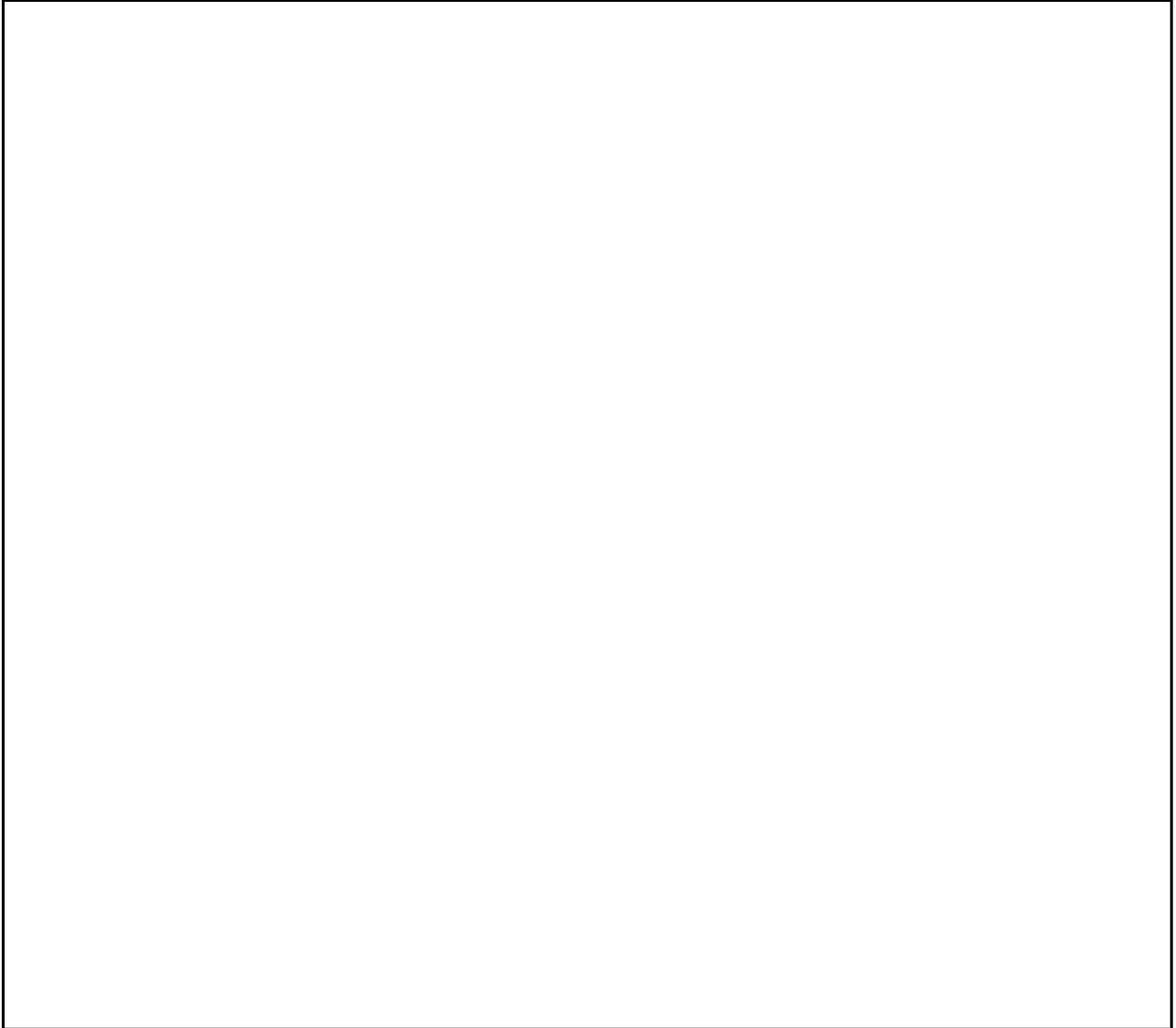


Name: _____ Date: _____

What is an Aerospace Engineer?

Draw and label a picture of an aerospace engineer at work.



