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Project ID: \_\_\_\_\_\_\_\_\_\_

Period: \_\_\_\_

Teacher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Models & Evidence:**

**The Case of Sam Spade**

A small grocery store in your neighborhood was burglarized between 10 pm and 10:15 pm on Friday night. The store closes at 9 pm, and the last person working at the store had left by 10 pm. The burglar stole $500 from a locked cash register, which had been broken open with an axe. A large glass window was broken, and the police believe the burglar entered and left the store through the window. A policeman driving by the store noticed the broken window at 10:15 pm.

After an investigation, the police have charged a local man – Mr. Sam Spade. You are a member of the jury in the case against Sam Spade. The prosecutor has said that she is convinced by the evidence that Sam committed the burglary, while the defense has argued that the evidence shows that Sam is innocent. You will consider the evidence and the different explanations given by both the prosecution and defense and decide which is better.

On the next page, you will see the different explanations of the prosecution and the defense. You can think of each explanation as a model of what happened. (The ideas you are learning about models and evaluating models can be used in everyday life, too!)

After you understand the two models, you will read evidence and think about it to help you decide which model is better.**Model A: The Prosecution’s explanation of what happened:**



Sam spent the money stolen from grocery store at the races.



B+

Sam left his blood on the broken window.

Sam broke into the grocery store and stole money.



Sam left his fingerprint on the counter of the store while he was stealing the money.

**Model B: The Defense’s explanation of what happened:**



Sam touched the counter of the store while he was buying a newspaper, leaving a fingerprint.



Sam entered the grocery store and bought a newspaper.

Sam went to the races the next day with his poker winnings.



Sam played poker with his best friend at the time the crime was committed.

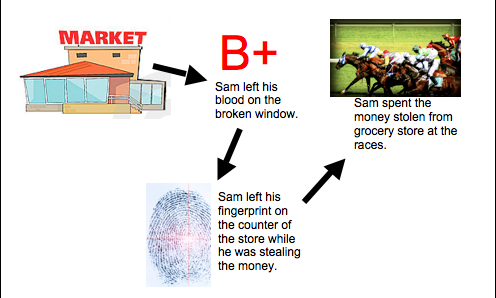
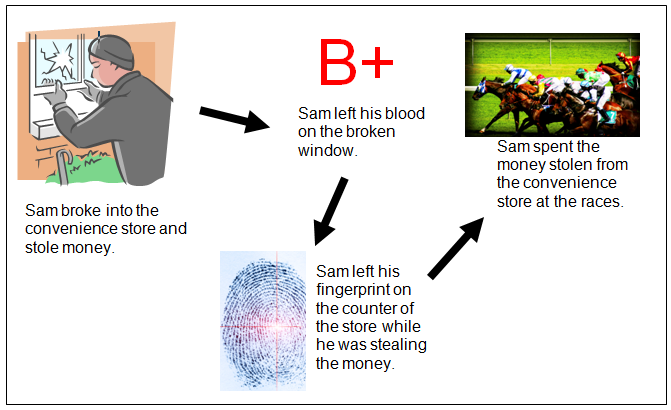
**Evidence 1**

Sam was seen by more than 10 witnesses spending a large amount of cash at the horse races the day after the robbery.

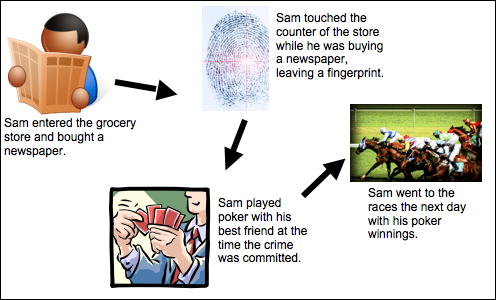
Use the following arrows to show how the evidence relates to the different explanations:

|  |  |  |
| --- | --- | --- |
|  | Arrow | The evidence supports the model |
|  | Double Arrow | The evidence strongly supports the model |
| X | Crossed Arrow | The evidence contradicts the model |
| X | Double Crossed Arrow | The evidence strongly contradictsthe model |
|  | Dashed Arrow | The evidence isirrelevantto the model |

