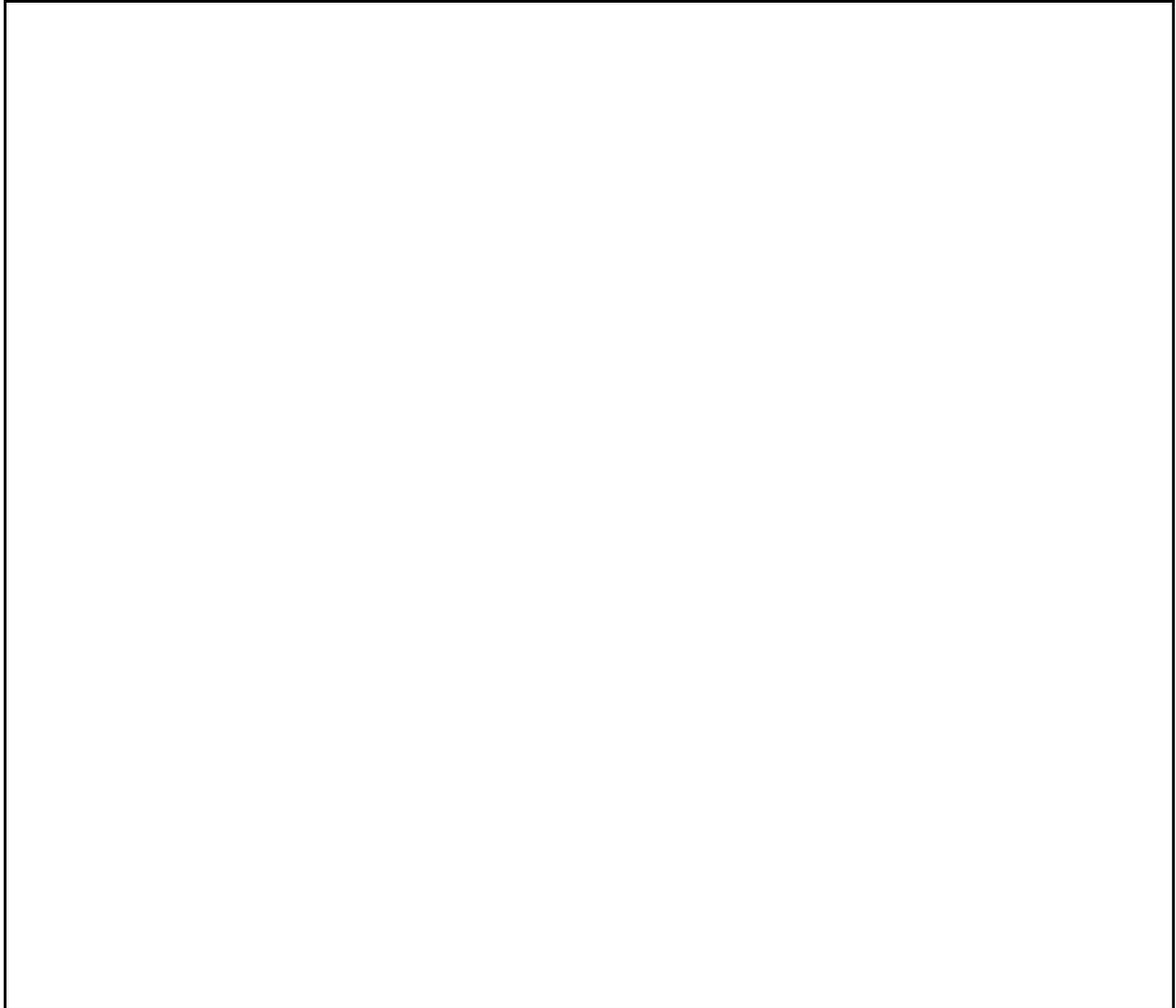


Name: _____ Date: _____

What is a Materials Engineer?

Draw and label a picture of a materials engineer at work.



Explain your drawing of a materials engineer:

Name: _____ Date: _____

B

What is a Materials Engineer?

Draw a picture of a materials engineer at work. Label your picture.



Name: _____ Date: _____

A

What is a Materials Engineer?

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

- drive a machine to dig up rocks
- fix a broken cement truck
- design a new kind of plastic for making erasers
- make a wedding dress
- think about processing materials
- invent a paint that prevents rusting
- figure out how to make a new kind of metal
- sew things made of cloth
- invent new kinds of cloth
- need to know about the properties of different kinds of plastic

