



F-2 ASSESSMENT RUBRIC

	4 STARS	3 STARS	2 STARS	1 STAR
Activity 1: Understand and Care - Meet an Astronaut (Empathy Map Activity Sheet)	Describes 4 or more points made by Pam Melroy about living in space and suggests problems that these points suggest.	Describes more than 2 points made by Pam Melroy about living in space and suggests an everyday activity that might be harder in space.	Describes 2 points made by Pamela Melroy about living in space.	Recalls less than 2 points made by Pamela Melroy about living in space.
Activity 2: Understand and Care - Mars Exploration (Compare and Contrast Activity Sheet)	Makes comparisons between Earth and Mars based on at least 3 criteria and suggests the impact these might have on daily living.	Makes comparisons between Earth and Mars based on at least 2 criteria.	Recalls 2 facts about Mars that are different to Earth.	Recalls less than 2 facts about Mars.
Activity 3: Make a plan (Problem Profile Activity Sheet)	Creates a user profile appropriate for a child their age and develops a user need statement.	Creates a user profile based on preferences their peers have.	Creates a user profile based on personal preferences.	Creates a user profile about themselves.
Activity 4: Have Lots of Ideas - Choose the best! (Mind Map Activity Sheet)	Generates and clearly communicates 5 or more ideas for a toy or gadget. Justifies ideas in relation to information about life in space or on Mars.	Generates 5 or more ideas for a toy or gadget and connects the ideas to information about life in space or on Mars.	Generates at least 2 ideas for a toy or gadget.	Generates less than 2 ideas for a toy or gadget.
Activity 5: Make it! (‘MAKE IT!’ Student Design Record)	Independently makes a 2D or 3D design that represents one of their ideas. Describes modelling tools or drawing techniques used.	Independently makes a 2D or 3D design that represents one of their ideas.	Designs a 3D or 2D representation of one of their ideas with support to use modelling tools or drawing techniques.	Needs help to create a 2D or 3D design.
Activity 6: Can You Make it Better? (Two Wishes and a Star Activity Sheet)	Uses feedback to make an improvement to their toy or gadget and explains how the improvement makes the toy or gadget better suited to life on Mars.	Uses feedback to make an improvement to their toy or gadget.	Suggests a change they could make to improve their toy or gadget.	Does not suggest any changes to improve their toy or gadget.

YEAR 3-4 ASSESSMENT RUBRIC

	4 STARS	3 STARS	2 STARS	1 STAR
Activity 1: Understand and Care - Meet an Astronaut (Empathy Map Activity Sheet)	Uses information from Pamela Melroy's video to identify needs and subsequent opportunities for people living in space.	Uses information from Pamela Melroy's video to describe more than 2 factors that need to be taken into account when addressing needs of people living in space.	Explains at least 2 needs of people living in space based on Pamela Melroy's video.	Recalls less than 2 needs of people living in space based on Pamela Melroy's video.
Activity 2: Understand and Care - Mars Exploration (Compare and Contrast Activity Sheet)	Uses information gathered about Mars to identify criteria that toys and gadgets designed for Mars might need.	Identifies more than 2 factors that need to be considered when designing toys and gadgets for Mars.	Identifies at least 2 factors that would make life on Mars difficult for people.	Recalls less than 2 factors that are different on Mars compared to Earth.
Activity 3: Make a plan (Problem Profile Activity Sheet)	Constructs a clear need statement that describes an opportunity to design a solution. Articulates this as an actionable question and identifies success criteria.	Constructs a clear need statement that describes an opportunity to design a solution and articulates it as an actionable question.	Constructs a clear need statement that describes an opportunity to design a solution.	Needs support to construct a need statement.
Activity 4: Have Lots of Ideas - Choose the best! (Mind Map Activity Sheet)	Generates and communicates multiple ideas for toys or gadgets that meet the identified needs. Justifies their selection of idea to make based on how well it meets identified criteria.	Generates and communicates multiple ideas for toys or gadgets that meet the identified needs.	Generates at least 4 unique ideas for a toy or gadget that meet the identified needs.	Generates less than 4 ideas for a toy or gadget.
Activity 5: Make it! (‘MAKE IT!’ Student Design Record)	Creates a sophisticated model using advanced 3D modelling or drawing techniques.	Creates a detailed 2D drawing or 3D model that clearly communicates the selected idea.	Independently creates a 2D or 3D model using modelling software or drawing techniques.	Needs support to create a 2D or 3D model using modelling software or drawing techniques.
Activity 6: Can You Make it Better? (Two Wishes and a Star Activity Sheet)	Evaluates design against identified needs, considers feedback and makes iterations to improve their original design to better meet identified needs.	Evaluates design against identified needs, considers feedback and makes improvements to their design.	Compares design to needs statement and suggests changes that could be made to improve the function of the toy or gadget.	Needs support to identify an improvement that could be made to their toy or gadget.

