

PRIMARY STEM PROJECT



UNIT



PROJECT MANAGEMENT

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TEACHERS' NOTES

F1 IN SCHOOLS & THE PROJECT MANAGEMENT EDUCATIONAL FOUNDATION

In 2020 F1 in Schools partnered with the Project Management Institute Educational Foundation to integrate Project Management into the F1 in Schools STEM Challenge.

The partnership will educate F1 in Schools' participants to develop project management skills and apply those lessons learned to their competition entry as well as to academic and professional pursuits. Project management is now an assessed part of the competition and this guide is intended to help teams understand the power of project management to deliver a product – Your F1 in Schools car and competition entry.

Companies and organisations around the world employ the processes detailed in this document to deliver projects of all sizes from planning a marketing campaign to building a real-life Formula 1 car.

Andrew Denford, Founder and Chairman F1 in Schools, says of the association with PMIEF. "We're delighted to welcome PMIEF as a partner of F1 in Schools and look forward to a long and successful relationship. Project management is fundamental in our Challenge, as the students have limited time and resources for taking their F1 in Schools entry from concept to reality and I'm sure that PMIEF will be able to assist our students with this process. The scope of the partnership allows us to extend the learning and training to F1 in Schools staff and our In-Country Co-ordinators (ICCs) who deliver the programme internationally, and I am sure there will be enormous benefit to both individuals and F1 in Schools to have this opportunity."

The PMIEF Executive Directorship said of the relationship. "Our partnership with F1 in Schools supports its professionals to learn project management and, in turn, to transfer that knowledge to young people by thoughtfully integrating it into this globally-renowned Challenge. The organization already appreciates the value of having youth learn through a highly experiential Challenge, so we are confident this collaboration will only enrich their participation in this exciting, project-oriented competition."

ABOUT PMIEF

PMI Educational Foundation (PMIEF) is a 501(c)(3) supporting organization of the Project Management Institute (PMI), the world's leading not-for-profit professional membership association. Founded in 1990, PMIEF cultivates long-term relationships with non-profits across the globe to help them integrate project management in their youth programs and to build their own project management capacity. The foundation achieves its mission to “enable youth to realize their potential and transform lives through project management” and its vision for “inspiring youth to achieve their goals, making dreams a reality” by investing in high-quality organizations that exemplify a commitment to preparing young people for 21st century success and an appreciation for both the societal application and value of project management. Visit PMIEF.org for more information.

ABOUT THE PROJECT MANAGEMENT INSTITUTE

The Project Management Institute (PMI) is the world's leading association for those who consider project, program or portfolio management their profession. Through global advocacy, collaboration, education and research, the PMI work to prepare more than three million professionals around the world for The Project Economy: the coming economy in which work, and individuals, are organized around projects, products, programs and value streams. Now 50 years in the making, the PMI work in nearly every country around the world to advance careers, improve organizational success and further mature the project management profession through globally-recognized standards, certifications, communities, resources, tools, academic research, publications, professional development courses and networking opportunities. As part of the PMI family, ProjectManagement.com creates online global communities that deliver more resources, better tools, larger networks and broader perspectives. For more information visit:

PMI.org projectmanagement.com

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ADDITIONAL UNIT :

PROJECT MANAGEMENT

In this unit pupils will be introduced to the concept of project management. The unit is designed to introduce pupils to working as a team using project management techniques. Allowing to develop the necessary skills and work effectively together, considering all aspects of the project before acting. These lessons could be used to plan a real-life event or a theoretical event.

This unit could be taught as a stand-alone unit prior to starting either the Denford Primary STEM Project or the F1 in Schools Primary Class. Alternatively, it can be integrated into UNITS 1 - 6 of the PRIMARY STEM PROJECT.

LEARNING OUTCOMES

Pupils will aim to

- Have an understanding of what a project is.
- Understand a budget and how this can affect decision making.
- Understand the importance of time management.
- Become familiar with specialist terms relating to project management.

Most pupils will be able to

- Initiate a simple project management plan
- Successfully work to a budget.
- Understand the different aspects of project management.
- Follow a time line.
- Be able to explain specialist terms relating to project management.

Some pupils will be able to

- Initiate a successful project management plan, demonstrating a comprehensive knowledge of project management.
- Create an appropriate budget for a project and be able to manage this budget.
- Demonstrate and successfully manage a project.
- Create a successful time line and work to it, including making appropriate modifications when necessary
- Confidently use specialist terms relating to project management.

