Slide 1:
- I can explain why we get different seasons
- I can describe what would happen if the Earth's tilt changed
- I can fill out the seasons chart

Slide 2:
SEASONS

DISTINGUISHED by differences in:
- TEMPERATURE
- MOISTURE
- VEGETATION

FOUR SEASONS are :
– Winter
– Spring
– Summer
– Fall (Autumn)

Slide 3:
http://www.youtube.com/watch?v=Pac0LThW7QA

Seasonal Changes Result from:

1) Change in angle of incidence

2) Change in duration of insolation

3) Change of intensity of insolation

Daily Sun Profile

Slide 4:
Caused by…

1) TILTED AXIS

3) REVOLUTION around SUN

2) PARALLELISM

Slide 5:
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Slide 6:
EARTH'S TILT
- Rotational Axis is tilted at an angle of __23.5°__
  - Reason sun shifts between 23 ½° N and 23 ½° S

– If the tilt was ½ degree BIGGER or SMALLER we would BURN or FREEZE to death

Slide 7:
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Slide 8:
Parallelism of Earth's Axis
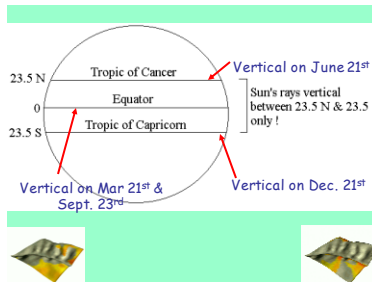- Earth's Axis always points towards the ___North Star - Polaris___
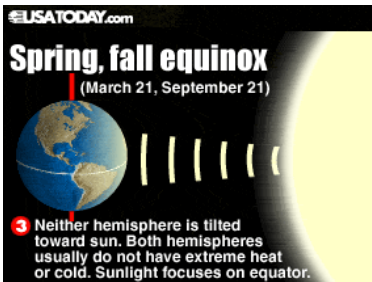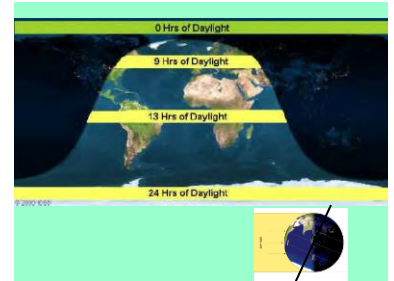
March

June   December

September

Slide 9:
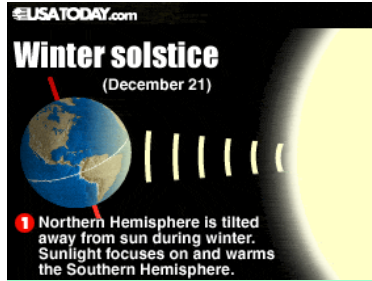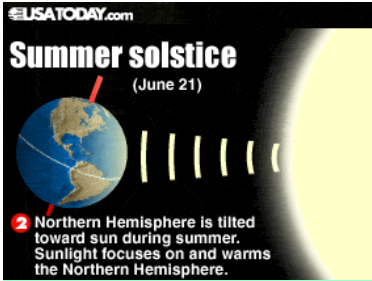Revolution of Earth Around the Sun
- Changes HEIGHT of SUN & DURATION

The Seasons

Spring in the N. Hemisphere; Autumn in the S. Hemisphere

Winter in the N. Hemisphere; Summer in the S. Hemisphere

Summer in the N. Hemisphere; Winter in the S. Hemisphere

Autumn in the N. Hemisphere; Spring in the S. Hemisphere

23.5°

Seasons Simulator

Summer solstice
(June 21)

2 Northern Hemisphere is tilted toward sun during summer. Sunlight focuses on and warms the Northern Hemisphere.

Winter solstice
(December 21)

1 Northern Hemisphere is tilted away from sun during winter. Sunlight focuses on and warms the Southern Hemisphere.

0 Hrs of Daylight
9 Hrs of Daylight
13 Hrs of Daylight
24 Hrs of Daylight

Spring, fall equinox
(March 21, September 21)

3 Neither hemisphere is tilted toward sun. Both hemispheres usually do not have extreme heat or cold. Sunlight focuses on equator.

23.5 N — Tropic of Cancer
0 — Equator
23.5 S — Tropic of Capricorn

Vertical on June 21st
Sun's rays vertical between 23.5 N & 23.5 S only !
Vertical on Mar 21st & Sept. 23rd
Vertical on Dec. 21st

Time of year	Sun is Directly above	NYS hours of daylight	Equator hours of daylight	N. Pole hours of daylight	S. Pole hours of daylight	Sun's altitude in NYS
Summer Solstice 6/21	Tropic of Cancer (23.5°)				0	71.5°
Fall Equinox 9/23	Equator (0°)				12	48°
Winter Solstice 12/21	Tropic of Capricorn (23.5°)				24	24.5°
Spring Equinox 3/21	Equator (0°)	12	12	12	12	48°

N Pole
Sun's rays
S Pole

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