Teacher-led assessment

Developing pupils' science and engineering practices takes time and feedback. Just as in the design cycle, in which pupils should know that failure is part of the process, assessment should provide feedback to pupils in terms of what they did well and where they can improve.

Problem-based learning is not about succeeding or failing. It is about being an active learner and continually testing and building upon ideas.

Anecdotal record grid
The anecdotal record grid lets you record any type of observation you believe is important about each pupil. Use the template on the next page to provide feedback to pupils about their learning progress as required.

Anecdotal record grid

Name: _____   Class: _____   Project: _____

Emerging	Developing	Proficient	Accomplished

Notes:

Teacher-led assessment

Observation rubrics

An example rubrics has been provided for every Guided Project. You can use the observation rubrics grid to:

• Evaluate pupil/team performance at each step of the process.
• Provide constructive feedback to help the pupil/team to progress.

Observation rubrics provided in the Guided Projects can be adapted to fit your needs. The rubrics are based on these progressive stages:

1. Emerging
The pupil is at the beginning stages of development in terms of content knowledge, ability to understand and apply content, and/or demonstration of coherent thoughts about a given topic.

2. Developing
The pupil is able to present basic knowledge only (vocabulary, for example), and cannot yet apply content knowledge or demonstrate comprehension of concepts being presented.
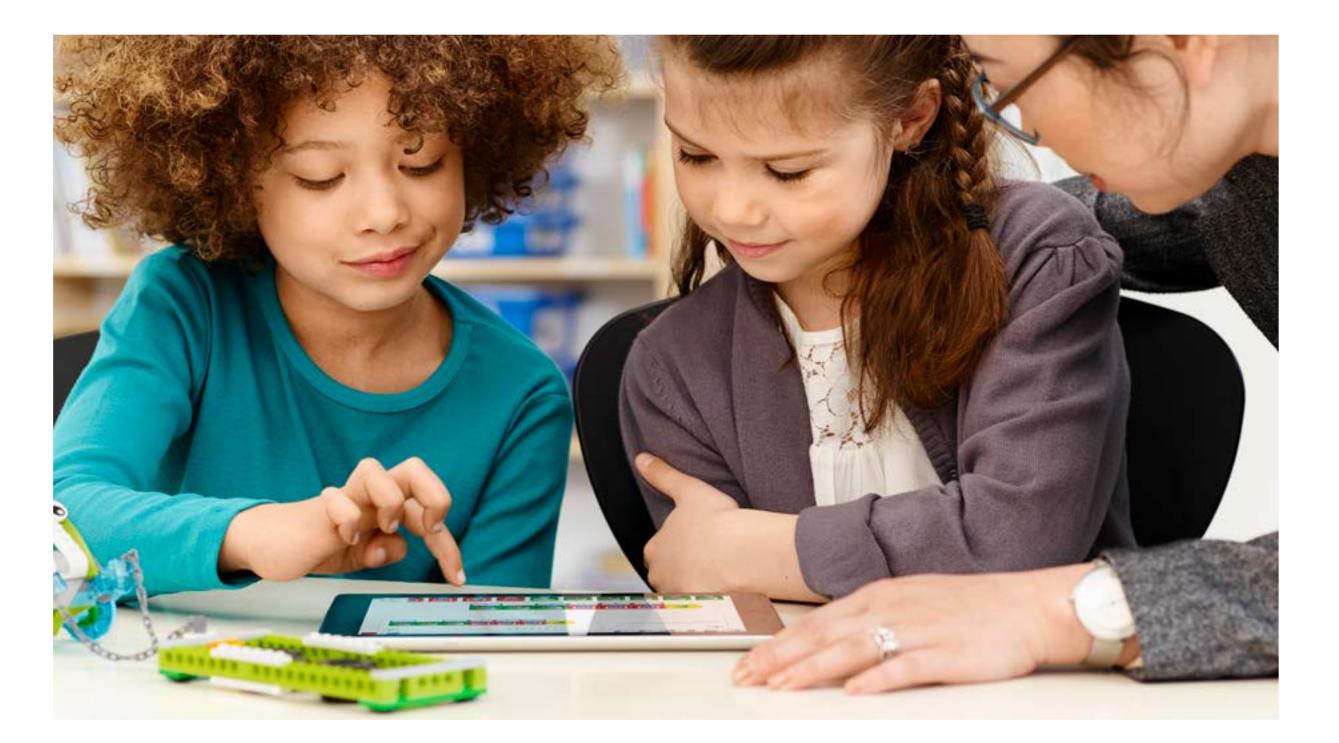
3. Proficient
The pupil has concrete levels of comprehension of content and concepts and can demonstrate adequately the topics, content, or concepts being taught. The ability to discuss and apply outside the required assignment is lacking.

4. Accomplished
The pupil can take concepts and ideas to the next level, apply concepts to other situations, and synthesise, apply, and extend knowledge to discussions that include extensions of ideas.