YEAR 5-6 ASSESSMENT RUBRIC

	4 STARS	3 STARS	2 STARS	1 STAR
Activity 1: Understand and Care - Meet an Astronaut (Empathy Map Activity Sheet)	Identifies opportunities for developing a designed solution by analysing needs presented via multiple sources, including independent research.	Identifies opportunities for developing a designed solution by analysing needs presented in more than one provided source.	Identifies opportunities for developing a solution based on Pamela Melroy's video.	Recalls information from Pamela Melroy's video but does not identify opportunities for developing solutions.
Activity 2: Understand and Care - Mars Exploration (Compare and Contrast Activity Sheet)	Identifies possible problems of living in Mars by comparing and contrasting information and identifying opportunities for designed solutions.	Identifies possible problems of living in Mars by comparing and contrasting information.	Compares and contrasts conditions that affect life on Earth and Mars.	Recalls facts about Mars.
Activity 3: Make a plan (Problem Profile Activity Sheet)	Identifies criteria for success for a toy or gadget that will be useful on Mars. Communicates a clear user need statement and actionable problem question.	Identifies criteria for success for a toy or gadget that will be useful on Mars. Communicates a clear user need statement.	Identifies criteria for success for a toy or gadget that will be useful on Mars.	Suggests limited uses for a toy or gadget on Mars.
Activity 4: Have Lots of Ideas - Choose the best! (Mind Map Activity Sheet)	Generates and justifies a range of original ideas, including ideas and connects these to generate new ideas.	Generates and justifies a range of original ideas and connects these to generate a range of new ideas.	Generates original ideas and combines these to generate at least 2 more ideas.	Generates at least 2 ideas and combines these to generate a new idea.
Activity 5: Make it! (‘MAKE IT!’ Student Design Record)	Designs a sophisticated 2D drawing or 3D model using advanced skills and techniques.	Designs a sophisticated 2D drawing or 3D model by making competent choices about techniques and tools to use.	Competently makes a 2D or 3D design using a range of modelling or drawing techniques.	Needs support to make a 2D or 3D design.
Activity 6: Can You Make it Better? (Two Wishes and a Star Activity Sheet)	Evaluates design against independently devised success criteria and reflects on feedback to create an improved iteration of the design.	Evaluates design against success criteria and reflects on feedback to create an improved iteration of the design.	Evaluates design against success criteria and reflects on feedback to improve the toy or gadget design.	Suggests improvements to their toy or gadget design without referencing success criteria.

