

# THE MARTIAN

JUNE 5TH TO AUGUST 19TH

MAKER  
CAMP



## PROGRAMS FOR TWEEN TO ADULT

BOOKS  
S.T.E.A.M.  
ROCKETS  
ROBOTS  
VIRTUAL REALITY  
MOVIES  
COSPLAY  
PRIZES

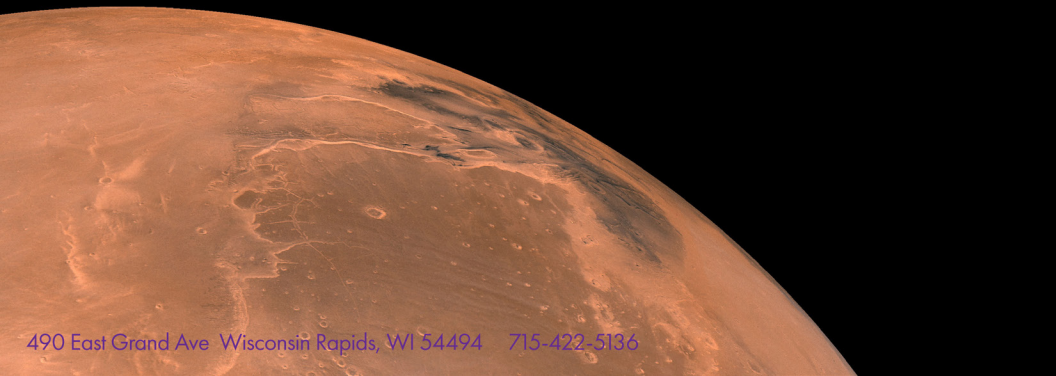
# WELCOME TO MARTIAN MAKER CAMP

McMillan Library has held Maker Camp in the past but this year is going to be quite different. Rather than following the national Maker Camp curriculum we are choosing this year to strike out on our own. Our camp will combine pieces of a “typical” maker camp along with components of a library summer reading program.

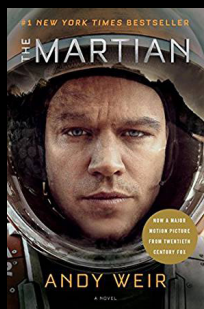
The biggest change of all though is the age range. This year’s maker camp will be open to the widest age range ever. In fact we are not putting age restrictions on our program at all. We are asking that parents look at the challenges being offered and select those that their children are capable of completing, but here’s the catch; they are welcome to come in and help their kids if they wish. Indeed we will be offering challenges throughout that can be done by both kids and adults.

**Parent Note:** We know our kids have different abilities at different ages and no child is like any other. That being said it is important that you help your child choose tasks they can reasonably achieve. Frustration with the difficulty of a project can ruin the fun they should be having. Remember, if you feel that some projects would stretch your child’s abilities you are welcome to work with them.

**Points:** Throughout camp participants will have the opportunity to earn points by attending programs and completing projects. Every 10 points earns you a raffle ticket to put towards cool and unique prize drawings at the end of the camp. If you earn 100 points you are guaranteed a prize!



## READING THE BOOK



As a library we would be remiss if we didn't incorporate reading into our program so we will be making multiple copies of The Martian available to our community. The books will be available in the original adult edition as well as the more teen friendly edition.

While not required for the program we highly recommend this book to those interested in all things maker. The author does an excellent job of explaining the main characters thought process as he tackles problem after problem. Due to the time constraints of movies you see some of this in the motion picture but not all of it.

Study guides will be available for both books

### MARTIAN BOOK CLUB

TEEN	JULY 11TH	1 30 PM	10 PTS
ADULT	JULY 11TH	10 AM	10 PTS
ADULT	JULY 14TH	6 30 PM	10 PTS

### THE MARTIAN BOOK REVIEW

5 PTS EA

EARN BONUS POINTS BY DOING A WRITTEN REVIEW OF THE MARTIAN OR ANOTHER BOOK THAT FITS WITH OUR THEME.