▶ Suggestion

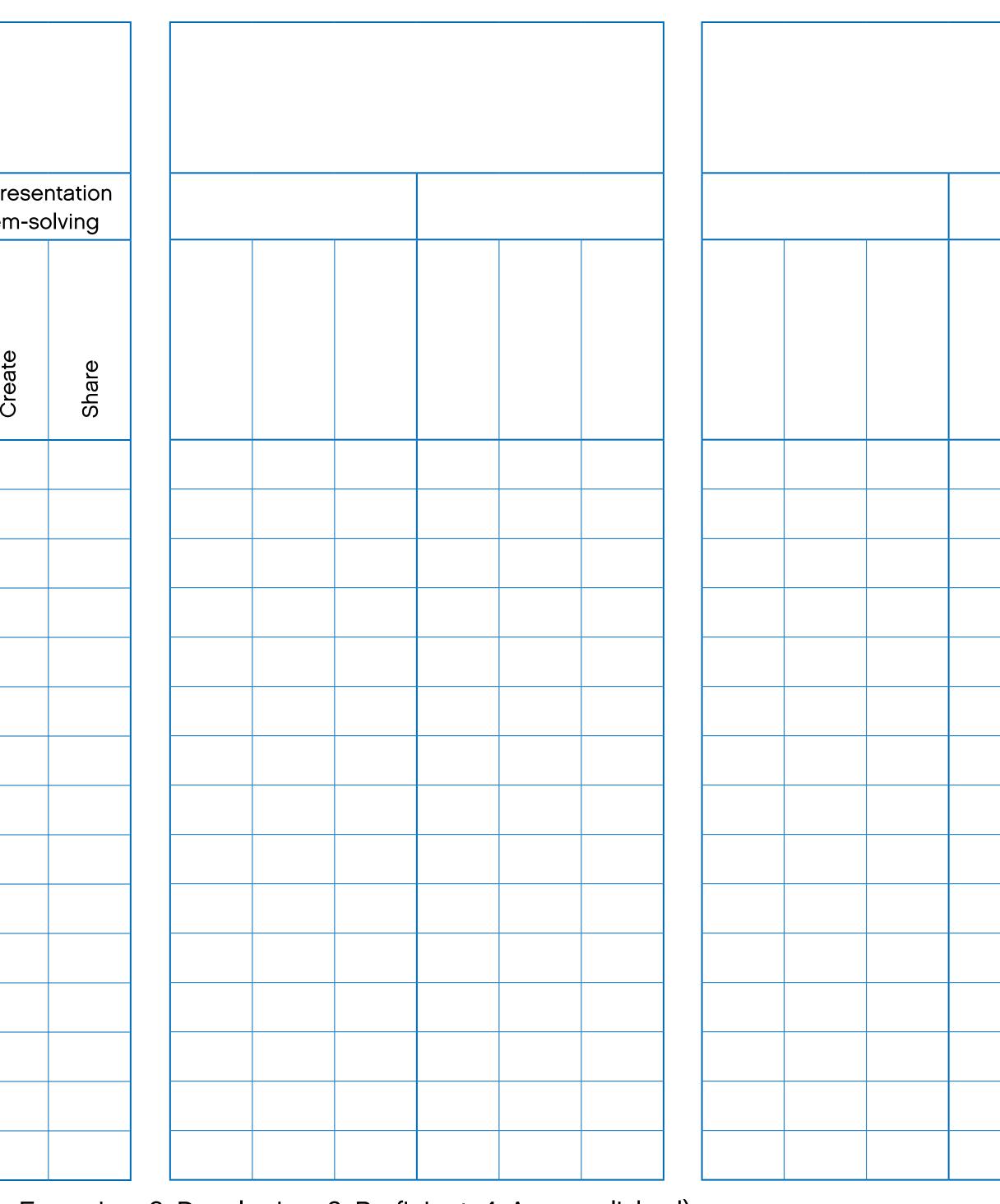You can use the observation rubrics grid on the next page to keep track of your pupils' progress.

Observation rubrics grid

Class:	Project																
		Scientific understanding			English, presentation & problem-solving											
Pupils' names		Explore	Create	Share	Explore	Create	Share									
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																

To be used with the rubrics description in the "Guided Projects" chapter (1. Emerging, 2. Developing, 3. Proficient, 4. Accomplished).

Pupil-led assessment

Documentation pages

Each project will ask pupils to create documents to summarise their work.

To have a complete science report, it is essential that pupils:

• Document with various types of media.

• Document every step of the process.

• Take the time to organise and complete their documents.

It is most likely that the first document your pupils complete will not be as good as the next one:

• Allow them time and feedback to see where and how they can improve it.

• Ask your pupils to share their documents with each other. By communicating their scientific findings, pupils are engaged in the work of scientists.

Self-assessment statements

After each project, pupils can reflect on the work they have done. Use the following page to encourage reflection and set goals for the next project.

Pupil self-assessment rubric

Name: _____   Class: _____   Project: _____

	Explore	Create	Share
	I documented and used my best reasoning in connection with the question or problem.	I did my best work to solve the problem or question by building and programming my model and making changes when needed.	I documented important ideas and evidence throughout my project and did my very best when presenting to others.
1			
2			
3			
4			

Project reflection

One thing I did really well was: _____

One thing I want to improve on for next time is: _____