**Model A**



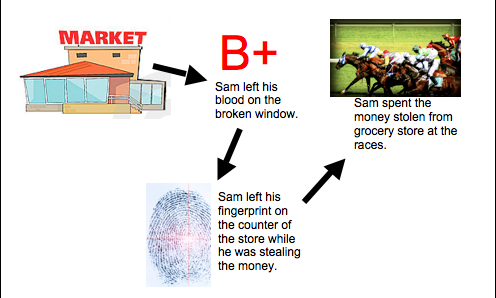
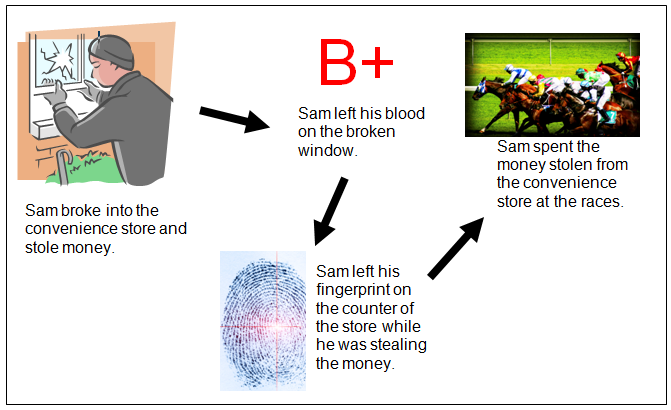
**Model B**



1. Individually, link Evidence 1 to each of the two models using one of 5 the arrows above.

2. Then discuss your arrows with your partner. Give reasons for your ideas. If you make changes to your arrows after discussion, use a red pen to draw your new arrows.

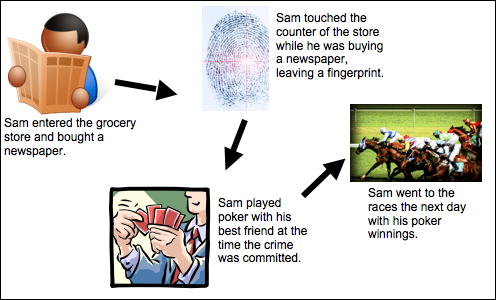
**Model A**



**Evidence 2**

The police dusted for fingerprints one hour after the burglary was discovered. One of Sam’s fingerprints was found on the counter of the store.

**Model B**



3. Link Evidence 2 to each of the models, using the arrows. Then, individually, answer the two questions below.

Draw arrow

Here:

**What arrow did you draw between Evidence 2 and Model A?**

**Write your reasons for your arrow choice.**

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**What arrow did you draw between Evidence 2 and Model B?**

Draw arrow

Here:

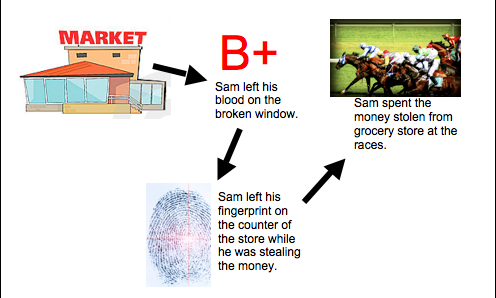
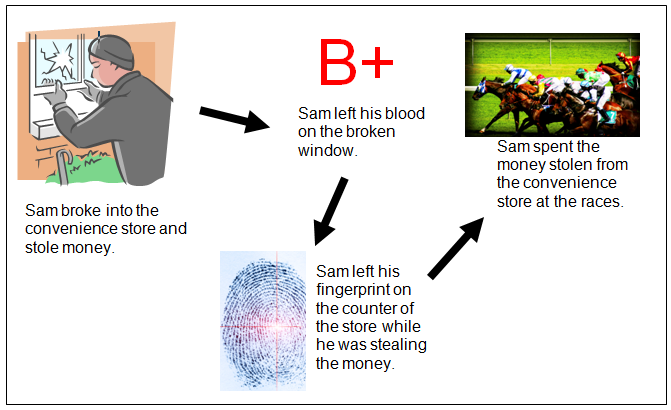
**Write your reasons for your arrow choice.**

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**Model A**



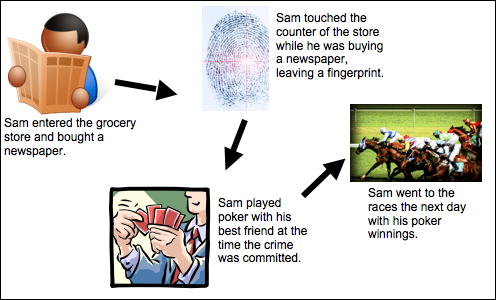
**Evidence 3**

Blood was found on the window broken by the burglar. The type of blood was B positive. Sam’s blood type is B positive. About 8% of Americans have B positive blood type. Due to budget cuts, the police department could not afford to send the blood from the window for DNA testing.

