Elaborate

New situations/ activities may be practical or theoretical, individual or group and can be teacher or student directed. Usually, this step is teacher directed. The content is specified by the curriculum but contexts may be developed that appeal to and are relevant to the students. (A sense of humor often helps here. Knowledge of your students is essential.)

To encourage higher order thinking, go beyond cut-and-paste. Read the article (with examples) by Jamie McKenzie.

Low Tech Ideas:

- 2 question dice (see files) (very random way of generating questions but can start thinking)
- Qmatrix paper copy (handout)

High Tech Ideas:

- The Differentatiator
- Bloom's Digital Taxonomy for higher order thinking and ICT integration
- ICT in Science Education STAQ
- Thesis Builder (by Tom March) for teachers or students
- Q Matrix
- Maker template (see files)

Notes:

- Where possible, allow for student choice in content, assessment and procedures (Maker's Model). Limit choices and scaffold processes before allowing students total freedom.

Always consider Safety in experimental situations. (Use VoiceThread or WINK as a tool to help with teaching about Safety.) A risk evaluation should be part of all experimental reports.
Remember! Carrying out a risk assessment for an experiment requires three simple steps:
* **IDENTIFY** the hazards and problems associated with the substances and tasks
* **ASSESS** the risk of exposure to the hazard
* **CONTROL** the risk by implementation of procedures and precautions

- SWOT (**S**trengths, **W**eaknesses/Limitations, **O**pportunities, and **T**hreats) analysis by teacher of individuals and groups prior to commencement of the activity limits future problems

- Develop a contract –Aims (2*5*8), Expected behaviour, Timeline, Possible Product (prac reports, newspaper article, Letter to a Friend, Justified Budget, Model, Glogster , Digital Portfolio), Assessment (self and peer, criteria), Reflection

- Information Literacy is important. Does your school have a preferred approach that uses mneumonics? E.g. DISCOVER : Define, Inquire, Search, Collect, Organise, Verify, Express, Reflect. Have you used Guided Inquiry by Kuhlthau? Do students know how to complete a Bibliography either using Word or EndNote or EasyBib or Zotero (on this version of Mozilla Firefox).

- Collaborative activities allows students to build on existing knowledge, become self and peer assessors, develop General Capabilities of Ethical behaviour (cybersafety and plagiarism), Personal and social competence (anti-bullying strategies) and Intercultural understanding. Use Wiki for Glossary, Discussion Boards and Forums

- Use of Digital Probes during experimentation depends on school equipment and time constraints.

Examples

- Humpty Dumpty
- Lighthouse
- FreeStanding Structure
- EEI

Participants: Reflection on Learning (on paper or digitally)