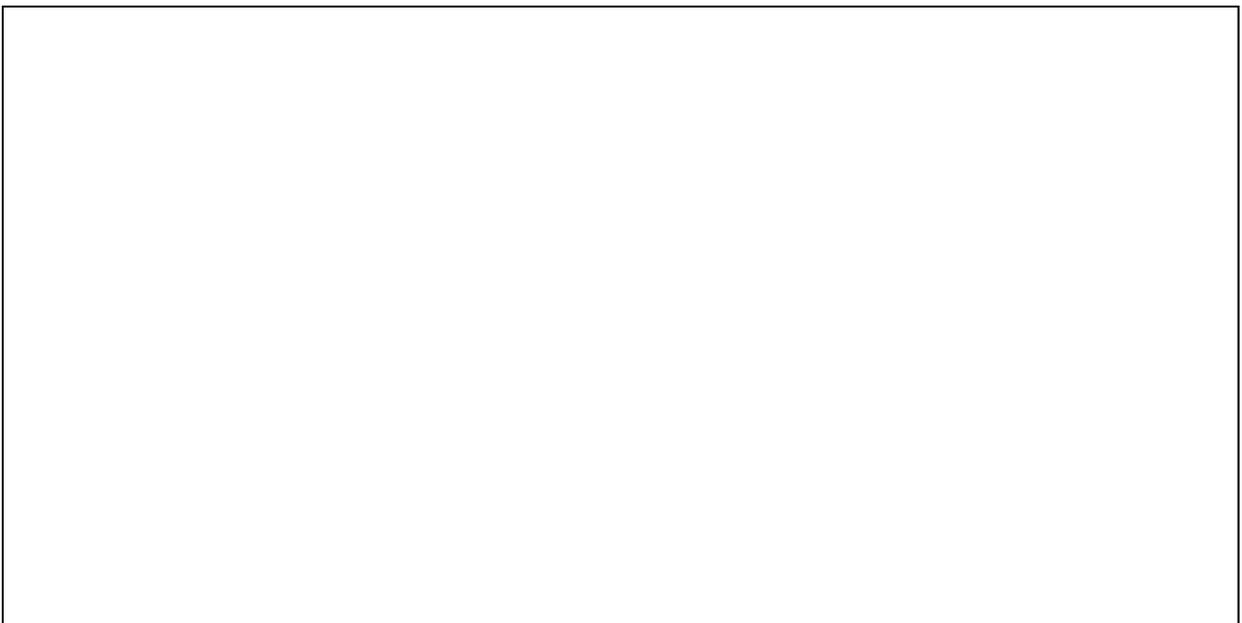
Name: _____ Date: _____

1. Which type of rock is formed when hot lava cools? Circle the BEST answer.

- A. coal
- B. igneous
- C. limestone
- D. metamorphic

2. Could a metamorphic rock become an igneous rock? Explain your answer.

3. In the box below, draw a picture of the rock cycle.



Name: _____ Date: _____

A

B

Directions: Decide whether each statement below is TRUE (😊 T) or FALSE (☹️ F) and circle your answer.

Rocks can be made by people.	😊 T	☹️ F
People don't use rocks anymore.	😊 T	☹️ F
Some new rocks are made when hot lava cools off.	😊 T	☹️ F
Some rocks are made of minerals and others are not.	😊 T	☹️ F
Some rocks melt deep inside the Earth.	😊 T	☹️ F
New rocks can be made at the bottom of the Ocean.	😊 T	☹️ F
Sometimes rocks change into different kinds of rocks.	😊 T	☹️ F
A piece of cement is a rock.	😊 T	☹️ F
New rocks can be made when rocks are squeezed deep underground.	😊 T	☹️ F
Lava is made of melted rock.	😊 T	☹️ F

Turn over for more questions

Name: _____ Date: _____

A

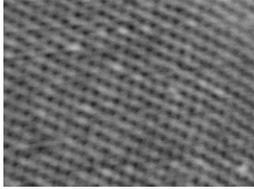
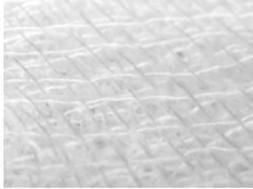
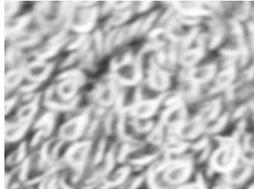
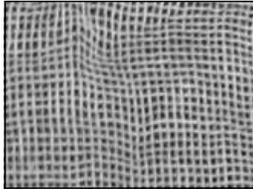
B

Directions: Decide whether each statement below is TRUE (😊 T) or FALSE (😞 F) and circle your answer.

Rocks can never be yellow.	😊 T	😞 F
People use rocks to make buildings.	😊 T	😞 F
All rocks are too hard to carve with a nail.	😊 T	😞 F
Rocks are not useful to people.	😊 T	😞 F
Some kinds of rocks are purple.	😊 T	😞 F
If 2 rocks are the same size, they will weigh the same.	😊 T	😞 F
Some kinds of rocks are heavier than other kinds of rocks.	😊 T	😞 F
Rocks are always smaller than a house.	😊 T	😞 F
People use rocks to make roads.	😊 T	😞 F
Some rocks break easily.	😊 T	😞 F

Name: _____ Date: _____

Directions: Look at the pictures of 4 kinds of cloth viewed close-up. Then, answer questions 1-3.