Explain your drawing of an aerospace engineer: _____

Name: _____ Date: _____

What is an Aerospace Engineer?

B

Draw a picture of an aerospace engineer at work. Label your picture.



Name: _____ Date: _____

A

B

What is an Aerospace Engineer?

Which of the following would an aerospace engineer do for his or her job? Mark **ALL** that apply:

- fly space shuttles
- figure out how to make airplanes that fly faster
- fix telescopes that have broken
- study the properties of a rock from Mars
- design a system to launch a satellite
- fix airplane engines
- design a way to land a spacecraft safely on Mars
- make a plan for a machine that can collect rocks from the Moon
- travel to the Moon to collect rock samples
- figure out what materials to use to build a satellite

Name: _____ Date: _____

Pretend that 3 new planets have been discovered in our solar system. Some information about these planets is shown in the table below.

	Planet 1	Planet 2	Planet 3
Size	Small	Small	Large
Atmosphere	None	Thick	Thin
Surface	Very rocky	Gaseous	Smooth dirt

Someone has designed a spacecraft that is also a robot to explore the surface of ONE of these planets. The robot spacecraft has the following properties:

- (1) A large fuel tank for moving the spacecraft around the planet
- (2) Small wheels for traveling on the surface of the planet
- (3) A parachute to help it land safely on the surface of the planet

1. Which of the 3 new planets described above was this robot spacecraft designed to explore?

2. Explain why you think the robot spacecraft has these 3 properties.

Name: _____ Date: _____

1. Circle the BEST answer to the following question. On a planet the same size as Earth, where the atmosphere is thinner than it is on Earth, objects will:

- A. fall faster.
- B. float.
- C. fall at the same speed.
- D. fall slower.

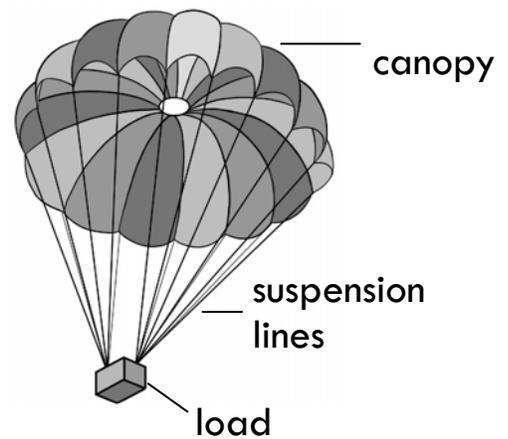
2. The atmosphere on Mars is thinner than the atmosphere on Earth. Describe 2 ways you can change a parachute that works well on Earth to make it work well on Mars.

(1) _____

(2) _____

3. A boy designed and created the parachute shown here. When he tested it, he found that it fell too slowly.

What could he do to make his parachute fall more quickly?



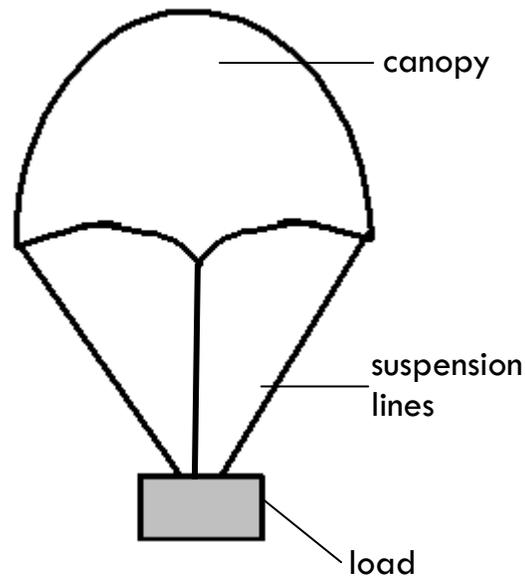
Name: _____ Date: _____

1. Here is a parachute that will work well on Earth.

Draw how you would change the parachute so that it will work well in a thinner atmosphere.