Selected List: you may also select your own titles withing the camp theme

- [The Martian Chronicles](#) by Ray Bradbury
- [Desolation Road](#) by Ian McDonald
- [Red Mars \(Mars Trilogy\)](#) by Kim Stanley Robinson
- [Martian Time-Slip](#) by Philip K. Dick
- [Stranger in a Strange Land](#) by Robert A. Heinlein
- [Rainbow Mars](#) by Larry Niven
- [Voyage Hardcover](#) by Stephen Baxter
- [The Moon Is a Harsh Mistress](#) by Robert A. Heinlein
- [2312](#) by Kim Stanley Robinson
- [The Hitchhikers Guide to the Galaxy](#) by Douglas Adams
- [Hidden Figures](#) by Margot Lee Shetterly
- [October Sky](#) by Homer Hickam

WATCHING  
THE MOVIE



As stated above, the movie misses out on some of the finer points of Mark's Martian survival test but it is still a great picture in its own right and we are happy to bring it back into our theater.

THE MARTIAN

JUNE 6TH

6 30 PM

10 PTS

WATCHING  
BONUS MOVIE



"Rogue One: A Star Wars Story," an all-new epic adventure. In a time of conflict, a group of unlikely heroes band together on a mission to steal the plans to the Death Star, the Empire's ultimate weapon of destruction. This key event in the Star Wars timeline brings together ordinary people who choose to do extraordinary things, and in doing so, become part of something greater than themselves.

ROGUE ONE

JUNE 5TH

1 30 PM  
7 00 PM

5 PTS  
5 PTS

WATCHING  
BONUS MOVIE



Three brilliant African-American women at NASA -- Katherine Johnson, Dorothy Vaughan and Mary Jackson -- serve as the brains behind one of the greatest operations in history: the launch of astronaut John Glenn into orbit, a stunning achievement that restored the national confidence, turned around the Space Race and galvanized the world.

HIDDEN FIGURES

JULY 17TH

1 30 PM  
7 00 PM

5 PTS  
5 PTS

WATCHING  
BONUS MOVIE



Our program is all about using our brains to solve the problems in front of us. So what better movie to wrap up the program than Apollo 13. "Houston, we have a problem." Those words were immortalized during the tense days of the Apollo 13. On what was slated as NASA's third lunar landing mission. All goes smoothly until an exploding oxygen tank threatens the crew and supplies. As the courageous astronauts face the dilemma of either suffocating or freezing to death Mission Control struggles to find a way to bring the crew back home.

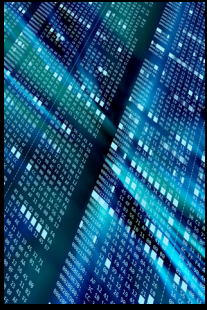
APOLLO 13

AUGUST 5TH

1 30 PM

5 PTS

## MAKING HEXI WHO?



Our stranded Martian takes a road trip to retrieve the Pathfinder explorer. He does this in the hopes of communicating with Earth. There is a catch though. He can only communicate using a form of visual communication. After some puzzling things out Mark decides to use a hexadecimal system to send his messages.

Your mission this week is to come up with your own visual communication system that will allow you to pass a message two city blocks. For this build you may work alone or in teams up to five people.

**Expert Build:** Using either the Arduino or Raspberry Pi kits build a light based communication system.

COMMUNICATIONS BUILD	10 PTS	+ 5 PTS FOR FASTEST MESSAGE
START	JUNE 13TH	1 PM
DEMONSTRATION DEADLINE	JUNE 27TH	

## MAKING BRAIN BUCKET BUILD

Z-2 Suit



We know in the book the hab airlock breached and fired Mark and the airlock across the Martian scene. In the process Mark's helmet faceplate was damaged. Now that we know life on Mars is a little more strenuous than the original engineers designed for, we need to come up with a new helmet design.

