

Animated Star Chart

Grade 9 – Earth and Space

Scratch Code Examples



For all these examples the code is for the star map sprite. To start, just rotate it once. We are showing an animation of one degree per 0.1 seconds. The horizon graphic is overlaid on the star map and stays stationary.



Now we are converting numbers of hours (from time as currently given on the planisphere for any chosen date) to degrees and rotate the map by that much. Note that we round the degrees of rotation as a loop cannot repeat by a fraction of a number.





This is very similar to the last task but now we rotate the sky for a number of days of the year passing.

peat	
tum	C Total rotation degrees
set	Total rotation 👻 to 🥚 👘 👘 👘 👘
ask	How many days do you want to rotate the star map by? and
set	Day of year rotation + to answer * 0.97
set	Total rotation 💌 to Total rotation + Day of year rotatio
ask	How many hours do you want to rotate the star map by? and
set	Time of Day rotation - to answer + 15
set	Total rotation 👻 to Total rotation + Time of Day rotation
repe	
repe	at round Total rotation
	at round Total rotation ait 0.01 seconds m ^{(*}) 1 degrees
repe	at round Total rotation



There are many ways of doing the last task. In this version we just keep looping to see if the user wants to do more days. It resets to January 1^{st} after every date. One fairly straight forward extension would be to prompt the user for the month number, then the day number, and finally the hour of the day. This makes it easier to pick a date (e.g. September 16^{th} at 5 AM would be month=8, day=16, hours=5).

Note that we are assuming that the star map is set for January 1st at midnight when we first get started. You'll have to make sure this is the case by potentially doing a separate rotation of the graphic first (since students may have been playing with it for a while by now and it could be oriented any old way).