Space Travel Hazards

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TRUE OR FALSE

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3″x 3″

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Space Travel Hazards

TRUE OR FALSE

Mars is bigger than Earth.

Answer: ***False***
Mars is smaller than Earth

+10 MPs

Bonus Question:

How big is Mars compared to Earth?

Answer: 1/9th the mass of Earth or 11% of Earth's mass

+15 MPs

Space Travel Hazards

TRUE OR FALSE

Mars is nicknamed the "Red Planet."

Answer: ***True***

+10 MPs

Bonus Question:

What gives the planet its reddish color?

Answer: The soil has high iron oxide content

+10 MPs

Space Travel Hazards

TRUE OR FALSE

NASA has never landed a spacecraft on Mars.

Answer: ***False***
NASA has landed several spacecraft on Mars.

+10 MPs

Bonus Question:

Name one of the Rovers that is on Mars

Answer: Spirit or Opportunity

+10 MPs

Space Travel Hazards

TRUE OR FALSE

NASA spacecraft help predict weather on Earth.

Answer: ***True***

+10 MPs

Space Travel Hazards

TRUE OR FALSE

NASA spacecraft help predict natural disasters.

Answer: ***True***

+10 MPs

Bonus Question:

Name one or more natural disasters

Answer: Earthquakes, severe storms (e.g. hurricanes, tornadoes), volcanoes, floods, drought

+10 MPs

Space Travel Hazards

TRUE OR FALSE

Earth is covered by mostly land mass.

Answer: ***False***
Earth is covered by mostly *water.*

+10 MPs

Bonus Question:

Approximately what percentage of Earth's surface is covered by water?

Answer: 75%

+15 MPs

3″x 3″

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Space Travel Hazards

TRUE OR FALSE

The first mission to put a man on the moon was Apollo 8.

Answer: ***False***
Apollo 11

+15 MPs

Bonus Question:

Who was the first astronaut that set foot on the moon?

Answer: Neil Armstrong

+10 MPs

Space Travel Hazards

TRUE OR FALSE

People who travel in space are called cosmo-nauts or astronauts.

Answer: ***True***

+10 MPs

Bonus Question:

What country are cosmonauts from?

Answer: Russia

+10 MPs

Space Travel Hazards

TRUE OR FALSE

It takes about one month to travel to Mars.

Answer: ***False***
It takes at least 6 months to travel to Mars

+10 MPs

Space Travel Hazards

TRUE OR FALSE

The Earth and Mars should be on the same side of the Sun to minimize travel time to Mars.

Answer: ***True***
They are closest when on the same side of the Sun

+10 MPs

Space Travel Hazards

TRUE OR FALSE

Galactic cosmic rays are an important source of radiation to be addressed by space missions in our solar system.

Answer: ***True***

+10 MPs

Space Travel Hazards

TRUE OR FALSE

Astronauts must have special training to cope with the lack of gravity, space food, and claustrophobia.

Answer: ***True***

+10 MPs

3″x 3″

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(Do Not Print)

Space Travel Hazards

TRUE OR FALSE

Hydrogen is the most common element in the Sun.

Answer: ***True***

+20 MPs

Bonus Question:

What is second most common element in the Sun?

Answer: Helium

+20 MPs

Space Travel Hazards

TRUE OR FALSE

A full revolution of Earth around the Sun takes 24 hours.

Answer: ***False***

A full revolution takes 365 days

+10 MPs

Bonus Question:

A full rotation of Earth around its axis takes how long?

Answer: 24 hours

+10 MPs

Space Travel Hazards

TRUE OR FALSE

Earth's atmosphere contains harmful radiation.

Answer: ***True***

+10 MPs

Bonus Question:

Name one type of harmful radiation found in Earth's atmosphere.

Answer: Ultraviolet, x-rays, gamma rays

+15 MPs

Space Travel Hazards

TRUE OR FALSE

Solar Minimum is when the Sun's magnetic field is weakest.

Answer: ***True***

+10 MPs

Space Travel Hazards

TRUE OR FALSE

Ionizing radiation can travel through material and living tissue.

Answer: ***True***

+20 MPs

Bonus Question:

Is ionizing radiation absorbed or reflected by living tissue?

Answer: Absorbed

+15 MPs

Space Travel Hazards

TRUE OR FALSE

Spacecraft trajectory influences how much radiation an astronaut is exposed to.

Answer: ***True***

+10 MPs

Bonus Question:

Name one other factor that determines how much radiation an astronaut is exposed to.