<p>Cloth A</p>  <p>Medium-sized threads, tightly woven</p>	<p>Cloth B</p>  <p>Medium-sized threads, loosely woven</p>
<p>Cloth C</p>  <p>Big threads, fluffy and looped</p>	<p>Cloth D</p>  <p>Small threads, loosely woven</p>

1. Circle the cloth that would be the BEST for making towels that can soak up lots of water.

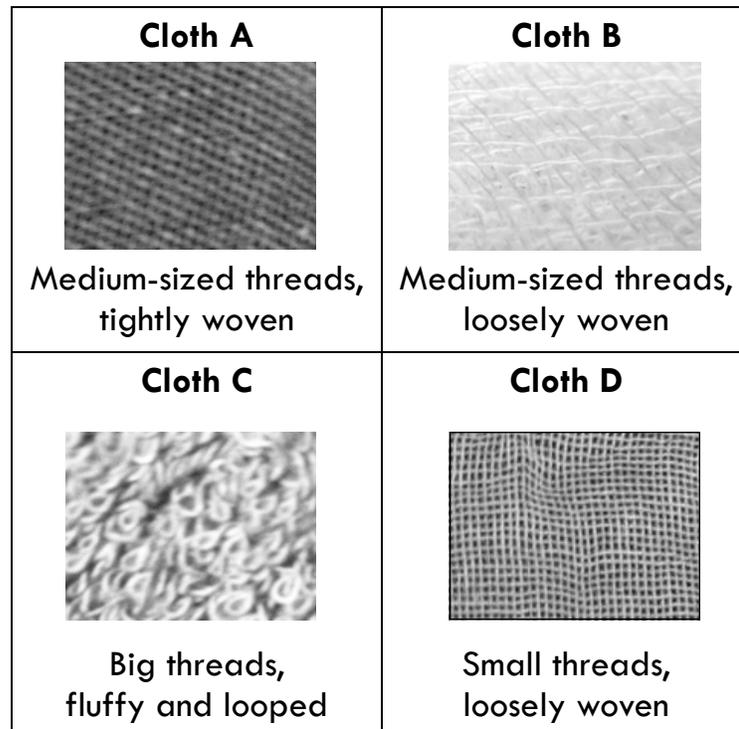
2. Put an X over the cloth that would be the BEST for quickly separating a mixture of pebbles and sand.

3. Could the different kinds of cloth be made of the same raw material?
Explain your answer.

Name: _____ Date: _____

Directions: Look at the pictures of 4 kinds of cloth viewed close-up. Then, answer questions 1-3.

B



1. Circle the cloth that would be the BEST for making towels that can soak up lots of water.
2. Put an X over the cloth that would be the BEST for quickly separating a mixture of pebbles and sand.
3. Could the different kinds of cloth be made of the same raw material?
 - A. No, they must all be made of different raw materials.
 - B. No, cloth A must be made of a different raw material.
 - C. No, cloth C must be made of a different raw material.
 - D. Yes, they could all be made of the same raw material.

Name: _____ Date: _____

1. A student has 2 tiles. He wants to know if they are both made of the same material. What information about the 2 tiles would help him to decide? Check ALL that apply.

- Both tiles float in water.
- The tiles are the same size.
- The tiles are the same shape.

2. List 2 properties of a brick.

(1) _____

(2) _____

3. A team of materials engineers invented a new material that can get very hot without melting. They are using this material in a rocket that will go into space.

Describe 2 other ways this material might be used:

(1) _____

(2) _____

Name: _____ Date: _____

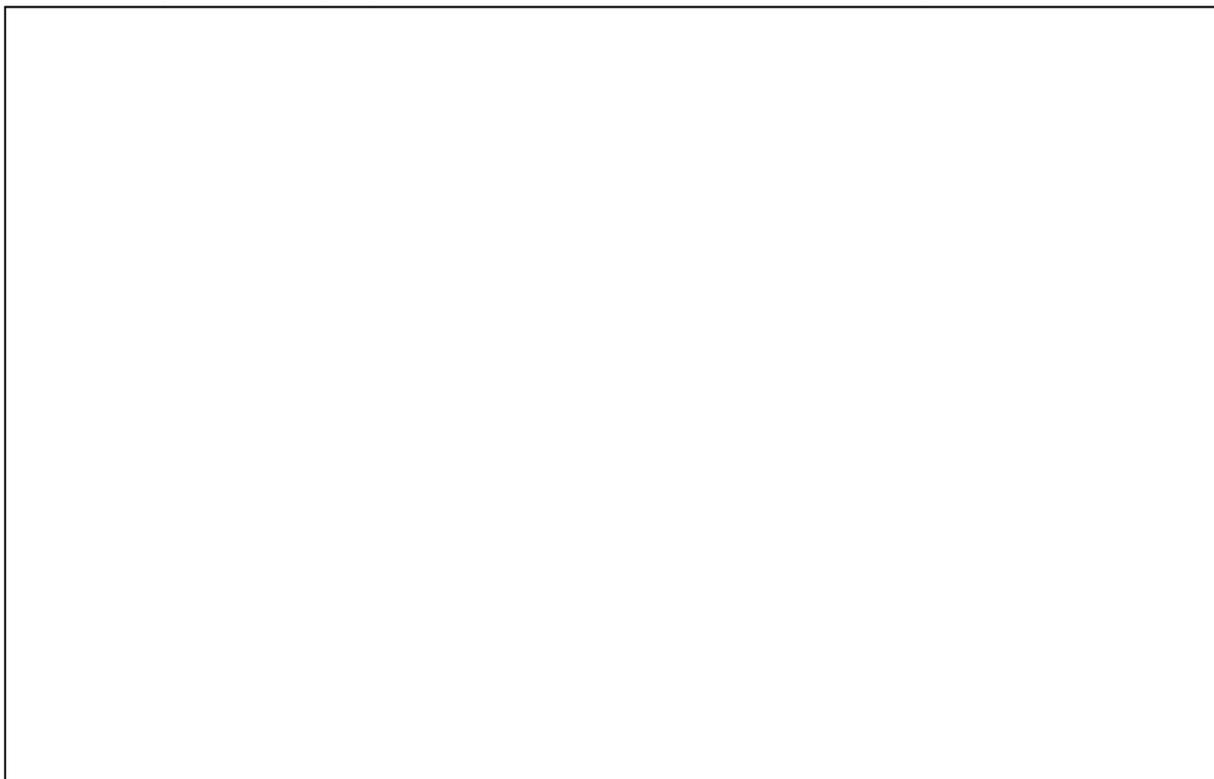
There are many ways to design something to sit on.

