Technology 7–8 – sample assessment task notification

More than just a sandwich

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# Task description

**Type of task**: mini folio

**Outcomes being assessed**:

A student:

* applies processes in the planning, management and production of projects   
  **TE4-PPM-01**
* communicates and evaluates design ideas and solutions **TE4-DES-01**

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**Suggested weighting**: 25%

Using the design and production process, students design a sandwich that incorporates all 6 essential nutrients.

Use steps in the design and production process as outlined in the following scaffold to design a sandwich that includes all 6 essential nutrients.

Provide a justification for your chosen sandwich ingredients and the preparation methods to be used against the factors affecting design.

**Note**: use the factors affecting design that have been listed below. Alternatively, co-construct the factors with your students. Factors affecting design may include: aesthetics, ergonomics, ethics, finance, functionality, safety, sustainability.

##### Factors affecting design

* Aesthetics – my sandwich will be presented neatly, with a clean plate
* Finance – my sandwich will cost less than $4 to make
* Functionality – my sandwich will hold its form and ingredients will be evenly spread

## Submission details

The completed mini folio is to be submitted using the following scaffold.

# Steps to success

Table 1 – assessment preparation schedule

|  |  |
| --- | --- |
| ****Steps**** | ****What I need to do and when I need to do it**** |
| ****Brainstorm ideas for sandwich**** | * Record your initial ideas of ingredients that could be used for your sandwich |
| ****Share your ideas and gain feedback**** | * Share your ideas with your peers * Ask for their thoughts on what could make your sandwich better * Give your feedback on your peers’ ideas. Suggest ways they could improve their ideas |
| ****Act on feedback**** | * Use the feedback you gained and refine your ideas to develop your final sandwich design * Provide an image of your sandwich * Annotate your image with ingredient names and preparation methods required |
| ****Analyse ingredients**** | * Complete the ingredient analysis |
| ****Complete justification**** | * Complete a draft justification and submit for feedback * Make suggested changes to your justification * Submit task |

# What is the teacher looking for?

The teacher is looking for a demonstration of skills in applying project management strategies, including planning and production.

The teacher is looking for students’ ability to communicate design ideas and their ability to evaluate design solutions.

# Marking guidelines

Table 2 – assessment marking guidelines

|  |  |
| --- | --- |
| ****Grade**** | ****Marking guideline descriptors**** |
| ****A**** | * Student demonstrates extensive skills in applying project management processes, including the planning and production of projects * Student demonstrates a high level of competence in communicating and evaluating design ideas and solutions |
| ****B**** | * Student demonstrates thorough skills in applying project management processes, including the planning and production of projects * Student demonstrates a thorough ability in communicating and evaluating design ideas and solutions |
| ****C**** | * Student demonstrates sound skills in applying project management processes, including the planning and production of projects * Student demonstrates a sound level of competence in communicating and evaluating design ideas and solutions |
| ****D**** | * Student demonstrates basic skills in applying project management processes, including the planning and production of projects * Student demonstrates a limited level of competence in communicating and evaluating design ideas and solutions |
| ****E**** | * Student demonstrates elementary skills and knowledge in project management processes * Student demonstrates very limited skills in communicating and evaluating design ideas and solutions |

# Student-facing rubric

Table 3 – assessment student-facing rubric

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Criteria | Limited | Basic | Sound | High | Outstanding |
| Brainstorm | Lists 1–2 ingredients with little or no explanation.  Shares limited ideas. Provides little to no feedback to peers. | Lists 3–4 ingredients and includes brief descriptions of each.  Shares some ideas with limited feedback from peers. Provides minimal feedback to peers. | Includes 5 or more ingredients with some thought given to ingredient combinations. Some ingredients contain some description. Preparation methods are mentioned.  Shares detailed ideas and actively seeks and provides constructive feedback. | Includes a variety of ingredients with ingredient combinations. Each ingredient includes a description with some thought given to preparation methods.  Shares well-developed ideas and engages deeply in feedback discussions. Offers and integrates suggestions. | Includes a variety of ingredients with thoughtful ingredient combinations. Each ingredient includes a detailed description and proposed preparation methods.  Shares highly-detailed ideas and demonstrates a high level of engagement in feedback discussions. Provides and integrates constructive feedback. |
| Final design | Makes minimal or no changes based on feedback. Final design is not clear. | Makes some changes based on feedback. Final design lacks detail. | Refines design based on feedback. Final design is clear and detailed with an annotated image. | Significantly improves design based on feedback. Final design is highly detailed and includes a well annotated image with clear preparation methods. | Thoroughly refines and enhances design based on comprehensive feedback. Final design is exceptionally detailed. Images are expertly annotated and preparation methods are clear. |
| Ingredient analysis | Provides little to no analysis of ingredients. | Provides basic analysis of some ingredients. | Provides a sound analysis of all ingredients. | Provides a detailed and accurate analysis of all ingredients. | Provides a comprehensive and expert analysis of all ingredients. |
| Evaluation | Evaluation is not attempted or incomplete. | Evaluation is completed at a basic level with some relevant points. | Evaluation is evident and contains relevant points. | Evaluation is thorough and well structured. | Evaluation is extensive and provides detailed reasoning. |

