



Boorowa Central School

Excellence through Respect, Responsibility and Participation

Assessment Task Notification

All tasks should be clearly outlined in the notice and give information pertaining to the nature of the task, the outcomes being assessed and the marking schedule giving individual component weightings.

Teacher: Mr Corcoran	Course: Inv. Science
Task and Number: 2 Making a Model Presentation	Task Weighting: 30%
Date Issued: 6/6/19	Date Due: Friday 28/6/19
Syllabus component: Module 2 & 3	
Syllabus outcomes being assessed: Outcomes assessed INS11/12-1 develops and evaluates questions and hypotheses for scientific investigation INS11/12-2 designs and evaluates investigations in order to obtain primary and secondary data and information INS11/12-4 selects and processes appropriate qualitative and quantitative data and information using a range of appropriate media INS11/12-5 analyses and evaluates primary and secondary data and information INS11/12-6 Solve scientific problems using primary and secondary data, critical thinking skills and scientific processes INS11/12-7 Communicate scientific understanding using suitable language and terminology for a specific audience INS11-10 Develop, and engage with, modelling as an aid in predicting and simplifying scientific objects and processes	
Description of task: <h3>Context</h3> <p>In this module you have learnt the importance of scientific models in both developing a scientific understanding of concepts and explaining concepts to an audience.</p> <h3>Task</h3> <p>What have you always wondered about? Construct a working (and moving!) scientific model to explain the answer. Einstein famously wondered about what would happen if you travelled in a train at the speed of light and came up with a model to explain his answer. As a child, did you wonder why is the sky blue? Or have you ever wondered exactly how paracetamol or antibiotics work? This is your chance to ask your own question and build a working model to explain your answer.</p> <h3>Submission, presentation and assessment</h3> <p>A plan of your model and how you will create it must be submitted as a portfolio. You will be provided with feedback throughout the process and assist you in using your time effectively. Your working model will be assessed as part of a <i>science fair</i> where your peers will exhibit their models to an audience. You will create a tri-fold poster to introduce your working model that has information you collect in the portfolio</p>	



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Important Details

- Your question must start with 'why' or 'how' as it is posing a question for inquiry. They should not begin with 'what'.
- Your proposed question must be approved by your teacher.
- Your model must move and show the dynamics behind the answer to your question. It does not necessarily have to be physical model (that is; you could create a dynamic computer model that demonstrates things well).
- Your model must also be able to explain future predictions.
- Consider the expense of the materials you will like to use to build your model and how well it will function in a science fair environment. Basic materials may be able to be brought by the school if given enough warning
- You will be allocated 6-10 hours of class time (approximately 2-3 weeks) to complete the task.

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Submission of Task requirements:

Hand in model and tri-fold poster in class

Note: If a student is absent for an assessment task or fails to submit a task when it is due, then a medical certificate or other acceptable explanation must be presented on the first day the student returns to school or a zero mark is awarded.

Marking rubric						
PORTFOLIO SECTION	SYLLABUS OUTCOME	1 limited- not evident	2 developing	3 satisfactory,	4 sound	5 excellent.
1. Brainstorm of ideas	INS11-1	Does not develop an enquiry question even with extensive teacher guidance	Shows a limited ability to develops a question that can be tested with a model and starts with 'why' or 'how' Needs extensive teacher guidance	Develops a question that can be tested with a model and starts with 'why' or 'how'. needs some teacher guidance	Demonstrates ideas and thoughts and develops a question that can be tested with a model and starts with 'why' or 'how' Needs minimal teacher guidance	Demonstrates extensive ideas and original thoughts and develops a question that can be tested with a model and starts with 'why' or 'how' needs no teacher guidance
2. The use of models in science	INS 11-7	demonstrates limited knowledge and understanding of scientific concepts	demonstrates basic knowledge and understanding of scientific concepts	demonstrates satisfactory knowledge and understanding of scientific concepts	demonstrates thorough knowledge and understanding of scientific concepts, including complex and abstract ideas	demonstrates an extensive knowledge and understanding of scientific concepts, including complex and abstract ideas
3. Title page	INS11-1	Little or no information, just a heading/	Page has limited information and diagrams and the student does describe the scientific superficially describes the concepts demonstrated in the model	Page has a satisfactory image and information describing the scientific concept that will be modelled in a succinct way	Page is well presented, and the images and information describe scientific concept and prediction that will be modelled in a succinct way	Page is well presented and catches reader attention. The images and the information provided clearly relating to the prediction the model will demonstrate in a succinct way