**Evidence 4**

Sam is 45 years old, 6 feet tall, and weighs 180 pounds.

**Model B**



4. Individually, link Evidence 3 and 4 to each of the models, using the arrows.

5. Then discuss your arrows with your partner. Give reasons for your ideas. If you make changes to your arrows after discussion, use a red pen to draw your new arrows.

6. If we draw all the arrows for Evidence 1 through 4 on the same chart, the chart will get very messy. Can you think of another kind of chart we could make that would show all the arrows for both models but that would look less messy?

7. Re-write your arrows for Evidence 1 through 4 on this page.

**Evidence 3**

Blood was found on the broken window broken by the burglar. The type of blood was B positive. Sam’s blood type is B positive. About 8% of Americans have B positive blood type. Due to budget cuts, the police department could not afford to send the blood from the window for DNA testing.

**Evidence 1**

Sam was seen by more than 10 witnesses spending a large amount of cash at the horse races the day after the robbery.

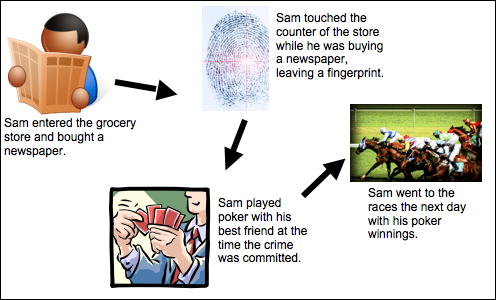
**Evidence 2**

The police dusted for fingerprints one hour after the burglary was discovered. One of Sam’s fingerprints was found on the counter of the store.

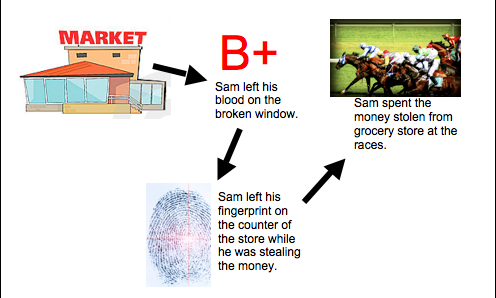
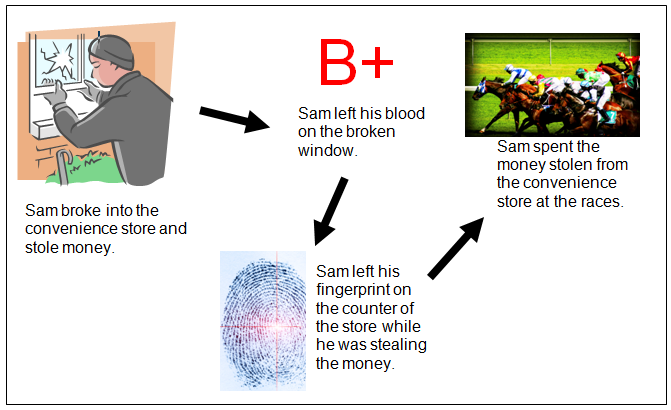
**Evidence 4**

Sam is 45 years old, 6 feet tall, and weighs 180 pounds.