B

This parachute will work well on Earth:



Draw a parachute that will work well on a planet where the atmosphere is thinner than it is on Earth:

Name: _____ Date: _____

A new planet has been discovered that has a very dense atmosphere.

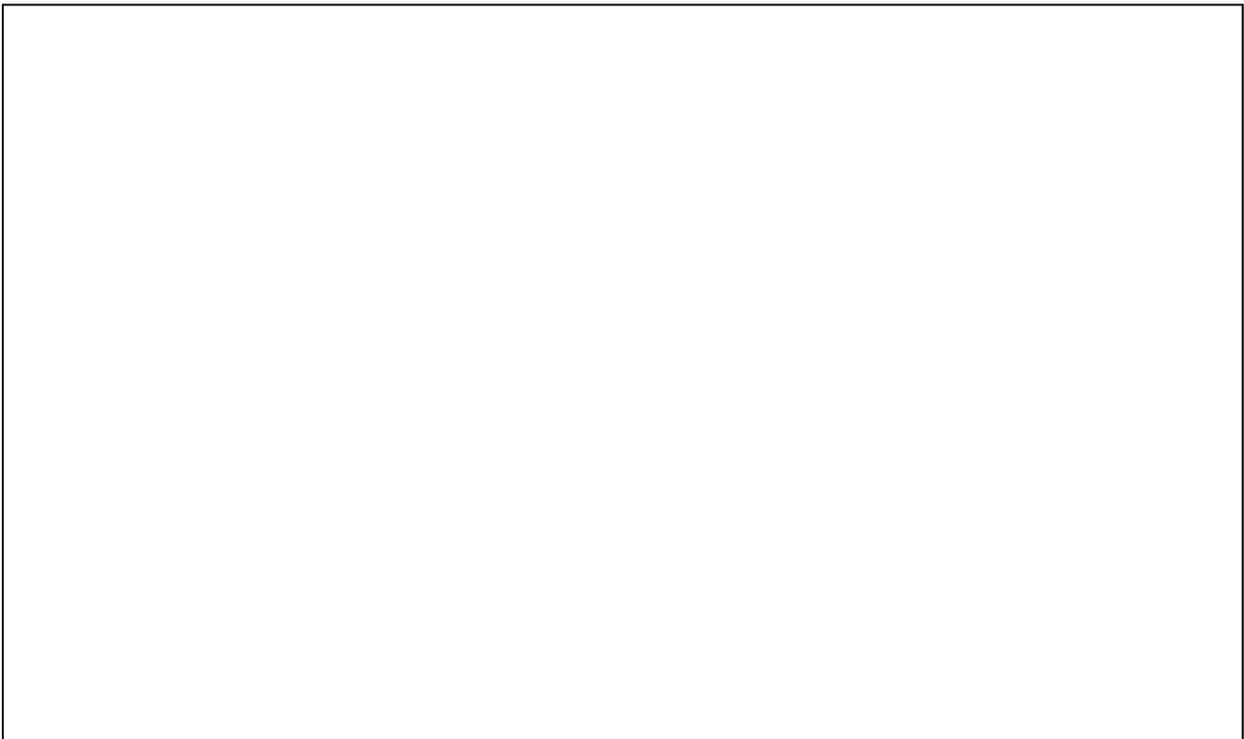
The atmosphere will also damage parachute if the parachute is exposed to it for too long.

Directions: Design a parachute that can safely deliver a robot to the surface of this new planet. You can sketch your ideas on the back of this page.

Describe 2 properties that your parachute should have: _____

Why are these properties important? _____

Draw your design plan in the box below. Label the parts.



Name: _____ Date: _____

A new planet has been discovered that has a very dense atmosphere.

The atmosphere will also damage parachute if the parachute is exposed to it for too long.

B

Directions: Design a parachute that can safely deliver a robot to the surface of this new planet. You can sketch your ideas on the back of this page.

Draw your design plan in the box below. Label the parts.



Name: _____ Date: _____

What is an Aerospace Engineer?

Draw and label a picture of an aerospace engineer at work.

A good picture would show someone designing or improving objects that go into space or other objects that fly.