Directions: Design something that is comfortable to sit on. You can sketch your ideas on the back of this page.

1. What materials will you use? _____

2. Explain why you chose those materials. _____

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



Name: _____ Date: _____

There are many ways to design something to sit on.

Directions: Design something that is sturdy and waterproof so you can sit on it outdoors. You can sketch your ideas on the back of this page.

1. What materials will you use? _____

2. Explain why you chose those materials. _____

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



Name: _____ Date: _____

There are many ways to design something to sit on.

Directions: Design something that is portable so you will have something to sit on wherever you go. You can sketch your ideas on the back of this page.

1. What materials will you use? _____

2. Explain why you chose those materials. _____

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

Name: _____ Date: _____

B

There are many ways to design something to sit on.

Directions: Design something that is comfortable to sit on. You can sketch your ideas on the back of this page.

1. What materials will you use? _____

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



Name: _____ Date: _____

B

There are many ways to design something to sit on.

Directions: Design something that is sturdy and waterproof so you can sit on it outdoors. You can sketch your ideas on the back of this page.

1. What materials will you use? _____

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Name: _____ Date: _____

B

There are many ways to design something to sit on.

Directions: Design something that is portable so you will have something to sit on wherever you go. You can sketch your ideas on the back of this page.

1. What materials will you use? _____

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



Name: _____ Date: _____

What is a Materials Engineer?

Draw and label a picture of a materials engineer at work.

A good picture would show someone solving problems related to materials or working to create new materials with new properties.

Examples include: Someone designing a new kind of rubber for erasers, designing a new kind of paint that lasts longer, designing a new kind of metal that won't rust as easily, designing a new kind of waterproof cloth, etc.

Explain your drawing of a materials engineer:

Answers will vary, but may include: A person who uses his or her creativity and knowledge of science and math to solve problems related to materials and to create new materials with new properties.

Name: _____ Date: _____

What is a Materials Engineer?

Draw a picture of a materials engineer at work. Label your picture.

A good picture would show someone solving problems related to materials or working to create new materials with new properties.

Examples include: Someone designing a new kind of rubber for erasers, designing a new kind of paint that lasts longer, designing a new kind of metal that won't rust as easily, designing a new kind of waterproof cloth, etc.

Name: _____ Date: _____

What is a Materials Engineer?

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

- drive a machine to dig up rocks
- fix a broken cement truck
- design a new kind of plastic for making erasers
- make a wedding dress
- think about processing materials
- invent a paint that prevents rusting
- figure out how to make a new kind of metal
- sew things made of cloth
- invent new kinds of cloth
- need to know about the properties of different kinds of plastic

