



Mission to Mars: Personal Financial Literacy Project

Grades 3-5

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Overview & Purpose

Provide the lesson title and a short (3-4 line) purpose statement expressing your vision for this lesson.

Working to get to space is closer than our students think. We are going to Mars! This lesson is designed to have students earn money through academic participation in class to be able to purchase supplies to complete different STEM challenges to make it to Mars. This project integrates STEM and literacy.

Objectives

List your 3-5 objectives. Specify the new skills that the students will gain as a result of the lesson. What will students have learned or experienced by the end of the lesson?

1. Students will have an understanding about budgeting.

2. Students will use the experimental design process to understand new concepts.
3. Students will collaborate and use inquiry to make real world connections to complete projects.
4. Students will explore 6 different STEM careers.

Materials Needed

What items do you need to complete this lesson? Please include items you requested in your project as well as anything else you used to bring this lesson to life.

1. String
2. Straws
3. Tape
4. Different types of plastic
5. Coffee filter
6. Napkins
7. Small Plastic Cup
8. Old CDs
9. Bottle caps
10. Nail
11. Balloons
12. Different types of Pasta
13. Hot glue gun
14. Hot glue sticks
15. Liquid glue
16. Mint candy
17. Square box with lid (Preferably a pizza box)
18. Scissors
19. Aluminum Foil
20. Computer with Internet
21. Space to store supplies and completed projects.

Verification

What 3+ steps did you go through to make sure that your students understood the concepts you taught in your lesson?

Inquiry driven instruction leads to students being creative. Through using the engineering design process students will be able to learn from their mistakes and fix them. There is nothing wrong with a build or project not working, students will need to collaborate with one another to improve upon their designs.

Students will complete the activities include [here](#).

Activity

What activity did you take students through to reinforce the concepts you taught during your lesson?

Please follow the steps outlined by the teacher who submitted this plan [here](#).

Introduction to the Lesson

Explain to your students that they are going to embark on a Mission to Mars this school year! Begin the lesson by showing these two videos from youtube with facts about Mars and some information about the benefits of going.

Should we go to Mars? - <https://www.youtube.com/watch?v=vphJ6WyuxGk>

Mars facts for kids - <https://www.youtube.com/watch?v=WfMo1ohW3lw>

The teacher will then explain to the students that throughout the year they will have opportunities to work with a group on different tasks to get to Mars.

Mission Groups

Assign your students a partner or a group to work with. Explain to the class that each individual student will have opportunities to earn money. It is up to the student how much of their earnings they would like to put in their group checking account to purchase materials.

Ways to Earn Money

Review with your students' ways to earn money in class. Feel free to add to this chart depending on the different opportunities you have in your classroom for students to earn incentives.

Choices to Lose Money

Explain to the class how money is deducted from their individual bank accounts. Depending on your classroom systems and consequences add or remove choices from the board for students to deduct money.

Mission Groups Name

The students will be divided into the following teams:

Team Alpha, Team Bravo, Team Charlie, Team Delta, Team Echo, Team Foxtrot, Team Golf, Team Oscar, Team Romeo, Team Tango, Team Victor, Team Zulu.

Budget

Each group starts with a budget of \$20,000.

Balance Sheet

The budget sheet stays in a binder with the teacher. When students earn money allow them to add and deduct money themselves and quickly check to ensure they have done so correctly. Students can determine how much money they would like to deposit into their group bank account.

Activites

These activities can either be completed in school during class time for 30 minutes as a brain break, or can be an afterschool club. The activities are done in order. Before the students do an activity there is either a video or literacy connection. After the students read the book have them do research on the career so that they will have an understanding of what a person in real life doing the job makes and what type of degree they must get.

1. When students have earned enough money to purchase the supplies for that mission they can begin.
2. The students will need an interactive science notebook to use the engineering design process to keep good notes.
3. After each mission is completed students will need to do a quick write in their interactive science notebook. The notes will be needed at the end of the projects.

Project Overview Presentation (POP)

The POP is the most important element of this project. This is a presentation that students will create detailing their experiences in the mission to Mars. This is an inquiry driven activity therefore students can determine if they would prefer to create a power point, website, foldable, poster board etc.

The only rule is that students must design this with their mission control groups and must include their budget, the experimental design process for each mission and how they can relate this to real life.

Ordering Materials

Materials can be ordered through amazon. A great way to get materials quickly is to use donorchoose.org or Amazon Wish List and post on twitter and facebook using the hashtag #ClearTheList

Each project sheet has a list of supplies.

Activity Overview

Activity	Description	Materials	STEM Career Connection
Balloon Launch	How are we getting to Mars? This activity is a fun way for students to quickly build a rocket and use their knowledge of aerodynamics to construct a rocket that will go from one side of the room to the other.	<ul style="list-style-type: none"> ○ Balloons ○ String ○ Straws ○ Tape 	<ul style="list-style-type: none"> ❖ Rocket Scientist ❖ Aerospace Engineer
Parachute Lander	Landers are important to the mission to Mars. This project is focusing on the parachute design. Allow your students to be creative in designing their parachutes.	<ul style="list-style-type: none"> ○ Different types of plastic ○ Coffee filter ○ String ○ Napkins ○ Small Plastic Cup ○ Tape ○ Liquid Glue ○ Scissors 	<ul style="list-style-type: none"> ❖ Aerospace Engineer
Hovercraft	How are we going to travel on Mars? A hovercraft is a great form of transportation. Students will need to do research on how our current astronauts are using hovercrafts to prepare for the mission to Mars.	<ul style="list-style-type: none"> ○ Old CDs ○ Hot glue gun ○ Hot glue sticks ○ Bottle caps ○ Nail ○ Balloons 	<ul style="list-style-type: none"> ❖ Industrial Engineering ❖ Mechanical Engineer
Spaghetti Rover	Rovers are necessary for getting jobs done on Mars. Pasta Rovers are fun, yet time consuming. The students will need to be careful not to lose any of the pasta they purchase!	<ul style="list-style-type: none"> ○ Different types of Pasta ○ Hot glue gun ○ Hot glue sticks ○ Liquid glue ○ Mint candy ○ 	<ul style="list-style-type: none"> ❖ Electrical engineering
Solar Oven	Will we be able to cook on Mars? This is a great question for our students to investigate! Let's be proactive in design and create a solar oven and enjoy a sweet snack!	<ul style="list-style-type: none"> ○ Square box with lid (Preferably a pizza box) ○ Scissors ○ Aluminum Foil 	<ul style="list-style-type: none"> ❖ Agricultural Engineering ❖ Environmental Engineering