4. Background research	INS11-1 INS 11-7	communicates scientific understanding using limited scientific terms	communicates scientific understanding using basic scientific terms and application of nomenclature	communicates scientific understanding effectively using scientific terms and application of nomenclature	communicates scientific understanding, logically, and effectively using correct scientific terms and application of nomenclature in a variety of formats and wide range of contexts	communicates scientific understanding succinctly, logically, and consistently using correct and precise scientific terms and application of nomenclature in a variety of formats and wide range of contexts
5. Plans for my model	INS11-2 INS11-6	Partially outlines how the model will obtain data and information Limited or no diagrammatical evidence	Outlines how the model will obtain data and information Diagrams inadequate too small, drawn in pen, messy, missing important labels	Designs and plans the model, explaining the use of materials and evaluates risks Diagrams adequate (drawn in pencil fairly easy to read, most labels)	Plans for the materials used in the model to obtain reliable, valid and relevant primary data, evaluating risks, Diagrams are labelled. Drawn in pencil	Designs and plans for the materials used in the model to obtain accurate, reliable, valid and relevant primary data, evaluating risks Diagrams are labelled. Drawn in pencil
6. making my model (prototype)	INS11-6 INS 11-7	No photographic evidence	1 photo	2 photo included	3 photos included	4 or more photos included
7.evaluation (initial-self-evaluation)	INS11-2 INS11-6	provided limited documentation and shows no clear direction	put forward some ideas for future improvements	put forward some good and practical ideas for future improvements	exhibited rational thinking in the testing and evaluation of the working model and put forward directions for future development	used critical thinking in the evaluation and testing of the model, discussing alternatives and modifications and suggested worthwhile directions for future development in a succinct manner

8.Final model Double Marks	INS 11-7	no change no photos	Photos demonstrate superficial changes made from initial design (e.g. painting it) At least 1 photos is shown	Photos demonstrate some changes made from initial design, At least 2 photos are shown showing some changes	Photos demonstrate most changes made from initial design 3 photos are shown showing changes	Photos demonstrate all changes made from initial design At least 3 photos are shown displaying detail of changes
9. Tri Fold Poster Triple Marks	INS 11-7 INS11-6	The poster is omitted or contains a poor attempt describing what was done.	The poster is not appealing to look at and shows no pride of work The poster contains little information The poster one picture which isn't labelled The poster is written in a vague manner and is not clear	The poster is somewhat appealing to look at and shows some pride of work The poster contains most information The poster has some pictures which are labelled and clear The poster is written in a vague manner and is somewhat clear	The poster is somewhat appealing to look at and shows some pride of work The poster contains most information The poster identifies how the model looked The poster has some pictures which are labelled and clear The poster is written in a vague manner and is somewhat clear	The poster is appealing to look at and shows pride of work The poster contains all information The poster identifies the how the model looked The poster has pictures which are labelled and clear The poster is written in a concise manner and is clear
10.Evaluation of the final model	INS 11-10	Demonstrated a limited understanding of the scientific concepts/s demonstrated in the model and the model shows a limited connection to the scientific phenomena	Demonstrated a basic understanding of the scientific concepts/s demonstrated in the model and describes some of its applications in the model	Demonstrated a good understanding of the scientific concepts/s demonstrated in the model and justifies the materials used in the model and relates this to its application in explaining the scientific phenomena described	Demonstrated an expensive understanding of the scientific concepts/s demonstrated in the model and evaluates the materials used in the model and its application in predicting and explaining scientific phenomena described	Demonstrated a detailed and expensive understanding of the scientific concepts/s demonstrated in the model and evaluates the materials used in the model and its application in simply predicting and explaining scientific phenomena described
Total grade	65					

