

Seasonal Changes in Sun Position

Data for each month On the 21st day of the month-; generated with Voyager by Carina software, Hayward, California

Latitude: 70 degrees North

Date	Sunrise Azimuth	Noon Altitude	Sunset Azimuth
Jan	—	0°	—
Feb	-35°	8°	-35°
Mar	0°	20°	0°
Apr	35°	30°	35°
May	—	40° S	—
Jun	—	43° S	—
Jul	—	40° S	—
Aug	35°	30°	35°
Sep	0°	20°	0°
Oct	-35°	8°	-35°
Nov	—	0°	—
Dec	—	not up	—

Troms, NORWAY Prudhoe Bay, ALASKA,
USA; Clyde, Baffin Island, CANADA

Latitude: 26 degrees North

Date	Sunrise Azimuth	Noon Altitude	Sunset Azimuth
Jan	-22°	44° S	-22°
Feb	-11°	53° S	-11°
Mar	0°	65° S	0°
Apr	14°	76° S	14°
May	23°	84° S	23°
Jun	27°	87° S	27°
Jul	23°	84° S	23°
Aug	14°	76° S	14°
Sep	0	65° S	0
Oct	-11°	53° S	-11°
Nov	-22°	44° S	-22°
Dec	-27°	41° S	-27°

Monterey, MEXICO Taipei, TAIWAN
Kunming CHINA Patna, INDIAKarachi,
PAKISTAN Riyadh, SAUDI ARABIA
Luxor, EGYPT Wau El Kebir, LIBYA

Latitude: 38 degrees South

Date	Sunrise Azimuth	Noon Altitude	Sunset Azimuth
Jan	-26°	72° N	-26°
Feb	-13°	62° N	-13°
Mar	0°	52° N	0°
Apr	16°	40° N	16°
May	26°	32° N	26°
Jun	31°	29° N	31°
Jul	26°	32° N	26°
Aug	16°	40° N	16°
Sep	0°	52° N	0°
Oct	-13°	63° N	-13°
Nov	-26°	72° N	-26°
Dec	-31°	75° N	-31°

Melbourne, AUSTRALIA; Auckland, NEW
ZEALAND; Bahia Blanca, ARGENTINA
Curacautin, CHILE

Latitude: 57 degrees North

Date	Sunrise Azimuth	Noon Altitude	Sunset Azimuth
Jan	-37°	13° S	-37°
Feb	-18°	23° S	-18°
Mar	0°	33° S	0°
Apr	22°	44° S	22°
May	40°	53° S	40°
Jun	49°	56° S	49°
Jul	41°	53° S	41°
Aug	24°	45° S	23°
Sep	0°	33° S	0°
Oct	-19°	22° S	-19°
Nov	-37°	13° S	-37°
Dec	-45°	9° S	-45°

Kodiak, ALASKA, USA; Glasgow, SCOT-
LAND; Copenhagen, DENMARK Moscow,
RUSSIA

Latitude: 0 degrees

Date	Sunrise Azimuth	Noon Altitude	Sunset Azimuth
Jan	-20°	70° S	-20°
Feb	-10°	79° S	-10°
Mar	0°	90°	0°
Apr	12°	78° N	12°
May	20°	70° N	20°
Jun	24°	66° N	23°
Jul	20°	69° N	20°
Aug	12°	78° N	12°
Sep	0°	90°	0°
Oct	-11°	79° S	-11°
Nov	-20°	70° S	-20°
Dec	-23°	66° S	-23°

Quito, ECUADOR; Nairobi, KENYA;
Singapore, MALAYA

Latitude: 70 degrees South

Date	Sunrise Azimuth	Noon Altitude	Sunset Azimuth
Jan	—	40° N	—
Feb	-35°	30° N	-35°
Mar	0°	20° N	0°
Apr	35°	8° N	35°
May	—	0° N	—
Jun	—	Not up	—
Jul	—	0° N	—
Aug	35°	8° N	35°
Sep	0°	20° N	0°
Oct	-35°	30° N	-35°
Nov	—	40° N	—
Dec	—	43° N	—

ANTARCTICA

Latitude: 38 degrees North

Date	Sunrise Azimuth	Noon Altitude	Sunset Azimuth
Jan	-26°	32° S	-26°
Feb	-13°	42° S	-13°
Mar	0°	52° S	0°
Apr	16°	64° S	16°
May	26°	72° S	26°
Jun	31°	75° S	31°
Jul	26°	72° S	26°
Aug	16°	64° S	16°
Sep	0°	52° S	0°
Oct	-13°	41° S	-13°
Nov	-26°	32° S	-26°
Dec	-31°	28° S	-31°