Your job this week is to come up with a new helmet for Martian exploration. You will start with a base helmet and have at your disposal 3d printers, computers, paper, cardboard, adhesives, fiber glass resin and bondo.

**Expert Build:** Maybe for your big brain starting with a base helmet is too easy. Try this. Look up Pepakura helmet designs, find one to your liking and build it.

HELMET CHALLENGE	10 PTS	+ 5 PTS COMPLETED PRODUCT
BUILD BEGINS	JULY 11TH	1 PM
COMPLETION	AUG 19TH	

## MAKING ROAD TRIP



It's time to make the trip to Schiaparelli Crater to use the Mars Ascent Vehicle (MAV) to lift off and rendezvous with the Hermes. To make the trip Mark needed to traverse 3200 kilometers of hostile Martian terrain.

Your job is to program one of our Sphero units to navigate our set obstacle course. The catch is you will not be able to see the course ahead of time. Instead you will be given an accurate scale map to program from.

**Expert build:** This is a tough one! Build a robot capable of using GPS to travel from the library to Assumption High School.

### NAVIGATE THE LIBRARY

### ID PTS

### + 5 PTS FOR FASTEST TIME

PROJECT START

JULY 25TH

1 PM

COMPLETION

AUG 8TH

## MAKING LIFT OFF!



It's time that Mark finally gets off this rock that he has called home for the better part of two years. In order to do this he has to "modify" the MAV to reduce weight so he can make it to Hermes.

Your job this week is to build a rocket capable of flying 1000 ft and being recovered. You will have access to all of the supplies you need for your build, including 3d printers for creating pieces. Oh, and there is one catch, your rocket has a payload of one paint ball. The paint ball needs to survive the flight!

**Expert Build:** Build a working 3 stage rocket. Plans for this project are available in the media studio or you can find your own design.

### ROCKET LAUNCH

### ID PTS

### + 5 PTS FOR SAFE LANDING

BUILD BEGINS

AUG 8TH

1 PM

LAUNCH DAY

AUG 19TH

1 PM

LINCOLN HIGH PARKING LOT

# BONUS PROGRAMS

THESE PROGRAMS AND OPPORTUNITIES ARE AVAILABLE THROUGHOUT THE CAMP FOR THOSE THAT WANT TO PAD THEIR POINT TALLY. KEEP YOUR EYES OPEN FOR BONUS OPPORTUNITIES DURING CAMP!

## HELLO FROM MARS

5 PTS

TAKE YOUR PICTURE ON OUR GREEN SCREEN AND EDIT IN A MARTIAN LANDSCAPE.

## DESIGN A HAB

5 PTS

TAKE ARTISTIC LICENSE TO DESIGN A MARTIAN LIVING SPACE. THIS CAN BE DONE WITH DRAWING OR 3D PRINT MODELS BUT YOU WILL NEED TO BE ABLE TO EXPLAIN HOW YOUR SPACE KEEPS PEOPLE ALIVE.

## TAKE A VR TRIP TO MARS

5 PTS

USE ONE OF OUR VR UNITS TO CHECK OUT THE MARTIAN VR ADVENTURE.

## THE MARTIAN VIDEO REVIEW

10 PTS

DO A VIDEO REVIEW OF EITHER THE MARTIAN BOOK OR MOVIE. CAMERAS ARE AVAILABLE IN THE STUDIO SPACE.

## ATTEND TEEN SRP BOOKCLUB - GRADES 6-12 ONLY

5 PTS EA

Hidden Figures (Youth Edition) - Tuesday, June 20 - 1:30 PM

The Martian (Youth Edition) - Tuesday, July 11 - 1:30 PM

10 PTS

Hitchhikers Guide to the Galaxy - Tuesday, Aug 8 - 1:30 PM

## MONITOR YOUR WORLD

10 PTS

MARK WAS SAVED BY THE MULTITUDE OF SENSORS USED IN THE HAB. CREATE AN ARDUINO BASED ENVIRONMENT MONITORING STATION USING 3 SENSOR TYPES.

