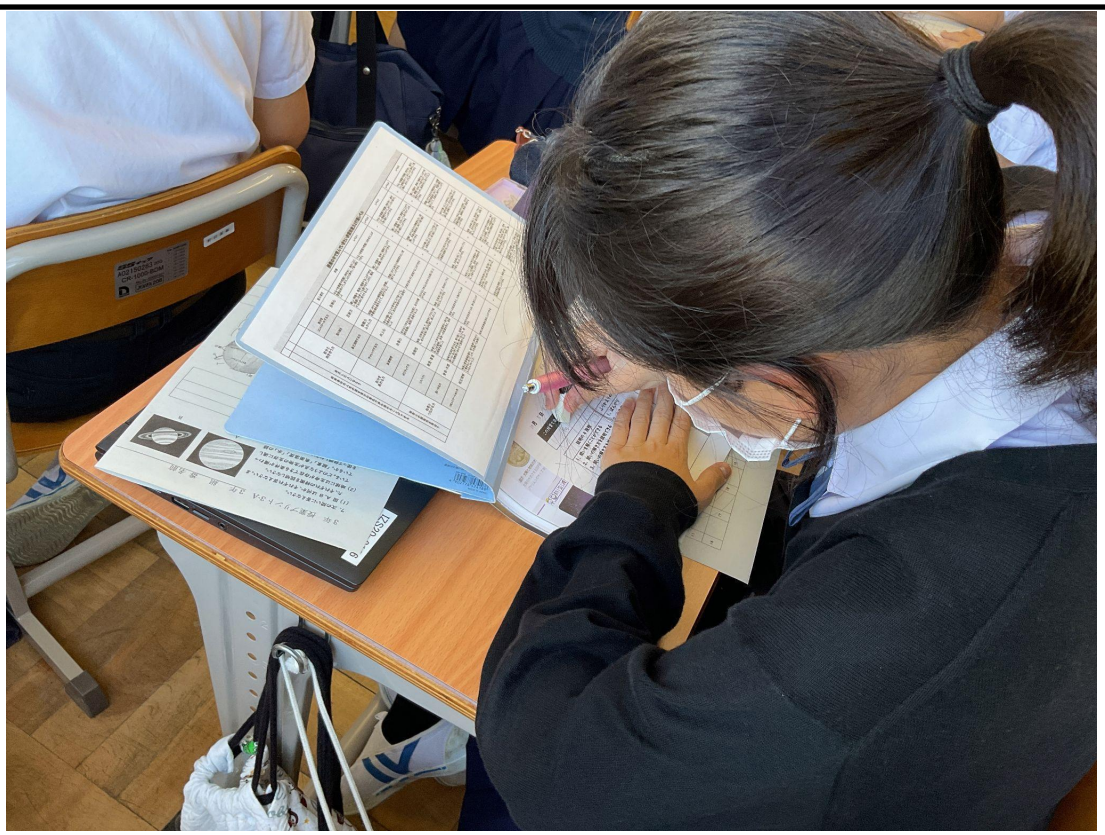
Grade / Age: 15
Topic: Improvement of non-cognitive skills (How to see the sun)
Subject area: Science
Keywords: Non-cognitive skills, geology
Single/ team work: Single & Team
Language: Japanese
Duration: 3×50 minute period

Description of the Task:
Students will learn about the movement and visibility of the sun individually, in pairs, and in groups using lesson videos and handouts. Then, using a PC, the group will share slides and make a presentation. In addition, before learning, students set up non-cognitive skills that they are aware of when they learn. After learning, students reflect on their learning.

The Specifics:

Before learning, students choose one of these nine non-cognitive skills on their own.

