

IMPORTANT: Please refer to the Preface for Topographic Map Activities for preliminary instructions and information common to all Topographic Map Activities in the series.

Topographic Map Activity 8 - UTM Grids (Revision 061620)

Objective: Introduce the topic of Universal Transverse Mercator (UTM) Grids.

Background: Topo Maps show location with latitude and longitude coordinates and UTM grid lines. In previous activities we have found latitude and longitude coordinates on the map. UTM is a plane coordinate grid system adopted by The National Imagery and Mapping Agency. UTM and latitude/longitude are two different location systems, with neither one being more accurate than the other. Some people prefer UTM, some others like sailors prefer latitude/longitude due to navigational charts.

The UTM system takes a map of the earth, flattens it, and then sections it in to 60 zones numbered 1-60 (See Figure 1) with each zone 6° wide of longitude. The 60 zones begin with zone 1 at the 180° West longitude. The zones increase in number as you move east. The United States lands in zones 10 to 19.

The area above and below the equator are split into zones of 8° of latitude, also called lateral bands. The zones are labeled with alphabetical letters for a total of 20 zones, 10 south and 10 north of the equator. This creates a grid zone that is 6° wide and 8° tall and identified by a Grid Zone Designation, a number (zone representing longitude) and a letter (zone representing latitude). The northern most zone (X) is a larger 12°. For the polar regions south of 80° south and north of 84° north uses a different system, the Universal Polar Stereographic (UPS) grid and not UTM grids.

The Universal Transverse Mercator Grid

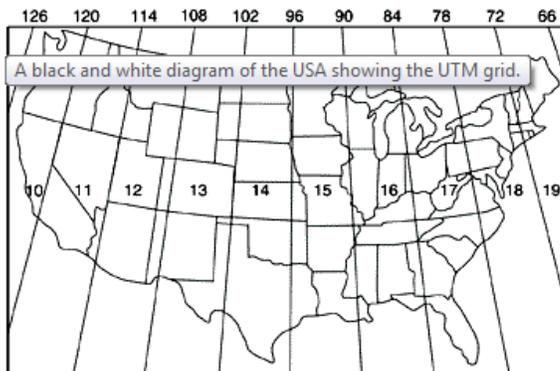


Figure 1: Diagram of the U.S. with UTM grid zones. The top numbers are degrees while the middle numbers are the zone designation. Note that Nevada is in zone 11. ([Public Domain](#))

Additional information on UTM lines may be found here: <https://pubs.usgs.gov/fs/2001/0077/report.pdf>.

More information on lateral bands may be found here: <https://earth-info.nga.mil/GandG/coordsys/grids/utm.html>.

Activity: We will find UTM Grid Zone Designation on the Topo Map.

Step 1. Open the Blue Diamond Topographic Map with a Ctrl + Click on the hyperlink: [Blue Diamond](#)

Step 2. Once the map opens, ensure that all layers are being shown (refer to instructions in Preface for assistance).

Step 3. Let's find out where in the earth our map is located. Pan to the lower middle informational section of the map. Can you find where the Grid Zone Designation is found and what is it (Hint it is a number and letter)?

You have just found the Grid Zone Designation of Red Rock Canyon!

[Feedback](#)

Answers (AS stands for answer step):

AS 3 (It's in a box and it is 11S)