Name: _____ Date: _____

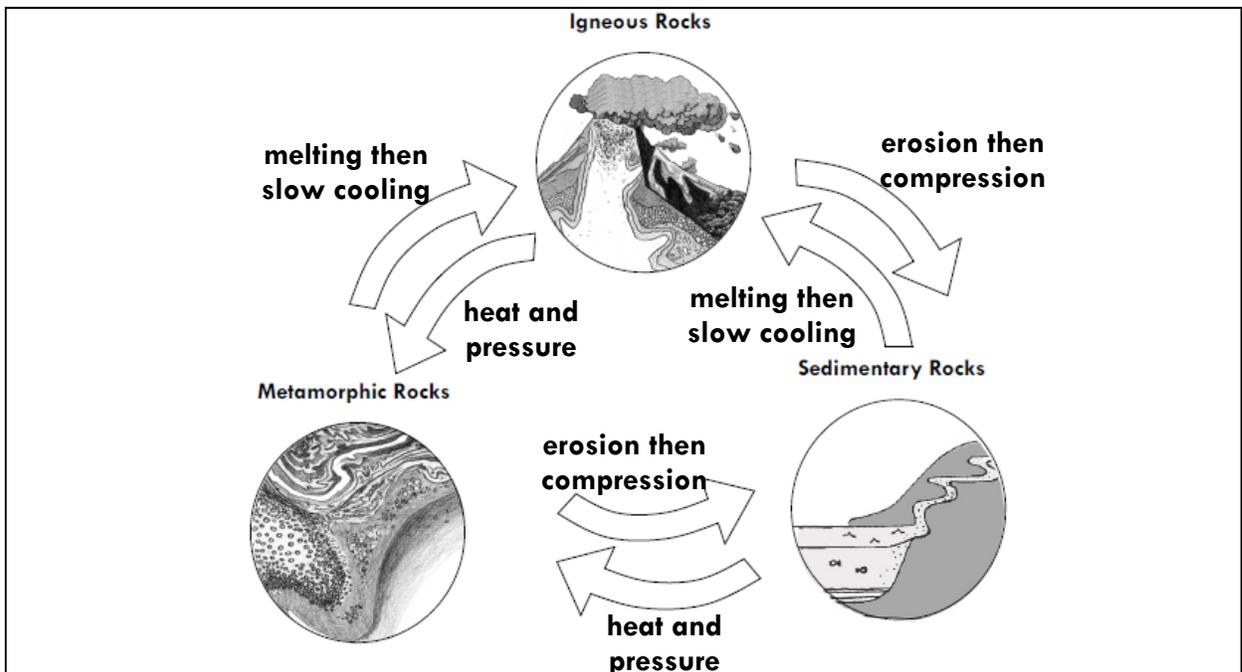
1. Which type of rock is formed when hot lava cools? Circle the BEST answer.

- A. coal
- B. igneous
- C. limestone
- D. metamorphic

2. Could a metamorphic rock become an igneous rock? Explain your answer.

Yes, if it is melted and then cooled.

3. In the box below, draw a picture of the rock cycle.



Name: _____ Date: _____

Answer Key

Directions: Decide whether each statement below is TRUE (😊 T) or FALSE (😞 F) and circle your answer.

Rocks can be made by people.	😊 T	😞 F
People don't use rocks anymore.	😊 T	😞 F
Some new rocks are made when hot lava cools off.	😊 T	😞 F
Some rocks are made of minerals and others are not.	😊 T	😞 F
Some rocks melt deep inside the Earth.	😊 T	😞 F
New rocks can be made at the bottom of the Ocean.	😊 T	😞 F
Sometimes rocks change into different kinds of rocks.	😊 T	😞 F
A piece of cement is a rock.	😊 T	😞 F
New rocks can be made when rocks are squeezed deep underground.	😊 T	😞 F
Lava is made of melted rock.	😊 T	😞 F

Turn over for more questions

Name: _____ Date: _____

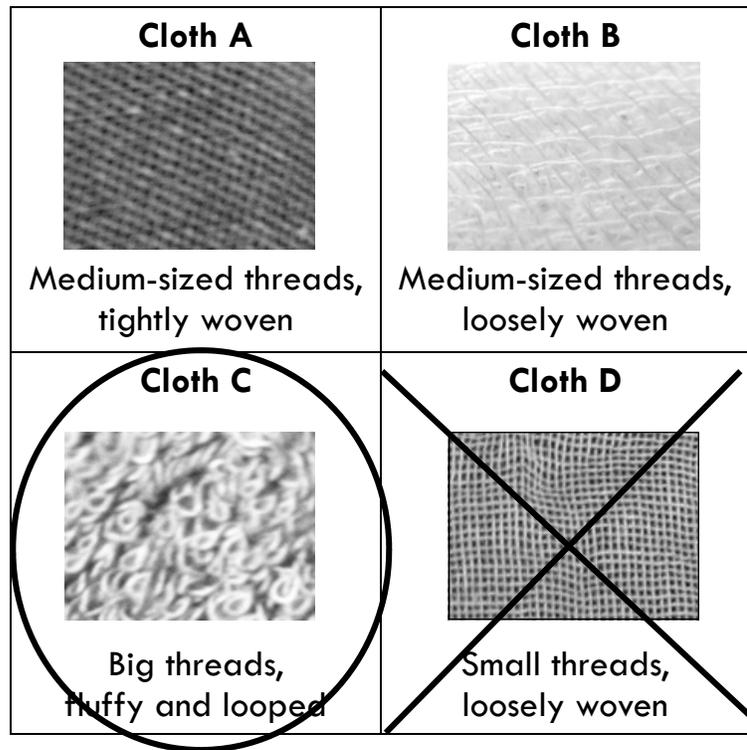
Answer Key

Directions: Decide whether each statement below is TRUE (😊 T) or FALSE (😞 F) and circle your answer.

Rocks can never be yellow.	😊 T	😞 F
People use rocks to make buildings.	😊 T	😞 F
All rocks are too hard to carve with a nail.	😊 T	😞 F
Rocks are not useful to people.	😊 T	😞 F
Some kinds of rocks are purple.	😊 T	😞 F
If 2 rocks are the same size, they will weigh the same.	😊 T	😞 F
Some kinds of rocks are heavier than other kinds of rocks.	😊 T	😞 F
Rocks are always smaller than a house.	😊 T	😞 F
People use rocks to make roads.	😊 T	😞 F
Some rocks break easily.	😊 T	😞 F

Name: _____ Date: _____

Directions: Look at the pictures of 4 kinds of cloth viewed close-up. Then, answer questions 1-3.

