

Science in the Movies: *The Martian*

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Summary

- film adaptation of novel
- directed by Ridley Scott; starring Matt Damon, Jessica Chastain
- astronaut abandoned on Mars
- fight for survival
- NASA-devised rescue plan
 - crewmates take matters into their own hands



Trailer



Science in the Fiction

- plays a role in Watney's survival + devised rescue plans
 - various scientific disciplines
- examples
 - cultivated potato garden (botany)
 - burning hydrazine → water (chemistry)
 - cargo probe design (engineering)
 - gravity-assist maneuver w/ the *Hermes* (physics)



Accuracy of *The Martian's* Science

While it was realistic in some ways ...

- *Hermes'* nuclear electric propulsion system
- burning hydrazine to generate water
- gravitational slingshot maneuver

... it was erroneous in others.

- the fierce windstorm that results in Watney's abandonment
- growing food using Martian soil

The Martian's Message

- ability to conquer life's challenges
- situation is terrifying
 - surviving shows the boundlessness of human capabilities
- perils await in space exploration
 - overcome them all



References

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