# Smithsonian
## Science Education Center

## Network for Socio-Scientific Thinking Glossary

| Key Terms | |
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| **Term** | **Definition** |
| **Complexity Theory** | Complexity theory tries to explain and understand how and why interactions between objects and systems develop and change, as well as the influence these relationships have on objects and systems which initially appear to have no connection to the primary relationship being observed. |
| **Emergence** | Emergence refers to the phenomena of a new or unique behavior or dynamic arising from the interaction of two objects or systems which does not occur otherwise. Emergence is surprising and complex because this new characteristic is not present in the individual object/systems separately.<br><br>*Examples: cultural gestures like the handshake, wicked problems like climate change, or questions of existence, like human consciousness* |
| **Global Citizenship Education (GCED)** | GCED frames learning in a way to encourage a sense of global and local belonging and awareness of the world's complexity and interconnectedness and collective, inclusive action-taking for a just, peaceful, and sustainable future. |
| **Scientific Literacy** | Scientific literacy means having a solid grasp of scientific ideas and how they apply to real-life situations. It involves understanding scientific facts, thinking critically about scientific claims, and using evidence to make informed choices. Being scientifically literate helps you appreciate science and make sense of the world around you.<br><br>*Examples: Using data to make informed choices about health/environmental/technological decisions* |

| Social Justice | Social justice means ensuring fairness and equality for all members of society. It involves addressing and correcting systemic inequalities and discrimination based on factors like race, gender, socioeconomic status, and more. Social justice aims to create a society where everyone has equal access to opportunities, resources, and rights, promoting a just and inclusive community. *Examples: healthcare equity, criminal justice reform, access to education* |
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| Socio-scientific Issues | Socio-scientific issues (SSI) are topics which bring science together with other fields, often to respond to a moral or ethical dilemma. These issues require an understanding of science/scientific skills in order to engage with them in an informed way and better support community decision-making and societal values around the topic. *Examples: climate change, genetic engineering, animal testing, and vaccination policies* |
| Student Action-taking | Student action-taking refers to the ability of students to intentionally generate action for themselves and their community based on what they have experienced and learned. Action-taking increases students' sense of agency, and continued action-taking helps students move from simply executing actions to putting considered actions into place. *Examples of places for student action-taking: school projects, volunteering, extra-curriculars, personal goal-setting, convincing family members to make alternative lifestyle choices* |
| Transdisciplinary Learning | Transdisciplinary learning utilizes real-life contexts, situations, and problems as the entry point for learning, and asks students to draw on tools, skills, and ways of knowing from multiple disciplines and cultures. In this way, students learn how to transfer skills and knowledge systems to any situation they encounter, regardless of how that topic is framed in traditional education. *Examples: Climate Change Education, Social Justice Education* |

Want to know more? Find out what each term means in the context of the following roles:    NESST Members          Researchers
                                                                                                                            Educators                    Youth

**Glossary compiled by Smithsonian Science Education Center's Network for Socio-Scientific Thinking (NESST)**
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