

Learning constellations together with observation of artificial satellite

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According to the present government guidelines for teaching, grade 4 elementary school children will study constellations. In order to

assist observation, planisphere has been given to every children. However, it is often difficult to identify constellations in the night sky. In order to raise study volition, the authors introduce observation of artificial satellites together with stellar observation. Since children are often excited by touching informations on the satellites, spacecrafts, or astronauts and show interests and concern about universe. Although a lot of artificial satellites are orbiting the Earth, few people are conscious of artificial satellites. Some people have experiences of exciting by seeing artificial satellites by chance. So the aim of this study is to make website showing the time and flight courses of bright satellites expected to be seen by naked eyes. In order to get familiar to the constellations near the flight courses, figures on the stellar fields can be also obtained. Using the figures, teachers are expected to impose to every children to trace the stellar positions on thin papers. This practice has been established as an effective teaching method.

The authors started observations of artificial satellites such as Ajisai, TRMM, Users, or ISS in order to obtain brightness data, by naked eyes or by using videocamera. It is found that at least four bright satellites can be seen by naked eyes. So the learning of constellations together with observation of artificial satellites can be possible.

The effect of the teaching method proposed in this paper should be tested by performing sky observation meeting with many childrens.