Answer: Altitude, solar cycle period, shielding, amount of time in space

+15 MPs

3″ x 3″

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Space Travel Hazards

TRUE OR FALSE

Excessive exposure to radiation cannot cause health issues.

Answer: ***False***

Exposure can cause serious health issues.

+10 MPs

Bonus Question:

Name one of the health issues that could be a result of radiation exposure.

Answer: Cancer, cataracts, damage to the nervous system

+15 MPs

Space Travel Hazards

TRUE OR FALSE

It is not very difficult to predict the long-term effects of space radiation.

Answer: ***False***

It is very difficult to predict the long-term effects of space radiation.

+10 MPs

Space Travel Hazards

TRUE OR FALSE

Ultraviolet (UV) radiation is found only in space.

Answer: ***False***

UV radiation is found in space and on Earth.

+10 MPs

Bonus Question:

Name one other type of radiation found in Earth's atmosphere.

Answer: X-rays, gamma rays, visible light, microwave, radio waves, infrared

+10 MPs

Space Travel Hazards

TRUE OR FALSE

The Solar Cycle has a duration of 11 years.

Answer: ***True***

+10 MPs

Space Travel Hazards

TRUE OR FALSE

Three types of space radiation are magnetically trapped particles, solar radiation, and galactic cosmic rays.

Answer: ***True***

+10 MPs

Space Travel Hazards

TRUE OR FALSE

Solar flares and coronal mass ejections are events on the Sun.

Answer: ***True***

+10 MPs

Bonus Question:

Name two or more types of radiation that are released during solar flares and mass ejections.

Answer: Protons, electrons, heavy ions, x-rays, gamma rays, energy

+20 MPs

3″ x 3″

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Space Travel Hazards

TRUE OR FALSE

Galactic cosmic rays are high-energy protons and heavy ions from inside our solar system.

Answer: ***False***

They are from outside our solar system.

+20 MPs

Space Travel Hazards

TRUE OR FALSE

Solar flares and coronal mass ejections occur most often during the solar minimum period.

Answer: ***False***

Solar maximum period

+10 MPs

Bonus Question:

Name two or more types of radiation that are released.

Answer: Protons, electrons, heavy ions, x-rays, gamma rays

+10 MPs

Space Travel Hazards

TRUE OR FALSE

Radiation is all around us.

Answer: ***True***

+10 MPs

Bonus Question:

Name one or more ways to protect yourself from daily radiation exposure.

Answer: Sunblock, sunglasses, clothing, and decreased direct sun exposure

+10 MPs

Space Travel Hazards

TRUE OR FALSE

At higher altitudes, spacecraft have less protection against solar flares.

Answer: ***True***

+10 MPs

Space Travel Hazards

TRUE OR FALSE

Particle radiation in space has electrons stripped away as the atoms accelerate in space.

Answer: ***True***

+20 MPs

Bonus Question:

Can the atom accelerate to the speed of light?

Answer: No

+10 MPs

Space Travel Hazards

TRUE OR FALSE

At higher altitudes, Earth's magnetic field is stronger.

Answer: ***False***

The magnetic field is weaker at higher altitudes.

+10 MPs

3″ x 3″

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Space Travel Hazards

TRUE OR FALSE

Particles that originate from the Sun are called "trapped particles."

Answer: ***False***
They are called solar particles.

+10 MPs

Space Travel Hazards

TRUE OR FALSE

Trapped particles are one type of Earth radiation.

Answer: ***False***
They are a type of space radiation.

+10 MPs

Bonus Question:
Name a type of trapped particle.
Answer: Protons or electrons
+10 MPs

Space Travel Hazards

TRUE OR FALSE

Solar maximum refers to the period when the Sun has the most visible sunspots.

Answer: ***True***

+10 MPs

Space Travel Hazards

TRUE OR FALSE

Three types of energetic space radiation are trapped particles, solar particles, and galactic cosmic rays.

Answer: ***True***

+15 MPs

Space Travel Hazards

TRUE OR FALSE

The three kinds of energetic space radiation represent ionizing radiation.

Answer: ***True***

+10 MPs

Bonus Question:
What are the three kinds of radiation?
Answer: Trapped particles, solar particles (solar flares and coronal mass ejections), and galactic cosmic rays
+20 MPs

Space Travel Hazards

TRUE OR FALSE

Loss of muscle mass during a space mission is not a concern for astronauts.

Answer: ***False***

+15 MPs

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