YEAR 7-8 ASSESSMENT RUBRIC

	4 STARS	3 STARS	2 STARS	1 STAR
Activity 1: Understand and Care - Meet an Astronaut (Empathy Map Activity Sheet)	Critiques needs and opportunities for designed solutions based on independent research and uses this to develop a design brief.	Critiques needs and opportunities for designed solutions based on independent research.	Critiques needs and opportunities for designed solutions based on Pamela Melroy's video and other sources.	Recalls information and issues identified by Pam Melroy in her video.
Activity 2: Understand and Care - Mars Exploration (Compare and Contrast Activity Sheet)	Identifies design constraints and considers cost, sustainability and risks associated with designing a toy or gadget for Mars.	Identifies design constraints associated with designing a toy or gadget suitable for the conditions on Mars.	Researches and analyses conditions that would impact human life on Mars.	Recalls information about conditions on Mars.
Activity 3: Make a plan (Problem Profile Activity Sheet)	Develops and manages a project plan to develop a designed solution to a clearly articulated need and actionable problem question.	Develops and manages a project plan to develop a designed solution to a clearly articulated user need.	Constructs a plan including processes and criteria for success for a toy or gadget that will meet identified user needs.	Makes a basic plan for designing a toy or gadget that can be used on Mars.
Activity 4: Have Lots of Ideas - Choose the best! (Mind Map Activity Sheet)	Creates and connects complex design ideas and processes and justifies decisions.	Generates, communicates, connects and justifies design ideas using appropriate technical terms and graphical representation techniques.	Generates, communicates and connects design ideas using appropriate technical terms and graphical representation techniques.	Generates a list of ideas for toys or gadgets that could be used on Mars.
Activity 5: Make it! (‘MAKE IT!’ Student Design Record)	Uses advanced skills to produce a sophisticated 2D or 3D model and justifies design choices using technical language.	Skilfully designs 2D or 3D models using sophisticated techniques and tools.	Creates a detailed 2D or 3D model by competently and safely using 3D modelling or drawing techniques. Makes appropriate decisions about materials, tools and techniques to achieve desired results.	Creates a basic 2D or 3D model of one of their ideas.
Activity 6: Can You Make it Better? (Two Wishes and a Star Activity Sheet)	Evaluates processes, products and plans against detailed criteria for success and develops an improved version of the design.	Establishes detailed criteria for success and uses these to evaluate design ideas and solutions. Creates further iterations of the design.	Uses independently developed success criteria to evaluate design and processes used. Creates further iterations of designs based on feedback and test results.	Uses feedback and self-evaluation to suggest and make changes to their design.

YEAR 9-10 ASSESSMENT RUBRIC

	4 STARS	3 STARS	2 STARS	1 STAR
Activity 1: Understand and Care - Meet an Astronaut (Empathy Map Activity Sheet)	Critiques needs and opportunities for design solutions based on independent research and uses this to develop a detailed design brief.	Critiques needs and opportunities for design solutions using independent research.	Critiques needs and opportunities for design solutions based on information in Pamela Melroy's video.	Describes needs and opportunities for design solutions using information from Pamela Melroy's video.
Activity 2: Understand and Care - Mars Exploration (Compare and Contrast Activity Sheet)	Develops and justifies detailed criteria for success, identifying design constraints and considering cost, sustainability and risks associated with designing a toy or gadget for Mars.	Develops criteria for success identifying design constraints and considering cost, sustainability and risks associated with designing a toy or gadget for Mars.	Identifies design constraints and considers cost, sustainability and risks associated with designing a toy or gadget for Mars.	Identifies factors that might need to be considered when designing toys or gadgets for Mars.
Activity 3: Make a plan (Problem Profile Activity Sheet)	Develops and manages a project plan taking into consideration time, cost, risks and production processes. Leads a design team.	Develops and manages a project plan taking into consideration time, cost, risks and production processes. Works collaboratively as a member of a design team.	Develops and manages a project plan taking into consideration time, cost, risks and production processes.	Makes a simple plan for production of their toy or gadget.
Activity 4: Have Lots of Ideas - Choose the best! (Mind Map Activity Sheet)	Generates, communicates, connects and justifies sophisticated design ideas using advanced technical terms and graphical representation techniques.	Generates, communicates, connects and justifies design ideas using appropriate technical terms and graphical representation techniques.	Creates and connects complex design ideas and processes and justifies decisions.	Generates a range of suitable ideas for toys or gadgets to be used on Mars.
Activity 5: Make it! (‘MAKE IT!’ Student Design Record)	Uses 3D modelling or drawing techniques at a highly skilled and precise level, including use of sophisticated geometric concepts. Uses design tools in innovative, original ways.	Uses 3D modelling or drawing techniques at a highly skilled and precise level, including use of sophisticated geometric concepts.	Uses appropriate techniques and tools to skilfully make a 2D or 3D model of their design.	Uses techniques and tools to competently make a 2D or 3D model of their design.
Activity 6: Can You Make it Better? (Two Wishes and a Star Activity Sheet)	Uses and justifies design thinking processes to develop further iterations of their design until it best meets criteria for success.	Evaluates processes, products and plans against detailed criteria for success and develops an improved version of their design.	Establishes detailed criteria for success and uses these to evaluate their design ideas and solutions.	Uses feedback and self-evaluation to identify and make improvements to their design.