Examples include: someone designing or improving airplanes, satellites, machines that will land on and explore other planets, etc.

Explain your drawing of an aerospace engineer:

Answers will vary, but may include: Someone who uses what he or she knows about science and math to design objects that go into space as well as other crafts that fly, such as airplanes.

Name: _____ Date: _____

What is an Aerospace Engineer?

Draw a picture of an aerospace engineer at work. Label your picture.

A good picture would show someone designing or improving objects that go into space or other objects that fly.

Examples include: someone designing or improving airplanes, satellites, machines that will land on and explore other planets, etc.

Name: _____ Date: _____

What is an Aerospace Engineer?

Which of the following would an aerospace engineer do for his or her job? Mark **ALL** that apply:

- fly space shuttles
- figure out how to make airplanes that fly faster
- fix telescopes that have broken
- study the properties of a rock from Mars
- design a system to launch a satellite
- fix airplane engines
- design a way to land a spacecraft safely on Mars
- make a plan for a machine that can collect rocks from the Moon
- travel to the Moon to collect rock samples
- figure out what materials to use to build a satellite

Name: _____ Date: _____

Pretend that 3 new planets have been discovered in our solar system. Some information about these planets is shown in the table below.

	Planet 1	Planet 2	Planet 3
Size	Small	Small	Large
Atmosphere	None	Thick	Thin
Surface	Very rocky	Gaseous	Smooth dirt

Someone has designed a spacecraft that is also a robot to explore the surface of ONE of these planets. The robot spacecraft has the following properties:

- (1) A large fuel tank for moving the spacecraft around the planet
- (2) Small wheels for traveling on the surface of the planet
- (3) A parachute to help it land safely on the surface of the planet

1. Which of the 3 new planets described above was this robot spacecraft designed to explore?

Planet 3

2. Explain why you think the robot spacecraft has these 3 properties.

Answers will vary but may include:

- *Planet 3 is large, so the spacecraft needs a large fuel tank.*
- *Planet 3 has a thin atmosphere, so it can use a parachute to help it land on the surface. Planet 2 is gaseous, so nothing can land on its surface. Planet 1 has no atmosphere, so a parachute would not help.*
- *Planet 3 has a smooth surface, so only small wheels are needed. Large wheels would be needed to explore Planet 1.*

Name: _____ Date: _____

1. Circle the BEST answer to the following question. On a planet the same size as Earth, where the atmosphere is thinner than it is on Earth, objects will:

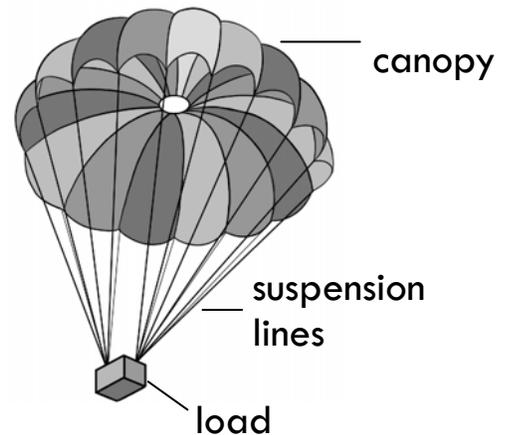
- A. fall faster. C. fall at the same speed.
 B. float. D. fall slower.

2. The atmosphere on Mars is thinner than the atmosphere on Earth. Describe 2 ways you can change a parachute that works well on Earth to make it work well on Mars.

Answers will vary, but may include: make a parachute that is larger, increase suspension line length so it can open more fully, decrease the size of the load, etc.

3. A boy designed and created the parachute shown here. When he tested it, he found that it fell too slowly.

What could he do to make his parachute fall more quickly?