**Model B**



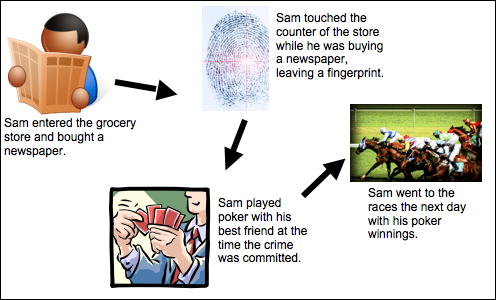
**Model A**



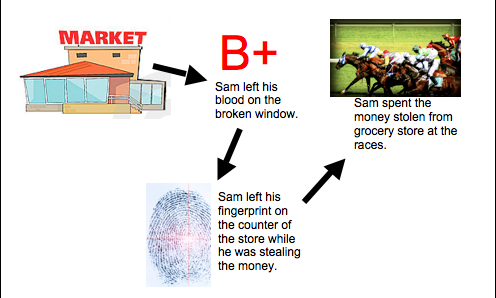
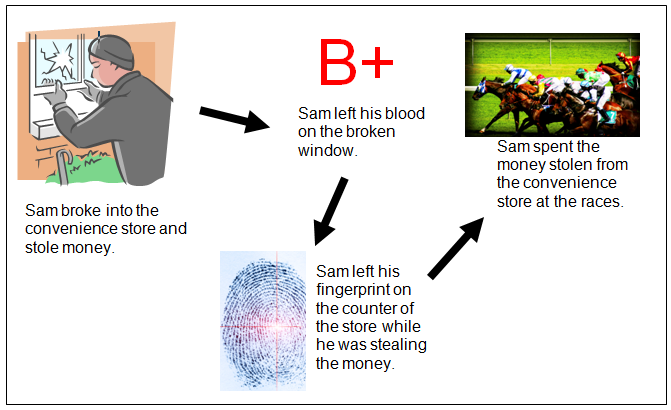
|  |  |  |
| --- | --- | --- |
| **Evidence** | **Model A** | **Model B** |
| **Evidence 1:** Sam was seen by more than 10 witnesses spending a large amount of cash at the horse races the day after the robbery. |  |  |
| **Evidence 2:** The police dusted for fingerprints one hour after the burglary was discovered. One of Sam’s fingerprints was found on the counter of the store. |  |  |
| **Evidence 3:** Blood was found on the broken window broken by the burglar. The type of blood was B positive. Sam’s blood type is B positive. About 8% of Americans have B positive blood type. Due to budget cuts, the police department could not afford to send the blood from the window for DNA testing. |  |  |
| **Evidence 4:** Sam is 45 years old, is 6 feet tall, and weighs 180 pounds. |  |  |
| **Evidence 5:** Both Sam and Sam’s best friend Joel testified that they were playing poker together from 9:00 pm. until midnight on the night of the crime. They both said they were playing at Joel’s apartment, which is 20 miles from the store that was robbed. Joel stated that Sam won about $400 during the game. |  |  |
| **Evidence 6:** Sam is a loud and insensitive neighbor. He often plays music late at night and has repeatedly ignored their requests to keep quiet. |  |  |

8. Individually, use the arrows to link Evidence 5 and 6 to each model.

**Model B**



**Model A**



|  |  |
| --- | --- |
| **Evidence 5:** Both Sam and Sam’s best friend Joel testified that they were playing poker together from 9:00 pm. until midnight on the night of the crime. They both said they were playing at Joel’s apartment, which is 20 miles from the store that was robbed. Joel stated that Sam won about $400 during the game. | **Evidence 6:** Sam is a loud and insensitive neighbor. He often plays music late at night and has repeatedly ignored their requests to keep quiet. |

9. Individually, answer the following two questions.

Draw arrow

Here:

**What arrow did you draw between Evidence 5 and Model B?**

**Write your reasons for your arrow choice.**

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Draw arrow

Here:

**What arrow did you draw between Evidence 6 and Model A?**

**Write your reasons for your arrow choice.**

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10. Then discuss your arrows with your partner. Give reasons for your ideas. If you make changes to your arrows after discussion, use a red pen to draw your new arrows.

11. At this point, individually write what you think based on Evidence 1 through 6.

Which model do you think is correct? Circle the one you think is correct:

1. Model A (Sam is guilty).
2. Model B (Sam is innocent).
3. I cannot tell.

Write your best two reasons for your final decision:

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12. Now discuss Question 11 with your partner. Be sure to give lots of reasons for your ideas. (Don’t change what you wrote, even if you change your mind or think of better reasons.)

13. Now your teacher will show the last piece of evidence to you.

Discuss these questions with your partner. Be sure to give lots of reasons for your ideas.

A. What arrow would you draw to link Evidence 7 with Model A?

B. What arrow would you draw to link Evidence 7 with Model B?

C. Now which model do you think is better?

14. Individually write down which model is better based on all 7 pieces of evidence. Give reasons for your answer.

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