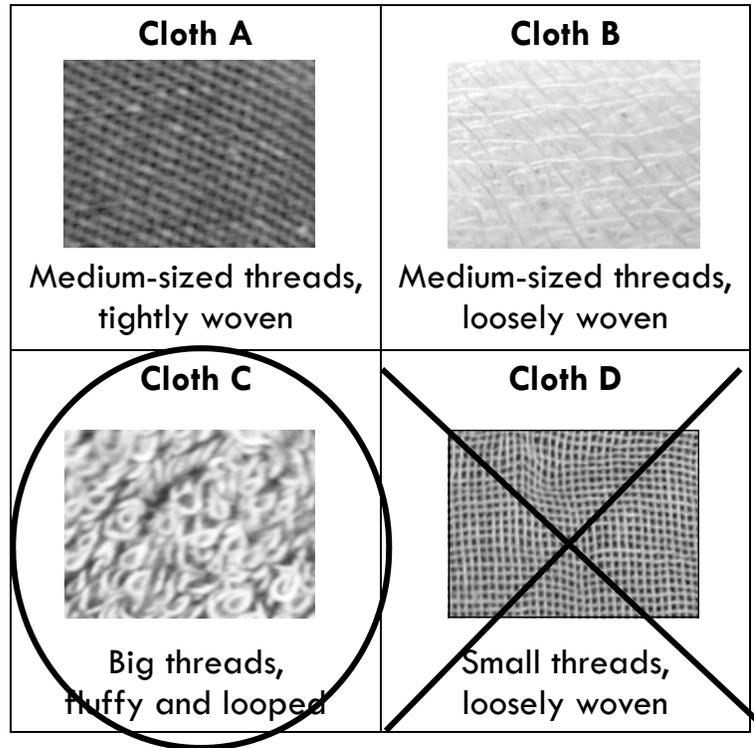


1. Circle the cloth that would be the BEST for making towels that can soak up lots of water.
2. Put an X over the cloth that would be the BEST for quickly separating a mixture of pebbles and sand.
3. Could the different kinds of cloth be made of the same raw material? Explain your answer.

Yes, they could all be made of the same raw material. Materials that look different can still be made of the same raw material.

Name: _____ Date: _____

Directions: Look at the pictures of 4 kinds of cloth viewed close-up. Then, answer questions 1-3.



1. Circle the cloth that would be the BEST for making towels that can soak up lots of water.
2. Put an X over the cloth that would be the BEST for quickly separating a mixture of pebbles and sand.
3. Could the different kinds of cloth be made of the same raw material?
 - A. No, they must all be made of different raw materials.
 - B. No, cloth A must be made of a different raw material.
 - C. No, cloth C must be made of a different raw material.
 - D. Yes, they could all be made of the same raw material.

Name: _____ Date: _____

1. A student has 2 tiles. He wants to know if they are both made of the same material. What information about the 2 tiles would help him to decide? Check ALL that apply.

- Both tiles float in water.
- The tiles are the same size.
- The tiles are the same shape.

2. List 2 properties of a brick.

Answers will vary, but may include: rough, hard, strong, heavy, etc.

3. A team of materials engineers invented a new material that can get very hot without melting. They are using this material in a rocket that will go into space.

Describe 2 other ways this material might be used:

Answers will vary, but may include: to design new baking pans, to design a new kind of oven, etc.

Name: _____ Date: _____

There are many ways to design something to sit on.

Directions: Design something that is comfortable to sit on. You can sketch your ideas on the back of this page.

