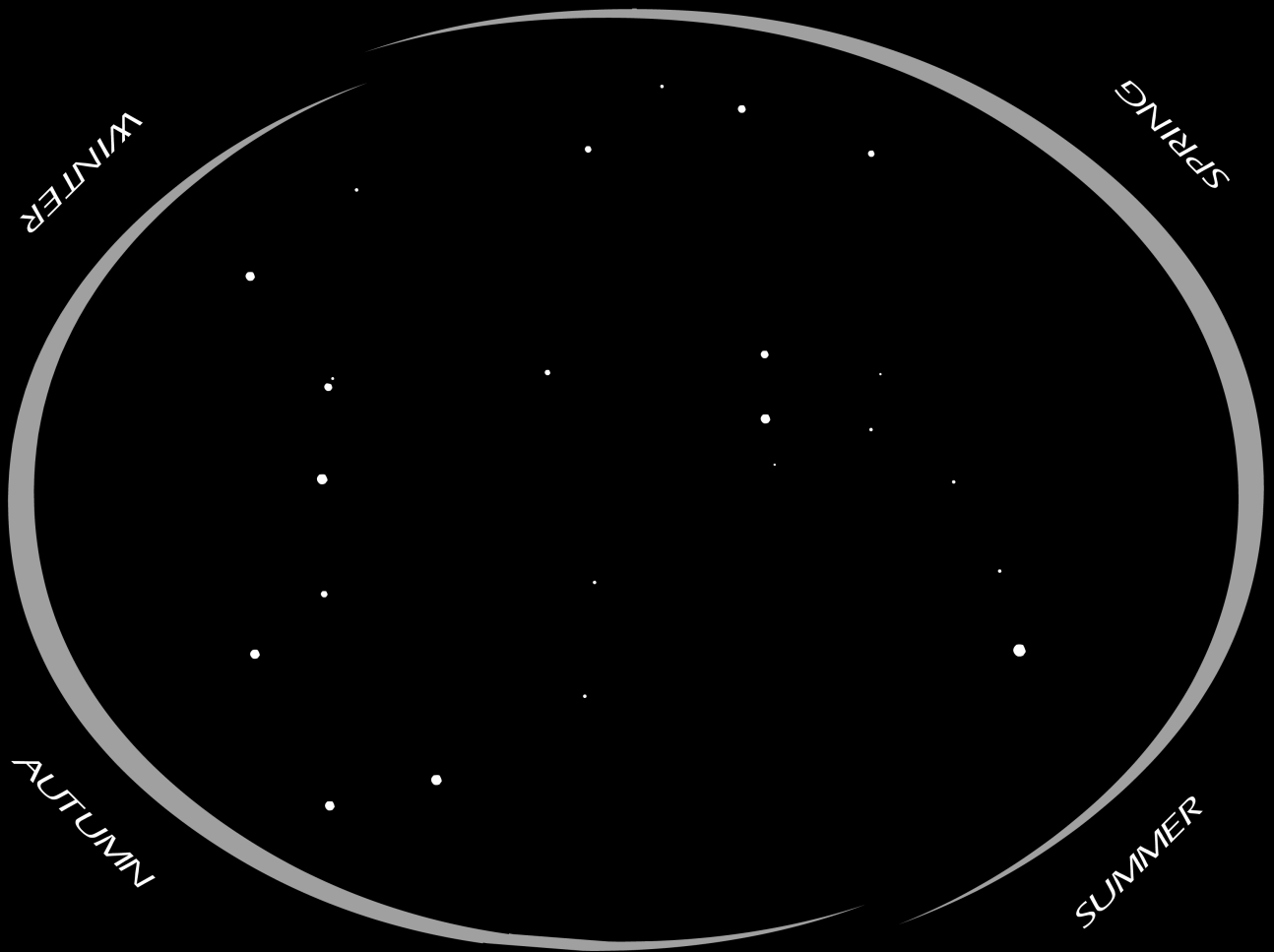


# THE BIG AND LITTLE DIPPERS

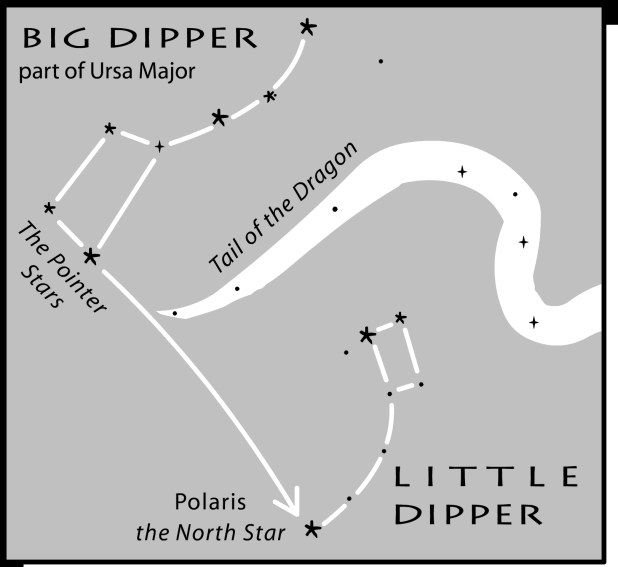


## THE NORTH SKY

To see what the north sky looks like shortly after dark, turn this star map to the season you want.

