al-Hijjah Aug-Sep 29-30	Karttika Oct-Nov 29-30
December 31	Tammuz Jun-Jul 29		Margasirsa Nov-Dec 29-30
	Av Jul-Aug 30		Pausa Dec-Jan 29-30
	Elul Aug-Sep 29		Magha Jan-Feb 29-30
			Phalguna Feb-Mar 29-30

YEARS

Chinese Animal Years and Times, 1972-2007

Shu (Rat) 1971, 1984, 1996

Lung (Dragon) 1976, 1988, 2000

Hou (Monkey) 1980, 1992, 2004

Niu (Ox) 1973, 1985, 1997

She (Serpent) 1977, 1989, 2001

Chi (Cock) 1981, 1993, 2005

Hu (Tiger) 1974, 1985, 1998

Ma (Horse) 1978, 1990, 2002

Kou (Dog) 1982, 1994, 2006

T'u (Hare) 1975, 1987, 1999

Yang (Sheep) 1979, 1991, 2003

Chu (Boar) 1982, 1985, 2007

My Gregorian birthday is _____

My Hindu birthday is _____

My Jewish birthday is _____

My Chinese year sign is _____

My Islamic birthday is _____

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