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For ages 10+



The World Disasters Series

Man-made Disasters

Book 3

Revised and Updated

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Man-made Disasters

▶ Many accidental disasters occur around the world. They happen at any time and are usually difficult to predict or control.

Disasters can be classified according to their origin as: **Natural, Man-made or Personal.**

Sort this list of disasters under the appropriate headings.

- Student fails an exam
- Turkish earthquake
- Hurricane Katrina
- Grandparent dies
- Asian tsunami
- Cyclone Tracy
- Sinking of the Titanic
- A pet dies
- Family home burns down
- Space shuttle disaster
- Lockerbie air disaster
- Athlete is injured during a race
- Exxon Valdez oil spill
- Beaconsfield mine collapse
- Great fire of London

Natural

Man-made

Personal

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Newspaper Study: Survey the newspaper for the next two weeks. Record all disaster information under the same headings.

Natural

Man-made

Personal

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List some other ways you could find out about recent disasters.



The Human Factor

- ▶ In recent years numerous man-made disasters have occurred. Like any disaster, these man-made disasters destroy life and property. Unlike natural disasters, man-made disasters are often able to be prevented and are the result of human error.

Brainstorm:

With your class members or a small group, conduct a brainstorm session on the various causes of man-made disasters. Record your list in the space below. For each cause, think of a way to prevent or minimise such an occurrence.

Causes of Man-made Disasters

Preventative Measures

e.g. Lack of equipment maintenance

Supervision of regular maintenance

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Analyse:

Analyse your list of man-made disasters recorded from your newspaper study. Provide details for each disaster below.

Man-made Disaster

Effect

Likely Cause

_____	e.g. damage, loss of life	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

- Of these disasters, which do you think could have most easily been avoided? Give a reason for your choice.

Background Information:



Space Disasters

Although the concept of space travel is still fairly new, it has had its fair share of disasters. The timeline below details some of the more significant space disasters including disasters that have happened on the ground but are related to space exploration.

● 1967 - January 27, Apollo I (USA)

A fire aboard the space capsule occurred at Cape Kennedy. The fires claimed the lives of three American astronauts and took place before the space craft was scheduled for take off.

● 1967 - April 23-24, Soyuz I (Russia)

A cosmonaut, Vladimir Komarov, was killed when his craft crashed as a result of the craft's steering system and parachute lines failing. Soyuz I was supposed to link up with a second manned spaceship, but Soyuz I developed problems and the second craft was never launched. Controllers ordered Soyuz to return to Earth and then tragedy struck.

● 1970 - April 13, Apollo 13 (USA)

An oxygen tank ruptured on the spacecraft bound for the moon. The lunar landing was aborted and three astronauts made it back to Earth alive. About 56 hours after the flight began, an explosion caused by a short circuit destroyed the systems that supplied electricity and oxygen to the command module. The astronauts retreated into the lunar module, which had enough oxygen to keep them alive during their return to Earth. The tense return trip ended safely nearly four days later. They used the command module to make a safe splashdown.

● 1971 - June 6-30, Soyuz II (Russia)

Three cosmonauts were found dead in the space craft after its automatic landing. When the space craft re-entered the Earth's atmosphere, there was a loss of pressurisation which is thought to have caused the deaths.

● 1980 - March 18 (Russia)

A Vostok rocket exploded on the launch pad during refuelling. 50 people were killed at the Plesetsk Cosmodrome, Russia's northern launch site.

● 1983 - September 26 (Russia)

A fire erupted at the base of a Soyuz rocket just before liftoff. The escape module with two cosmonauts was ejected from the rocket, saving the men's lives.

● 1986 - January 28, Challenger (USA)

The Challenger space shuttle exploded 73 seconds after blast off. All seven crew members were killed, including a teacher, Christa McAuliffe. It is thought that the accident occurred as a result of a booster leak which ignited the fuel.

● 1997 - February 23 (Russia)

A fire lasting 14 minutes broke out on the Russian space station Mir, sending huge flames and chunks of molten metal into the air. No major damage was done to the station and luckily there were no serious injuries to the six men on board.

● 1997 - June 25 (Russia)

An unmanned cargo ship collided with the Russian space station Mir, rupturing one pressurised module and knocking out half the power on outpost. Three men escaped unharmed.

● 2003 - February 1, Columbia (USA)

The Columbia space shuttle was lost as it re-entered the Earth's atmosphere after a two week space mission. All seven members of the crew were killed. Damage to the shuttle's thermal protection system led to the spacecraft breaking apart. This fateful mission was Columbia's 28th flight into space.

Space Disasters

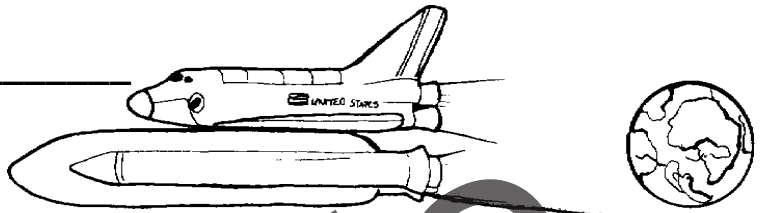
Information

One of the worst disasters in the history of space exploration was the **Challenger** disaster in 1986. Prior to this there had been two other space disasters resulting in the loss of human life. Both occurred in 1967. The first involved the **United States Apollo mission**, the other was the **Soviet Soyuz** fatality. In 2003, the **Columbia** space shuttle broke apart killing all seven crew members.

- Select one of these disasters to research. Provide notes under the headings below. Present your information in the format suggested by your teacher, i.e. oral presentation, chart, booklet.

Disaster: _____

Date: _____



- Names of astronauts/cosmonauts killed: _____

- Purpose of the space program/mission: _____

- Description of the disaster: _____

- Cause of the disaster: _____

The Inquiry

Conducted by: _____

Findings: Malfunction or human error? _____

Future precautions: _____