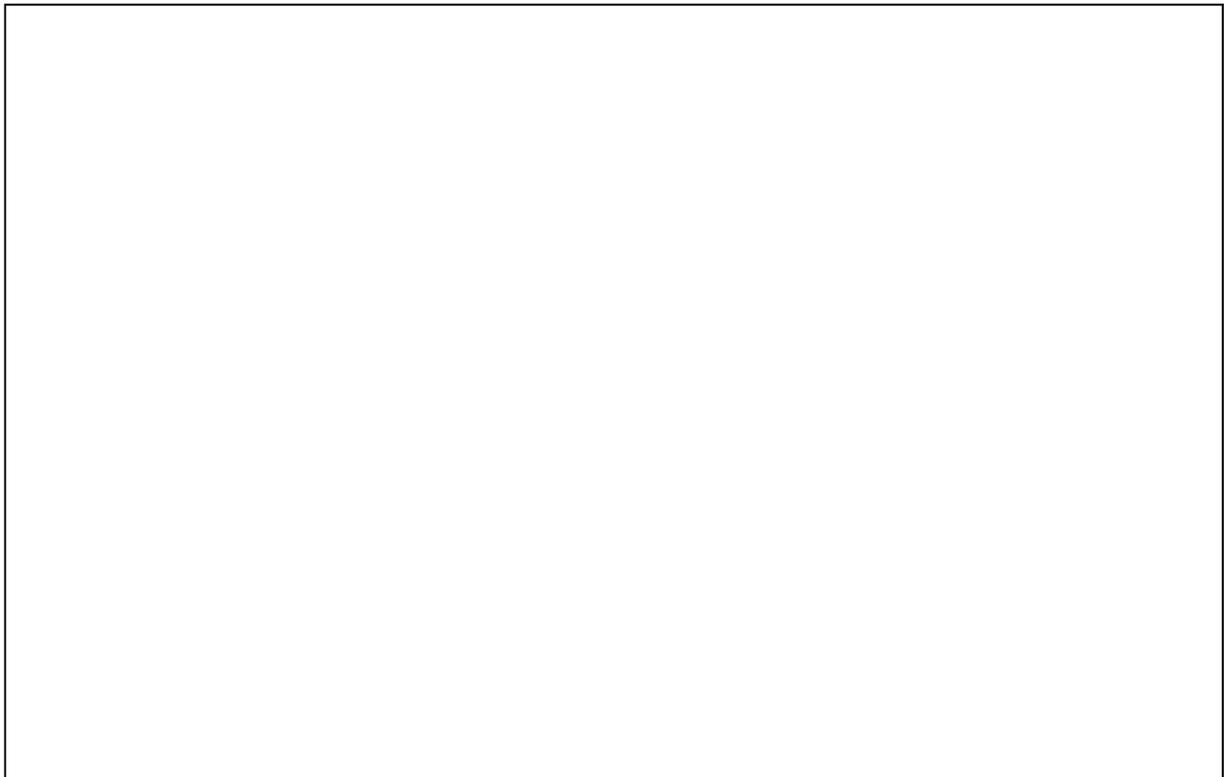
1. What materials will you use?

Answers will vary, but may include: pillows, blankets, etc.

2. Explain why you chose those materials.

Answers will vary and should be consistent with the answer to question 1. Examples include: You want something that is comfortable to sit on so it should be soft, cushioned, large enough for you to fit in, etc.

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



Name: _____ Date: _____

There are many ways to design something to sit on.

Directions: Design something that is sturdy and waterproof so you can sit on it outdoors. You can sketch your ideas on the back of this page.

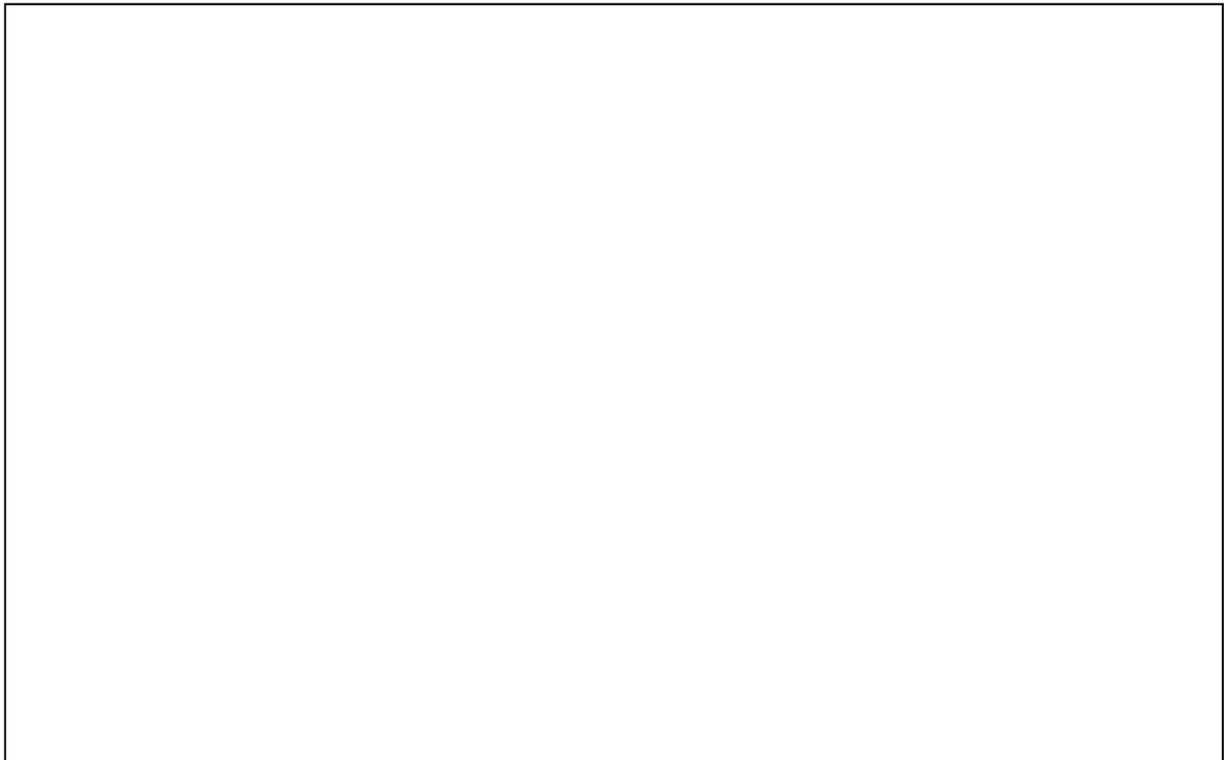
1. What materials will you use?

