

Lesson 5: Gravity On Mars

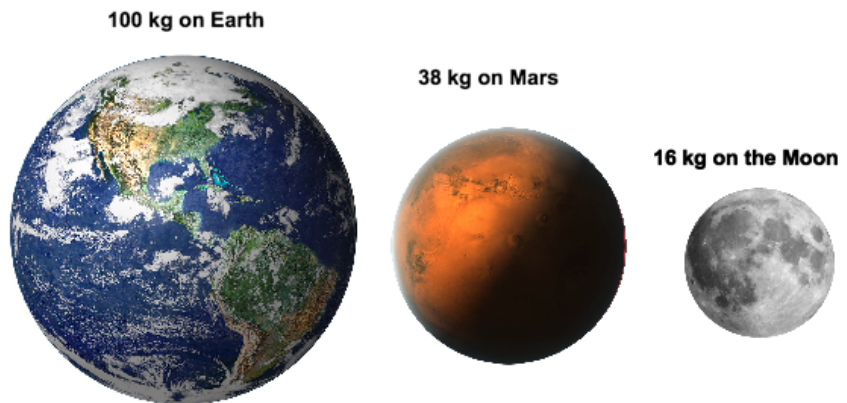
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VOCABULARY

1. Diameter
2. Force
3. Gravity
4. Heart
5. Heavy
6. Higher
7. Iron
8. Lift
9. Mass
10. Muscles
11. Smaller
12. Throw
13. Trouble
14. Weak
15. Weigh



Everything weighs less on Mars.

READ

Mars is much smaller than Earth. The diameter of Mars is 6,792 kilometers. The diameter of the Earth is 12,740 kilometers. The Earth also has a lot more iron than Mars so it has more **mass** than Mars. This means that Mars has less gravity than Earth. Gravity is the force that pulls things down to the ground. Everything with mass has gravity. Even you have gravity. The gravity on Mars is only 38% as strong as the gravity on Earth. If you weigh 100 kilograms on Earth you would weigh 38 kilograms on Mars. If you weigh 50 kilograms on Earth you would weigh 19 kilograms on Mars. If you can jump 50 centimeters on Earth you could jump 2.6 meters on Mars. You could throw a rock 100 meters!

Less gravity is both good and bad. It's good because you can lift heavy things and jump higher. You can run very fast. It's bad because your muscles will get weak and your heart will get bigger. Your bones will get weak. Then when you come back to Earth you will have a lot of trouble walking. Even standing up will be very hard for you.

DISCUSSION

1. What is the diameter of Mars?
2. Why is the Earth heavier than Mars?
3. What is gravity?
4. If a man weighs 100 kg on Earth, how much will he weigh on Mars?
5. Why is less gravity good?
6. Why is less gravity bad?

CALCULATE**Living on Mars**

If you lived on Mars you would weigh much less.
Multiply your weight on Earth by .38.

- How much do you weigh on Earth?
- How much would you weigh on Mars?

If you lived on Mars you could throw a rock 3 times as far as you can throw it on Earth.

- How far can you throw a rock on Earth?
- How far could you throw a rock on Mars?