Sun movement on the Sky

Of course, the Sun's motion on the sky is caused by the Earth's rotation, but this time shift can easily be measured. If you are outside watching the eclipse, another activity is to watch the movement of the Sun on the sky using a sundial over a couple of hours.

A good sun clock print out is:
http://www.exploratorium.edu/science_explorer/clock_diagram.html

You can set up the time using the instructions, or just stick your pencil at the correct date, then rotate with north (assuming you roughly know which direction north is) until the time is correct.

Mark the shadow at the start of the observation, then mark it again at the end.

Discussion Points:
Why does the shadow move?

The Earth rotates. The Sun does not move much.

Why does the date make a difference? (In Summer, the Sun is higher than in Winter.).

The Earth is tilted by 23.5 degrees relative to our orbit. This tilt causes the sunlight to be more direct in the Summer and the less direct in the Winter, which is the main reason for the seasons. The Sun is higher in the sky in the Summer and lower in the Winter. Remember the Sun is NEVER directly overhead unless you live in the tropics.

How long were we outside?

Use the sundial to make an estimate.