USA: San Francisco, CALIFORNIA;
Charleston, W. VIRGINIA; Wichita, KANSAS
St. Louis, MISSOURI; Louisville, KEN-
TUCKY; Pueblo, COLORADO; Richmond,
VIRGINIA

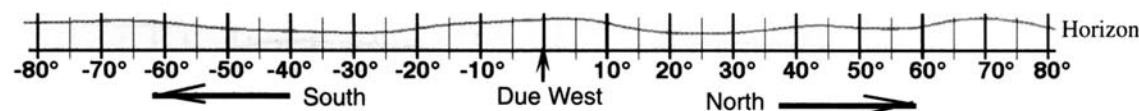
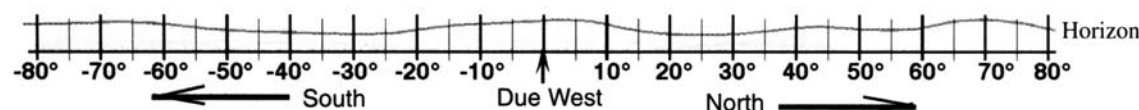
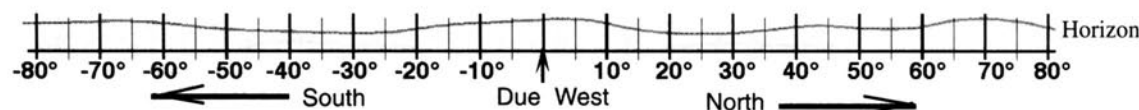
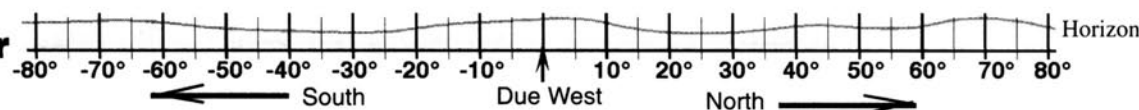
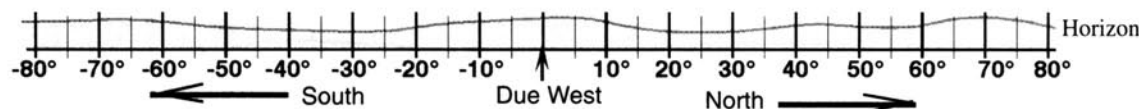
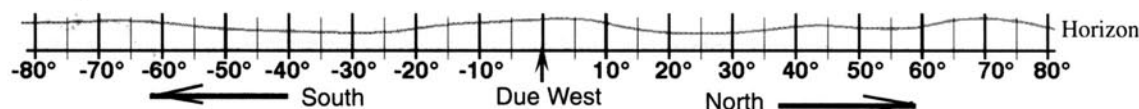
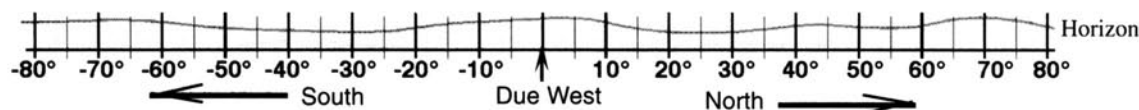
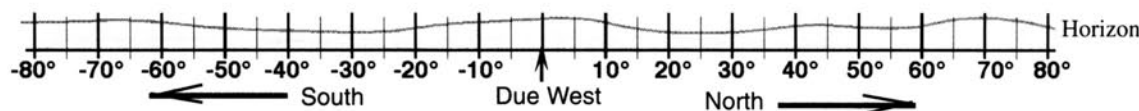
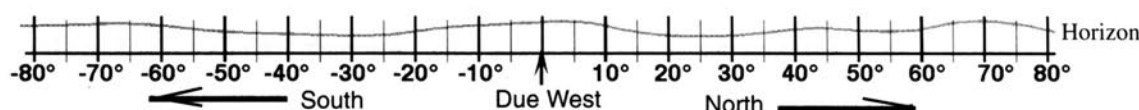
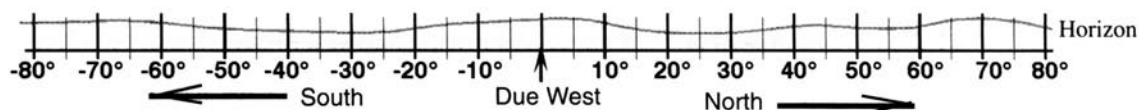
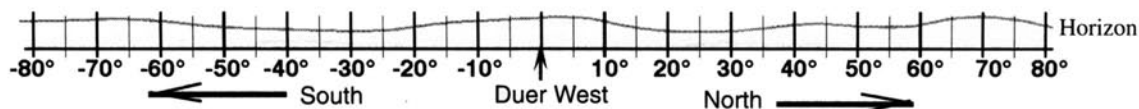
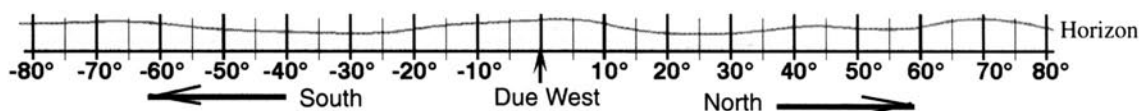
Sendai, JAPAN Seoul, S. KOREA
Tientsin, CHINA Izmir, TURKEY
Athens, GREECE Palermo, SICILY
Cordoba, SPAIN Lisbon, PORTUGAL