The position of the sky shifts a little from night to night. If you live far enough north you can watch the Dippers make a circle around the North Star each year.

If the sky is very clear you might be able to trace the tail of Draco the Dragon, a long constellation that comes between the Dippers.



# THE DIPPERS

Stargazing for: **YEAR ROUND** in northern states  
**APRIL MAY JUNE JULY** in southern states

*WHAT YOU NEED:* the Star Map and Sky Search sheet for The Dippers, binoculars, and a clear dark sky. Possibly a compass and flashlight.

*WHAT TO DO:*

- Check the Planet Locator chart to see if any planets are up tonight.
- Go outside about an hour after dark. Use your star map to find the Big and Little Dippers in the sky.
- Study the points of interest for the Big and Little Dipper using your eyes and your binoculars.
- Explore the rest of tonight's sky, and complete the Sky Search sheet.

## POINTS of INTEREST for the **BIG DIPPER**

### *THE BIG DIPPER*

The Big Dipper is actually part of the constellation Ursa Major ["Great Bear"]. In these months it looks like an upside-down dipper pouring water out.

### *DOUBLE STAR*

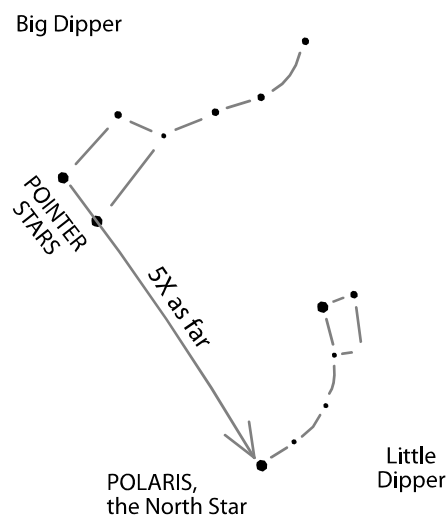
One of the stars in the handle of the Big Dipper is actually a double star. That means two stars orbiting each other. Any planets around those stars would have two suns!

The double star has long been a test of keen eyesight and the clearness of the sky. Using just your eyes, see if you can tell which handle star is a double star. Check this with the binoculars.

### *THE POINTER STARS*

The two end stars in the bowl of the Big Dipper point toward the North Star and will help you find the Little Dipper.

- \* In the southern United States it may become more difficult to see the Dippers in late July and August. However, you get a nice view of Sagittarius and Scorpio. Go to that lesson.



# POINTS of INTEREST for the **LITTLE DIPPER**

## *THE LITTLE DIPPER*

The Little Dipper is actually part of the constellation Ursa Minor ["Little Bear"]. Most of its stars are very faint. Unless it's a very dark clear night, you may only be able to make out three or four of them.

CITY VIEW



DARK SKY VIEW



## *POLARIS, THE NORTH STAR*

This star points the way to north. You can check this with your compass. Polaris is unique because it is the only star that doesn't seem to move. All the other stars rise in the east and set in the west, circling counterclockwise around the North Star each night.

Why do they do this? Why should the sky spin? Well, the skies don't really spin. It's really the Earth that spins. If we are the ones spinning, why should it look like the stars are going around?

## **Try this experiment outside:**

Find a bright star straight up over your head. (It won't really be the North Star unless you're on the North Pole.) Keep your eyes on that star while slowly spinning around.

What did you see? How did the star you were watching look? How about the stars around it? Did the sky look like it was moving or standing still?

Draw or describe what you saw:

APRIL  
MAY  
JUNE  
JULY  
AUGUST

# SKY SEARCH

CHECK OFF WHAT YOU SEE

STARDATE \_\_\_\_\_ ASTRONOMER \_\_\_\_\_

## PLANETS

*Which can you see?*

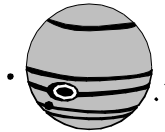
Mercury

Jupiter

Venus

Saturn

Mars



## MOON

Phase: \_\_\_\_\_

Maria (seas)

Craters

## STARS

Ursa Major: the Big Dipper

Mizar & Alcor: the Double Star

The Pointer Stars

Use these to find the North Star.

Polaris: the North Star

Check North with your compass.

Ursa Minor: the Little Dipper

Complete the Spinning Skies Experiment.

Colored Stars

Scan the whole sky, comparing stars.  
Do you see any stars that show a hint  
of some color?

BLUEISH?

YELLOW?

RED?

## SHOOTING STARS

How Many? \_\_\_\_\_

How long did you look? \_\_\_\_\_

What part of the sky were they  
coming from? \_\_\_\_\_

## COMET

Name: \_\_\_\_\_

Is the tail visible?

## OTHER FLYING OBJECTS

Airplanes & Helicopters

Satellites & Spaceships

Can't Identify it? Describe it:



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