# Student support materials

## The design and production process

The design and production process diagram. There are 4 vertical circles with arrows indicating it is a cyclical and iterative process. The names of the following 4 stages are each within a circle:

1. Identifying and defining.
2. Researching and planning.
3. Producing and implementing.
4. Testing and evaluating.

The Identifying and defining stage contains 4 points with text that reads: ‘Identify the need and opportunities’, ‘Describe existing solutions’, ‘Outline factors affecting design’ and ‘Define key terms.

The Researching and planning stage contains 4 points with text that reads: ‘Investigate and describe relevant equipment process and materials’, ‘Develop plans to safely manage production’, Create, evaluate, modify and apply ideas and solutions’, and ‘Explain social, ethical, legal and sustainability considerations’.

The Producing and implementing stage contains 4 points with text that reads: ‘Select and use tools, materials, techniques, technologies and processes’, ‘Demonstrate and use safe practices’, ‘Apply project management processes’, and ‘Communicate and justify design choices’.

The Testing and evaluating stage contains 4 points with text that reads: ‘Work collaboratively to improve solutions’, ‘Use factors affecting design to evaluate’, ‘Justify the use of components, equipment and processes’, and ‘Reflect on your own work and the work of others’.

## Mini folio template

The Identifying and defining stage of the design and production process. The name of the stage is within a circle with arrows indicating it is a cyclical and iterative process. 

This stage contains 4 points with text that reads: ‘Identify the need and opportunities’, ‘Describe existing solutions’, ‘Outline factors affecting design’ and ‘Define key terms.

Using your knowledge of nutrients and the recommended serves for adolescents, design a sandwich that includes each of the 6 essential nutrients in the space below. Your sandwich should contribute to the overall recommended serves for an adolescent throughout the day. Keep in mind the factors affecting design.

|  |
| --- |
|  |

### Brainstorm

The Researching and planning stage of the design and production process. The name of the stage is within a circle with arrows indicating it is a cyclical and iterative process. 

This stage contains 4 points with text that reads: ‘Investigate and describe relevant equipment process and materials’, ‘Develop plans to safely manage production’, Create, evaluate, modify and apply ideas and solutions’, and ‘Explain social, ethical, legal and sustainability considerations’.

Record your initial ideas in the space below. These should be communicated by labelled images and written descriptions, including proposed preparation methods.

|  |
| --- |
|  |

### Final design

The Producing and implementing stage of the design and production process. The name of the stage is within a circle with arrows indicating it is a cyclical and iterative process.

This stage contains 4 points with text that reads: ‘Select and use tools, materials, techniques, technologies and processes’, ‘Demonstrate and use safe practices’, ‘Apply project management processes’, and ‘Communicate and justify design choices’.

Communicate your final design in the space below. Include a labelled image of your sandwich and a written description, including preparation methods.

|  |
| --- |
|  |

### Ingredient analysis

Complete the table below, identifying the ingredients for each nutrient and the number of serves. The first one has been done as an example for you. You will notice that the cheese is suitable in more than one nutrient; however, the serve is only recorded as one.