Answers will vary, but may include: plastic, wood, stone, etc.

2. Explain why you chose those materials.

Answers will vary and should be consistent with the answer to question 1. Examples include: wood and stone are sturdy, plastic is waterproof, etc.

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



Name: _____ Date: _____

There are many ways to design something to sit on.

Directions: Design something that is portable so you will have something to sit on wherever you go. You can sketch your ideas on the back of this page.

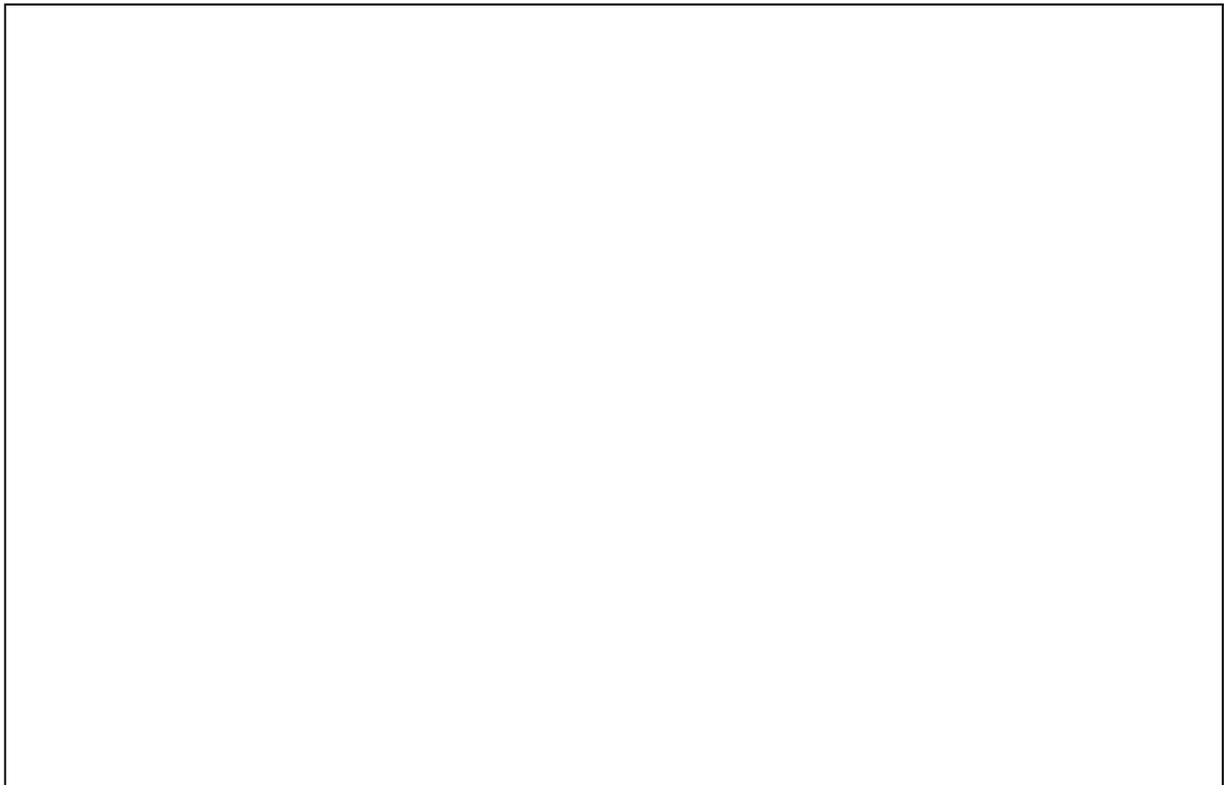
1. What materials will you use?

Answers will vary, but may include: towels, blankets, etc.

2. Explain why you chose those materials.

Answers will vary and should be consistent with the answer to question 1. Examples include: you want something that is light weight so you can carry it around, you want something flexible so you can fold it up, etc.

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



Name: _____ Date: _____

There are many ways to design something to sit on.

Directions: Design something that is comfortable to sit on. You can sketch your ideas on the back of this page.

1. What materials will you use?

Answers will vary, but may include: pillows, blankets, etc.

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

A good picture would show something that is comfortable to sit on. It may be made of materials that are soft and cushioned (like pillows), large enough for someone to fit in, etc.

Name: _____ Date: _____

There are many ways to design something to sit on.

Directions: Design something that is sturdy and waterproof so you can sit on it outdoors. You can sketch your ideas on the back of this page.

1. What materials will you use?

Answers will vary, but may include: plastic, wood, stone, etc.

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

A good picture would show something that is sturdy and waterproof. It may be made of materials such as wood, stone, plastic, etc.

Name: _____ Date: _____

There are many ways to design something to sit on.

Directions: Design something that is portable so you will have something to sit on wherever you go. You can sketch your ideas on the back of this page.

1. What materials will you use?

Answers will vary, but may include: towels, blankets, etc.

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

A good picture would show something that is portable. It may be made of materials that are lightweight and/or flexible such as towels, blankets, etc.