Latitude: 26 degrees South

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Mar	0°	65° N	0°
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Jun	27°	41° N	27°
Jul	23°	44° N	23°
Aug	14°	53° N	14°
Sep	0	65° N	0
Oct	-11°	76° N	-11°
Nov	-22°	84° N	-22°
Dec	-27°	87° S	-27°

Pretoria, SOUTH AFRICA; Curitiba, BRAZIL
Brisbane, AUSTRALIA; Asuncion, PARA-
GUAY

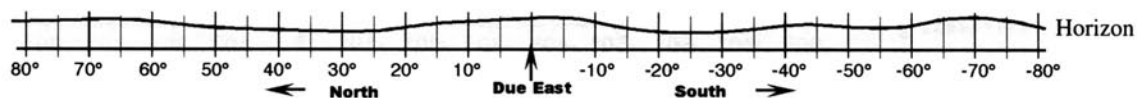
Use the data in the “Seasonal Changes in Sun Position” tables to plot on this chart where on the horizon the Sun rises and sets each month—how many degrees north or south of due West. If you plot for more than one latitude, use a color code to distinguish them.



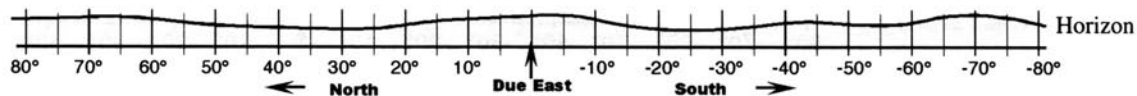
Name: _____

Sunrise Positions

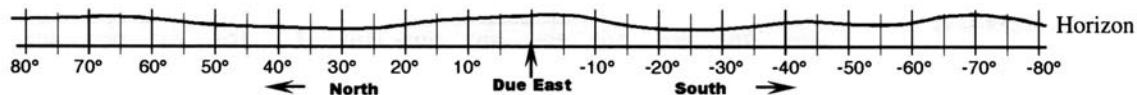
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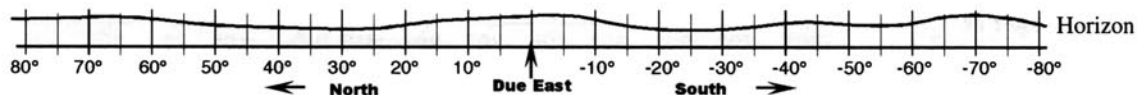
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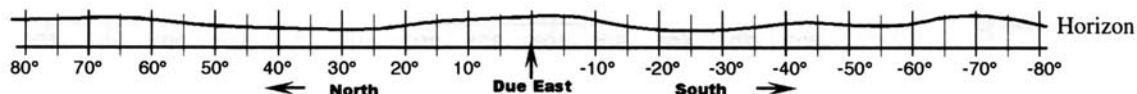
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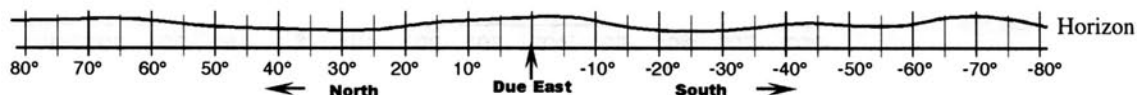
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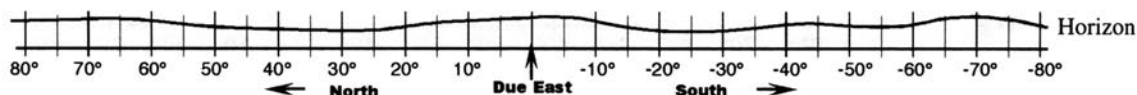
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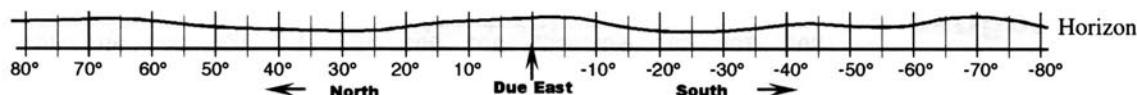
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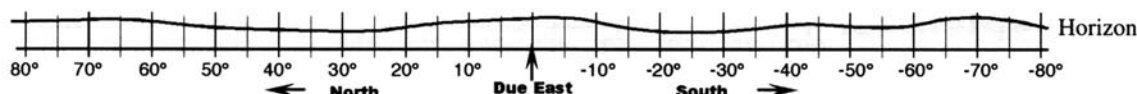
July