**Note:** you will need to delete the cheese example prior to completing this section.

|  |  |  |
| --- | --- | --- |
| ****Nutrient**** | ****Ingredient**** | ****Serves**** |
| ****Fats**** | Cheese | 1 |
| ****Carbohydrates**** |  |  |
| ****Protein**** |  |  |
| ****Vitamins**** |  |  |
| ****Minerals**** | Cheese (Calcium) |  |
| ****Water**** |  |  |

### Evaluation

The Testing and evaluating stage of the design and production process. The name of the stage is within a circle with arrows indicating it is a cyclical and iterative process.

This stage contains 4 points with text that reads: ‘Work collaboratively to improve solutions’, ‘Use factors affecting design to evaluate’, ‘Justify the use of components, equipment and processes’, and ‘Reflect on your own work and the work of others’.

In the space below, complete an evaluation of your chosen sandwich. Refer to the included nutrients and preparation methods and how these contribute to the recommended daily serves for adolescents. Remember to evaluate your sandwich against the factors affecting design. Your justification should be one to 2 paragraphs in length.

|  |
| --- |
| The nutrients included in my sandwich are … and contribute to the daily serves by …  The following preparation methods were used in my sandwich …. These preparation methods ensured the nutrients in my sandwich …  The presentation of my sandwich …  My sandwich cost …  The functionality of my sandwich … |

# Support and alignment

**Resource evaluation and support**: all curriculum resources are prepared through a rigorous process. Resources are periodically reviewed as part of our ongoing evaluation plan to ensure currency, relevance and effectiveness. For additional support or advice, or to provide feedback, contact the TAS curriculum team by emailing [TAS@det.nsw.edu.au](mailto:TAS@det.nsw.edu.au).

**Differentiation**: further advice to support Aboriginal and/or Torres Strait Islander students, EALD students, students with a disability and/or additional needs and High Potential and gifted students can be found on the [Planning, programming and assessing 7–12](https://education.nsw.gov.au/teaching-and-learning/curriculum/planning-programming-and-assessing-k-12/planning-programming-and-assessing-7-12) webpage. This includes the [Inclusion and differentiation advice 7–10](https://education.nsw.gov.au/teaching-and-learning/curriculum/planning-programming-and-assessing-k-12/planning-programming-and-assessing-7-12/inclusion-and-differentiation-advice-7-10) webpage.

**Assessment**: further advice to support formative assessment is available on the [Planning, programming and assessing 7–12](https://education.nsw.gov.au/teaching-and-learning/curriculum/planning-programming-and-assessing-k-12/planning-programming-and-assessing-7-12) webpage. This includes the [Classroom assessment advice 7–10](https://education.nsw.gov.au/teaching-and-learning/curriculum/planning-programming-and-assessing-k-12/planning-programming-and-assessing-7-12/classroom-assessment-advice-7-10-). For summative assessment tasks, the [Assessment task advice 7–10](https://education.nsw.gov.au/teaching-and-learning/curriculum/planning-programming-and-assessing-k-12/planning-programming-and-assessing-7-12/assessment-task-advice-7-10) webpage is available.

**Explicit teaching:** further advice to support explicit teaching is available on the [Explicit teaching](https://education.nsw.gov.au/teaching-and-learning/curriculum/explicit-teaching) webpage. This includes the CESE [Explicit teaching – Driving learning and engagement](https://education.nsw.gov.au/about-us/education-data-and-research/cese/publications/research-reports/what-works-best-2020-update/explicit-teaching-driving-learning-and-engagement) webpage.

**Consulted with**: Curriculum and Reform, Inclusive Education, Aboriginal Education and communities and subject matter experts.

**Alignment to system priorities and/or needs**: [School Excellence Policy](https://education.nsw.gov.au/policy-library/policies/pd-2016-0468), [Our Plan for NSW Public Education](https://education.nsw.gov.au/about-us/strategies-and-reports/plan-for-nsw-public-education).

**Alignment to the School Excellence Framework**: this resource supports the [School Excellence Framework](https://education.nsw.gov.au/policy-library/policies/pd-2016-0468) elements of curriculum (curriculum provision) and effective classroom practice (lesson planning, explicit teaching).

**Alignment to Australian Professional Teaching Standards**: this resource supports teachers to address [Proficient Teacher Standard Descriptors](https://educationstandards.nsw.edu.au/wps/portal/nesa/teacher-accreditation/meeting-requirements/the-standards/proficient-teacher) [3.2.2, 3.3.2].

**Creation date**: May 2024

# Evidence base

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