Planning and implementing integrated STEM

Part 2: Assessment and implementation

Planning STEM

1. Identify content in the Victorian Curriculum amenable to integration

2. Explicitly state the achievement standards, or parts of, you wish students to meet from your STEM activity

3. Brainstorm activities to meet the achievement standards and map out a learning sequence

4. Identify task criteria and constraints

5. **Plan assessment/evidence collection**

6. **Develop teaching and learning resources**

7. **Implement and reflect**

Constraints

- Constraints and criteria of a task should **define the assessment** of the task

Constraints

- Set a *minimum or maximum* bridge length, width, height and/or weight

- A testing regime for the bridge that investigates *the effects of pushing, pulling, placing vs dropping weights*, etc.

Potential Assessments

- Evidence of considering length, weight, etc in planning documents for their bridge

- Documentation of student use of measurement tools to check their physical bridges (such as a checklist)

- An experiment/results template for students to record bridge tests and explanations of the effects of forces on their bridges.

Inclusive Resources

- Does the resource allow students to document their progress and learning?

- Does it consider literacy and numeracy needs?

- Does it provide scope to differentiate based on skill level?

- Does it support collaboration and problem solving?

STEM Skills

Science Inquiry Skills	Creating Designed Solutions
Questioning and Predicting	Investigating
Planning and Conducting	Generating
Recording and Processing	Planning and Managing
Analysing and Evaluating	Producing
Communicating	Evaluating

Implementing

- Collect your resources

- Complete a 'test run'

- Do it with your students

- Reflect and iterate

Planning STEM

1. **Identify content** in the Victorian Curriculum amenable to **integration**

2. Explicitly **state the achievement standards**, or part of, you wish students to meet from your STEM activity

3. **Brainstorm activities** to meet the achievement standard and map out a **learning sequence**

4. Identify task **criteria and constraints**

5. **Plan assessment**/evidence collection

6. Develop teaching and learning **resources**

7. **Implement** and reflect