

CHEAT SHEET: ASSESS CREATIVITY IN SCIENCE

STEP 1: CHECK WHETHER CREATIVITY IS EVEN NECESSARY

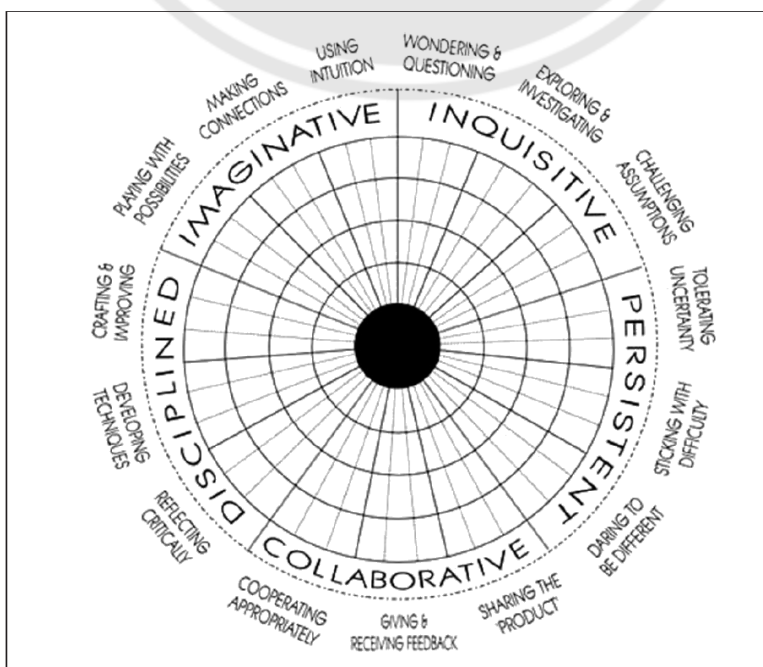
Before you assign a science activity where you want students to be creative, you have to ask whether the assignment/project at hand is conducive to creativity?

STEP 2: DEFINE WHAT CREATIVITY MEANS FOR THE ASSIGNMENT

Creativity is both individual dispositions (ie. soft skills) students can cultivate/practice as well as creative processes and products (ie. what students produce). With regards to creative dispositions, creative individuals can be curious, persistent, able to generate a variety of ideas, question and reflect critically, and more. With regards to creative products, besides being novel, creative products have students “produce new ideas or reorganize existing ideas in a new way” (Brookhart, 2013). However, besides just coming up with new ideas, Collard and Looney (2014) also note that creative products are also the best solutions to a problem (and not just the wackiest)

STEP 3: HAVE STUDENTS HELP DEVELOP THE RUBRIC YOU’LL USE TO ASSESS CREATIVITY

Consider the following as starting points to assess creative dispositions and products:



Source: Lucas et al., 2013

FIGURE 1. Rubric for Creativity

	Very Creative	Creative	Ordinary/Routine	Imitative
Variety of ideas and contexts	Ideas represent a startling variety of important concepts from different contexts or disciplines.	Ideas represent important concepts from different contexts or disciplines.	Ideas represent important concepts from the same or similar contexts or disciplines.	Ideas do not represent important concepts.
Variety of sources	Created product draws on a wide variety of sources, including different texts, media, resource persons, or personal experiences.	Created product draws on a variety of sources, including different texts, media, resource persons, or personal experiences.	Created product draws on a limited set of sources and media.	Created product draws on only one source or on sources that are not trustworthy or appropriate.
Combining ideas	Ideas are combined in original and surprising ways to solve a problem, address an issue, or make something new.	Ideas are combined in original ways to solve a problem, address an issue, or make something new.	Ideas are combined in ways that are derived from the thinking of others (for example, of the authors in sources consulted).	Ideas are copied or restated from the sources consulted.
Communicating something new	Created product is interesting, new, or helpful, making an original contribution that includes identifying a previously unknown problem, issue, or purpose.	Created product is interesting, new, or helpful, making an original contribution for its intended purpose (for example, solving a problem or addressing an issue).	Created product serves its intended purpose (for example, solving a problem or addressing an issue).	Created product does not serve its intended purpose (for example, solving a problem or addressing an issue).

Source: From *How to Create And Use Rubrics for Formative Assessment and Grading* (p. 54), by Susan M. Brookhart, 2013, Alexandria, VA: ASCD. Copyright 2013 by ASCD. Adapted with permission.

STEP 4: GIVE REGULAR FEEDBACK INSTEAD OF A SINGLE ASSESSMENT AT THE END

Rubrics are useful for sharing with students what they're aiming for, where they are now, and what they should do next

BONUS STEP: TRAIN STUDENTS TO EVALUATE THEIR OWN WORK (AND THE WORK OF OTHERS)

REFERENCES

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Lucas, B., G. Claxton & E. Spencer (2013) Progression in student creativity in school: first steps towards new forms of formative assessments. OECD Education Working Paper No. 86 (Paris, OECD)