

SCIENCE

CREATIVITY & CRITICAL THINKING

This rubric identifies the main subskills related to creativity and critical thinking that students should develop as part of their science education. It can be used to reflect on existing teaching practices and design new activities to foster student creativity and critical thinking. It can be adapted to better fit specific contexts or domains. Teachers/faculty can discuss it with students to build understanding of creativity and critical thinking and ensure these skills are taught and learned explicitly. It is not meant to score students or provide them with a continuum of skill progression.

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OECD CONCEPTUAL RUBRIC



CREATIVITY

Coming up with new ideas and solutions



CRITICAL THINKING

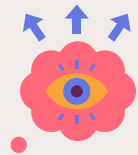
Questioning and evaluating ideas and solutions



INQUIRING

Make connections to other scientific concepts or conceptual ideas in other disciplines

Identify and question assumptions and generally accepted ideas of a scientific explanation or approach to a problem



IMAGINING

Generate and play with unusual and radical ideas when approaching or solving a scientific problem

Consider several perspectives on a scientific problem



DOING

Pose and propose how to solve a scientific problem in a personally novel way

Explain both strengths and limitations of a scientific solution based on logical and possibly other criteria (practical, ethical, etc.)



REFLECTING

Reflect on steps taken to pose and solve a scientific problem

Reflect on the chosen scientific approach or solution relative to possible alternatives