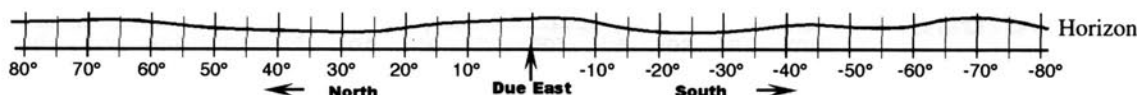
August



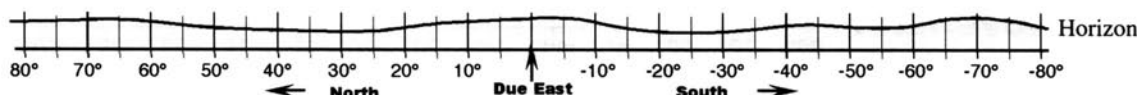
September



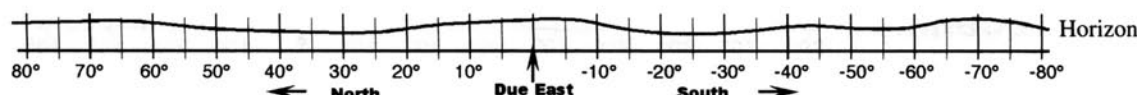
October



November

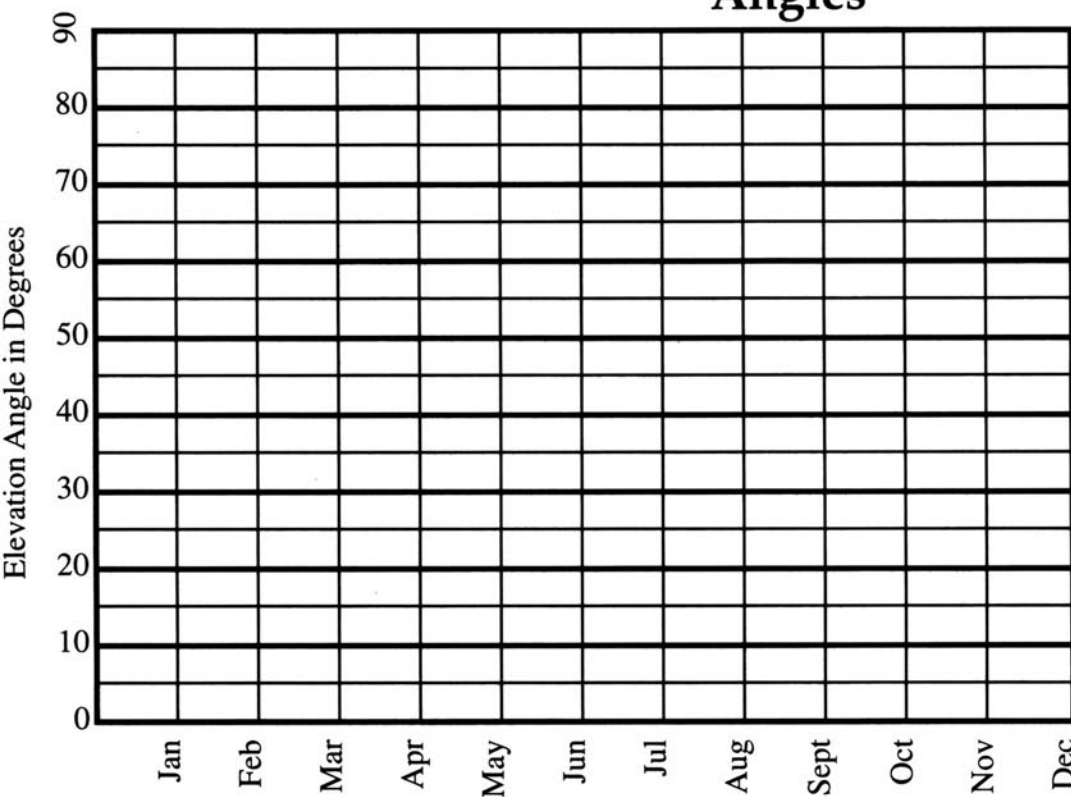