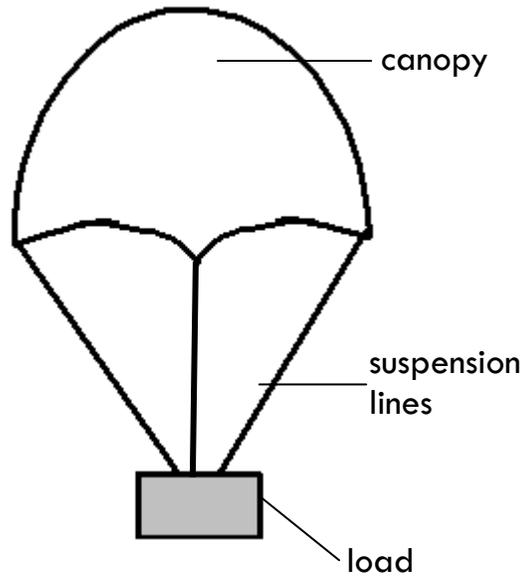
Answers will vary, but may include: make the canopy smaller, use a heavier load, make the canopy out of a thin, porous material, etc.

Name: _____ Date: _____

1. Here is a parachute that will work well on Earth.

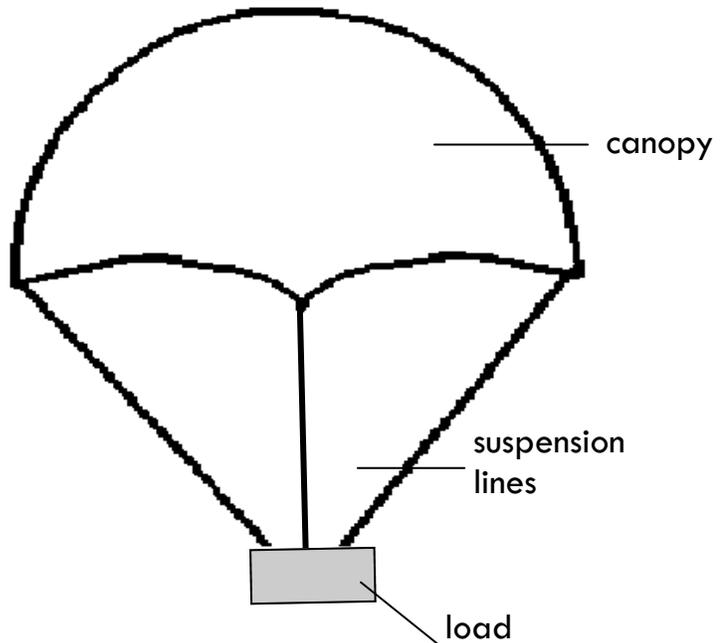
Draw how you would change the parachute so that it will work well in a thinner atmosphere.

This parachute will work well on Earth:



Draw a parachute that will work well on a planet where the atmosphere is thinner than it is on Earth:

Example: you could make the canopy larger.



Name: _____ Date: _____

A new planet has been discovered that has a very dense atmosphere.

The atmosphere will also damage parachute if the parachute is exposed to it for too long.

Directions: Design a parachute that can safely deliver a robot to the surface of this new planet. You can sketch your ideas on the back of this page.

Describe 2 properties that your parachute should have:

Answers will vary but may include: The canopy should be small, it should be heavy (maybe by adding extra weight to the robot), it should be made out of a thin, porous material, the suspension lines should be short, etc.

Why are these properties important?

Since the atmosphere is dense and you don't want to expose the parachute to the atmosphere for too long (because it will be damaged), you need a parachute that will fall quickly. The properties listed in the previous answer will all help to make the parachute fall more quickly.

Draw your design plan in the box below. Label the parts.



Name: _____ Date: _____

A new planet has been discovered that has a very dense atmosphere.

The atmosphere will also damage parachute if the parachute is exposed to it for too long.

Directions: Design a parachute that can safely deliver a robot to the surface of this new planet. You can sketch your ideas on the back of this page.

Draw your design plan in the box below. Label the parts.

Since the atmosphere is dense and you don't want to expose the parachute to the atmosphere for too long (because it will be damaged), you need a parachute that will fall quickly.

A good picture would indicate at least one property that could make the parachute fall faster. These properties include: the canopy should be small, it should be heavy (maybe by adding extra weight to the robot), it should be made out of a thin, porous material, the suspension lines could be shorter, etc.