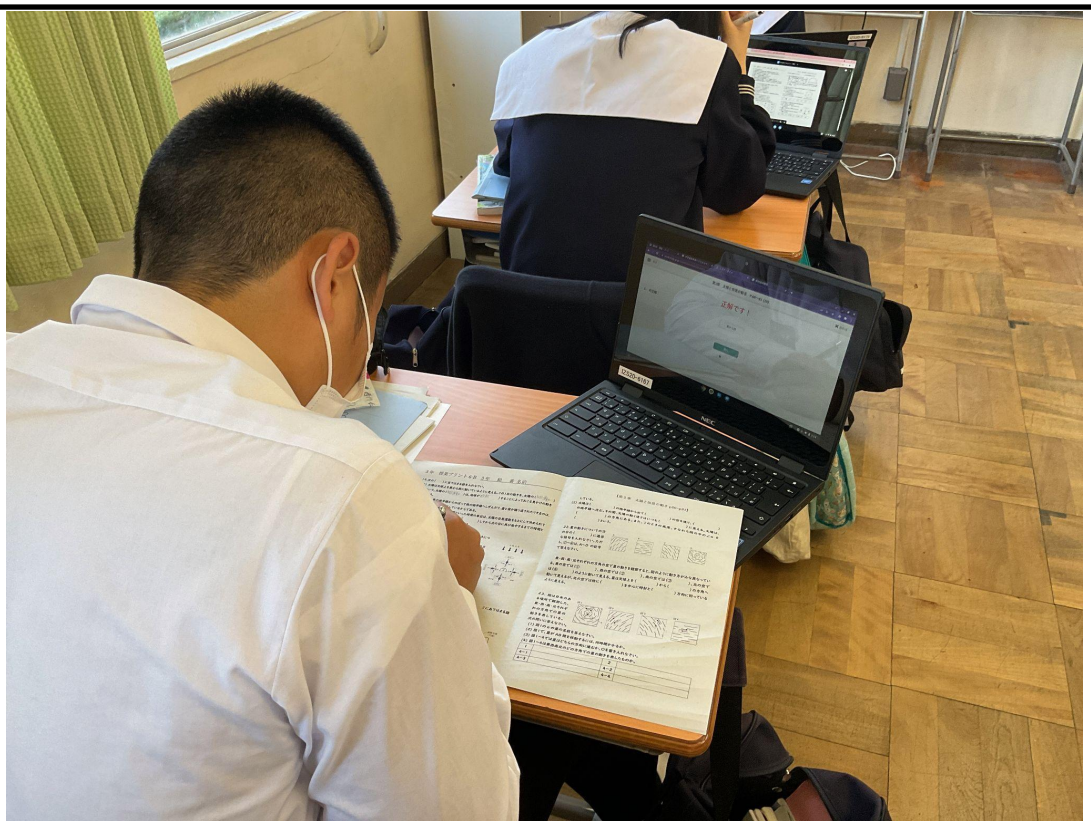
- Set indicators to be self-aware



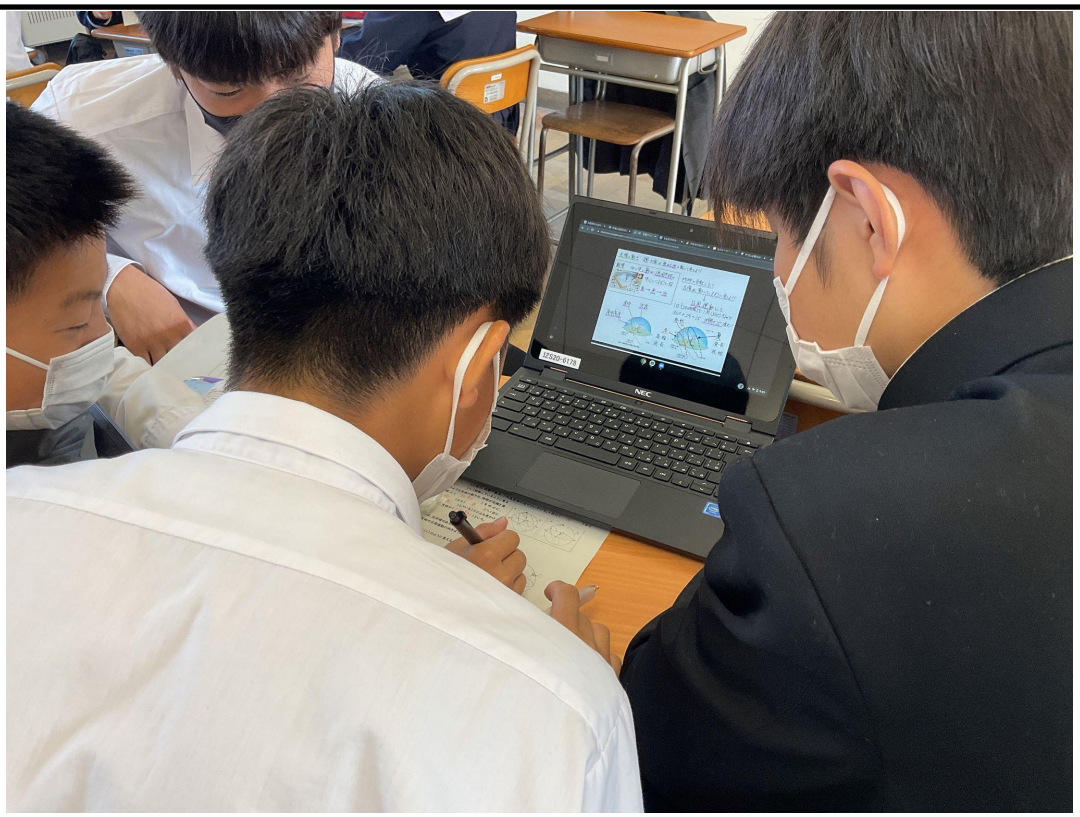
Solutions of the Task:

- Single (Managing one's emotions)

The individual study includes exercises to solve problems based on an understanding of basic solar characteristics and how they move. For example, what is the surface temperature of the sun and from what direction does the sun rise? The question-and-answer session can also be conducted using a PC.



- Team (Cooperating and empathising with others)
The students are learning by asking each other questions in groups to further deepen their understanding of what they have understood individually. For example, the way the sun moves on the summer solstice and the way the sun moves on the winter solstice. The students practise learning using the basics they have acquired in their individual studies. Both PC technology and classic paper-based learning are used.



- Common work: Sharing google slides, preparing presentation slides, and presenting to the whole group

- Reflection: Reflecting on your learning from the perspective of the non-cognitive skills that you set as your recognition at the beginning

Prior knowledge:
Non-cognitive skills (Self-regulation, cooperation with others, meta-cognitive abilities)
Features of the Sun (How the sun moves)

Comments:
This study shows how non-cognitive skills can be developed through science subject content. It is important to be aware of one's own condition and cooperation with others when learning.

Connection to other subjects/topics/areas:
Physics, Chemistry, Biology, Geology (all subject)