

THE

STEMCRAFT PROJECT

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS

The STEM Framework



Australian Government
Department of Education



The STEM¹ Framework

- This STEM Framework is designed as a self-help tool to enable you to categorise and reflect on STEM resources best suited to your teaching circumstances. It is a working record of your resource selection process.
- To take full advantage, you may need to consider the questions in a series of steps; read, reflect, research, ask colleagues and revisit the Framework.
- The document is set out in steps listed as hyperlinks below, but you do not need to work through the document chronologically. It is designed to be used by both expert and less experienced teachers of STEM.
- Go to the step(s) that is relevant to you by selecting the hyperlinked heading below. When you are ready to record your thinking, answer the questions raised in that step.

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¹ Science, Technology, Engineering and Mathematics

Step 1 - Preparation

Identify the STEM resource you would like to review.

1. What is its name?
2. What is it needed for?
3. How did you find out about it? Was it recommended? By whom?
4. Does it / How does it relate to the Australian Curriculum requirements you want to address?

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Step 2 - Planning

This step asks you to think about the knowledge you will need in order to deliver the outcomes required using the resource you are considering.

5. Do you understand / have the knowledge and pedagogies that could be used to deliver this outcome?

Yes No Don't know

Comment:

6. Does this resource provide accurate, contemporary information?

Yes No Don't know

Comment:

7. Will this resource help you and your students understand this topic?

Yes No Don't know

Comment:

8. Does this resource suggest pedagogies that will enable you to achieve the outcomes you require?

Yes No Don't know

Comment:

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Step 3 - Context

This step asks you to consider the context in which the learning will be taking place.

9. Does the resource connect with your students' prior experience and interests and can it be linked to your students' familiar contexts?

Yes No Don't know

Comment:

10. Does your school have the additional resources this resource would need to be effective? (laboratory, funding, OHS, material, IT support etc)

Yes No Don't know

Comment:

11. Can the resource be used and or adapted for the diverse learner needs?

Yes No Don't know

Comment:

12. Have you got the time to understand how to effectively use this resource?

Yes No Don't know

Comment:

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Step 4 - Resource usability

This step asks you to consider the usability of the resource.

13. Does this resource provide value for money? Is it suitable for a range of lessons / units of work?

Yes No Don't know

Comment:

14. What are the problems you might anticipate when you use this resource?

Comment:

15. What are the OHS issues to consider?

Comment:

16. How does this resource compare with resources you have used previously?

Comment:

17. What are the numeracy and / or literacy demands of this resource?

Comment:

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Step 5 - Support considerations

This step asks you to consider any support (such as laboratory technician, someone to assist with class management), the resource may require.

18. Do you need any support to use this resource?

Yes No Don't know

Comment:

19. Is this resource self-contained? Or do you need to order materials (think time, cost and availability etc)

Comment:

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Step 6 - Evaluating the implementation

This step suggests considerations when implementing the resource.

20. Is this resource a long-term unit resource concept or a short-term unit applicable resource?

Long-term

Short-term

If you are a Teacher Education Student please now go to Question 33. All other respondents please continue through Questions 21 – 33.

21. Is the resource assisting my students to achieve the intended learning outcome(s)?

Yes No Don't know

Comment:

22. Do I have some formative assessment to support this?

Yes No Don't know

Comment:

23. Have there been any problems?

Yes No Don't know

Comment:

24. If "yes" can you explain?

Explanation:

25. Were there any unexpected OHS issues?

Comment:

26. What have you learned about using this resource for the future? (Did you meet with any unexpected problems?)

Comment:

27. What have you learned that would allow you to use this resource better?

Comment:

28. What have you learned about your own knowledge and pedagogies?

Comment:

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Step 7 - Feedback to your colleagues teaching STEM

This step suggests feedback you might like to share with your colleagues in order to contribute to their selection of suitable STEM resources.

29. Can you describe how this resource worked and place a post on the [STEMCrAft Community of Practice](#)

Comment:

30. What aspects worked well?

Comment:

31. Why did it work?

Comment:

32. Student feedback – what did they say?

Comment:

33. Advice for future users.

Comment:

I would use this resource again

I would consider using this resource again

I would never use this resource again

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