Pupil differentiation

Learning differentiation will naturally occur as each team member takes on a role and recognises, their own strengths as well as those in others.

Pupils will also benefit from team-led learning experience and collaborative learning.

LESSON 1

INITIATING

<p>LEARNING OBJECTIVES</p> <p>Pupils will:</p> <p>Be introduced to project management and the initiating process. In order to become familiar with the project as a whole and project management as an organizational tool. Pupils will also, begin to recognise the strengths that are needed to build and successfully manage a team.</p>	<p>GROUP TEAMS</p>
<p>RESOURCES</p> <p>Worksheets</p> <p style="padding-left: 20px;">PROJECT EXAMPLE</p> <p style="padding-left: 20px;">MEET THE TEAM</p> <p>Additional Worksheets</p> <p style="padding-left: 20px;">WORKING AS A TEAM</p> <p style="padding-left: 20px;">TEAMWORK</p> <p style="padding-left: 20px;">(UNIT 1-PRIMARY STEM PROJECT)</p> <p style="padding-left: 20px;">DRAWING PORTRAITS</p> <p style="padding-left: 20px;">FROSTBITE/ICEBREAKER</p> <p style="padding-left: 20px;">(UNIT 1 ADDITIONAL- WORKSHEETS)</p>	<p>EQUIPMENT</p> <p>*Writing equipment.</p> <p>*Drawing equipment.</p>
<p>IN PREPARATION</p> <p>Take photographs of pupils to insert into MEET THE TEAM worksheet. Alternatively, pupils could draw a self-portrait. The DRAWING PORTRAITS worksheet could be used to support this.</p>	
<p>STEPS</p> <ul style="list-style-type: none"> Start the lesson by explaining PROJECT MANAGEMENT. Explain that when you start a project you will be concerned with what has to be done(scope), how much it will cost (budget), and how long it will take (time). Explain that the project management process can be broken down into 5 areas. INITIATING-PLANNING-EXECUTING-MONITORING & CONTROLING-CLOSING. These 5 areas will be used to navigate the project management process. The Initiating Process is the beginning of the project. During this process, project stakeholders are identified and a project manager is selected. Project goals and objectives are defined and authorisation is obtained to proceed with the project. Monitoring and Controlling occurs throughout the entire project. Monitoring and controlling involves ensuring that all the tasks in the project plan are completed on time and within budget, as well as addressing any changes necessary to successfully achieve the project goals. The PROJECT EXAMPLE could be handed out and used as a visual reference, or an example project could be explored as a class with pupils offering suggestions and asking questions. Pupils should be put into mixed ability groups. In groups use ICEBREAKER/FROSTBITE worksheets to encourage pupils to get to know their team mates. Pupils should fill in MEET THE TEAM worksheet. Adding their name, a picture of themselves and something interesting or unusual about themselves. 	
<p>PLENARY</p> <p>Review worksheets WORKING AS A TEAM & TEAMWORK with the whole class. Discuss the pros and cons of project management. Discuss any problems that have arisen.</p>	
<p>ENRICHMENT</p> <p>This part of the project will enable the more confident student to take on a leadership role and encourage the less confident pupils to grow in confidence and support peer to peer.</p>	

LESSON 2 PLANNING

<p>LEARNING OBJECTIVES</p> <p>Pupils will</p> <ul style="list-style-type: none"> • Spend time working as a team and begin to recognise each team members strengths. • Learn about time management as an important part of project management. • Learn how to successfully manage a budget and effectively record transactions. • The importance of being able to modifying plans in light of change. 	<p>INDIVIDUALS GROUP</p>
<p>RESOURCES</p> <p>WORKSHEETS</p> <p>PROJECT BRIEF WORKBOOK</p> <p>PROJECT CHARTER WORKSHEETS</p>	<p>EQUIPMENT</p> <p>*Writing equipment.</p>
<p>ADDITIONAL RESOURCES</p> <p>WORKSHEETS</p> <p>TIME MANAGEMENT</p> <p>MY WEEK</p> <p>TASK LOG</p> <p>(UNIT 2-PRIMARY STEM PROJECT)</p>	
<p>IN PREPARATION</p>	
<p>STEPS</p> <ul style="list-style-type: none"> • During the Planning Process, the project plan is created. The project manager and team members define the activities and tasks needed to complete the final product, service or result. They also determine what staff and resources are needed and establish the timeline and available budget for the project. The planning process is very important to the overall success of the project. Without careful planning, a project manager and project team may find it very difficult to achieve project success. • Explain the project brief. • As a class discuss ideas. Eg. Coffee morning, cake sale, jumble sale, non-uniform day, sponsored walk, bring and buy sale, concert, film night, games night, quiz night..... • Let pupils have time within their groups to research more ideas, using brainstorming techniques. • Pupils must decide as a team which project, they want to plan. • Hand out PROJECT BRIEF WORK BOOKS. • As a team pupils should begin to fill in a project charter sheet, using the example sheet explain unfamiliar vocabulary. • Talk about time management and working to a budget. • As a class read through the list of things that need to be considered. • Allow teams time to complete the PROJECT CHARTER. 	
<p>PLENARY</p> <p>At the end of the lesson come together as a class and discuss the ideas that have been put forward. Look at pros and cons of each idea and decide which ideas are feasible. Discuss what may cause plans to change and how contingency can be built into a project.</p>	
<p>ENRICHMENT</p> <p>Pupils could read TIME MANAGEMENT worksheet and fill in the MY WEEK worksheet, to be completed at home.</p>	