December

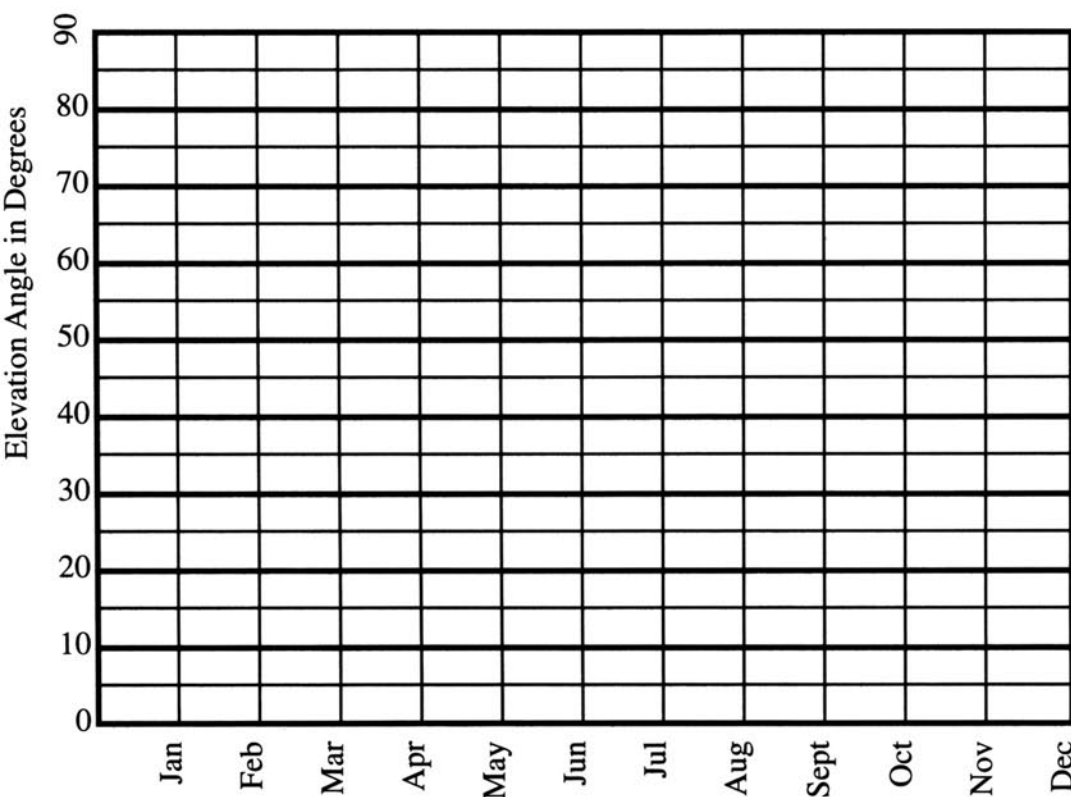


Name: _____

Noontime Sun Elevation Angles



North



South

Color Code: Label each plot line according to latitude and state or country

Single Day Sun Movement