LESSON 3

EXECUTING

<p>LEARNING OBJECTIVES Pupils will:</p> <ul style="list-style-type: none"> • Get a chance to put execute their project or to promote their project ideas through a short presentation to their peers. 	<p>TEAMS</p>
<p>RESOURCES WORKSHEETS</p> <p>ADDITIONAL WORKSHEET VERBAL PRESENTATION GUIDE (UNIT 6 -PRIMARY STEM PROJECT) FEED BACK BURGER (UNIT 2 -PRIMARY STEM PROJECT, ADDITIONAL RESOURCES)</p>	<p>EQUIPMENT *Writing equipment.</p>
<p>IN PREPARATION Print out additional worksheets or save to be displayed on the whiteboard.</p>	
<p>STEPS</p> <ul style="list-style-type: none"> • Start lesson with a recap of lesson 2. • Executing is the process of working through the project plan. The executing stage involves performing the activities outlined during the planning process. • Complete all pages in PROJECT WORKBOOKS or on separate sheets of paper except for the evaluation sheet. • If possible, pupils should get a chance to implement the project with the aim of raising funds to support their F1 in Schools journey. Alternatively, proceeds could be donated to a chosen charity. • If implementing projects is not possible, teams could present their ideas to the rest of the class by way of a 5-minute presentation. The VERBAL PRESENTATION GUIDE worksheet could be used to support this. 	
<p>PLENARY</p> <p>At the end of the session allow time to reflect on what has been achieved and how successful it has been.</p>	
<p>ENRICHMENT</p> <p>Make a cover for the front of the project brief work book. This should reflect the project.</p>	

LESSON 4 CLOSING

<p>LEARNING OBJECTIVES</p> <p>Pupils will:</p> <ul style="list-style-type: none"> • Reflect upon project and identify learning outcomes. • Pupils will assess the success of their project, and get feedback from their peers. 	<p>INDIVIDUALS TEAMS</p>
<p>RESOURCES</p> <p>WORKSHEETS PROJECT WORKBOOKS</p>	<p>EQUIPMENT</p> <p>*Writing equipment</p>
<p>ADDITIONAL RESOURCES</p> <p>WORKSHEETS BLANK EVALUATION WORKSHEETS</p>	
<p>IN PREPARATION</p> <p>Prepare copies of evaluation sheets. Print out crosswords.</p>	
<p>STEPS</p> <ul style="list-style-type: none"> • In the Closing Process, project goals are delivered. Final administrative work is completed, and lessons learned are captured to improve future projects. The closing process involves taking the time to celebrate the team's successes along the way toward completion of the project. • Each pupil should fill in an individual evaluation sheet. When reviewing work by their team, pupils must be encouraged to offer constructive criticism and consider the feelings of others. • Read through evaluation sheet as a class. Encourage the use of newly acquired vocabulary when discussing the project and completing the evaluation sheet. 	
<p>PLENARY</p> <p>Review the work completed so far and what has been learned. How well have the pupils worked as teams? Have any problems arisen? How can these be addressed moving forward? Remember to celebrate the successes. What lessons have been learned and how can these be used in future projects?</p> <p>Discuss how the lessons that they have learned may help in working on the Primary STEM project, the F1 in Schools Primary Class and the wider world.</p>	
<p>ENRICHMENT</p> <p>Extension work: Crossword. This will review vocabulary learnt over the unit.</p>	