

## Meeting 2: Meeting Mr. No and Drawing Conclusions

April 11, 2018

Mr. No is a funny man who replies with the *opposite* to every statement that he hears.

Here are some examples of his answers:

Statement	Mr. No's response (Opposite statement)
<b>All</b> children <b>like</b> candy	<b>Some</b> children <b>do not like</b> candy
<b>All</b> balloons <b>are</b> red	<b>Some</b> balloons <b>are not</b> red
<b>All</b> fairy tales <b>have</b> a prince	<b>Some</b> fairy tales <b>do not have</b> a prince

- Can you predict what Mr. No will respond to each of the following statements?

<i>Statement</i>	<i>Mr. No's response (Opposite statement)</i>
<b>All</b> students <b>like</b> math	_____ students _____ math
<b>All</b> stars <b>are</b> very far away	_____ stars _____ very far away
<b>All</b> lemons <b>are</b> sour	_____ lemons _____ sour

2. How does Mr. No construct the opposite of each of the statements on the previous page? Then add your own example.

ALL →

LIKE →

ARE →

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3. How would Mr. No reply to each of the following statements?

<i>Statement</i>	<i>Mr. No's response (Opposite statement)</i>
<b>Some</b> cats <b>are</b> purple	
<b>Some</b> planets <b>have</b> rings	
<b>Some</b> cars <b>are</b> fast	

As you have discovered, each statement has an opposite. Here are some examples:

<i>Statement</i>	<i>Opposite statement</i>
All ... are...	Some ... are not
Some ... are ...	All ... are not ...

4. How would Mr. No respond to the statement, “There is a boy who likes pizza”? Hint: start your sentence with “There are...”. Hint: start your sentence with “There are....”

5. Mr. No tells you a story. As usual, instead of telling how it should be, he tells the exact opposite. Can you rewrite (or retell) the original story?

<i>Original Sentence</i>	<i>Fill in the Blank (Opposite)</i>
Once upon a time there were no magic animals living in the enchanted forest.	Once upon a time there _____ living in the enchanted forest.
Some of them were not friends with each other.	_____ of them were _____ with each other.
All animals were not very powerful. They did not help others.	_____ animals _____ powerful. They _____ others.
When there was danger, some animals did not get together and protect the baby animals.	When there was danger, _____ animals _____ to protect the baby animals.
This is how some of the baby animals did not grow up in the enchanted forest and could not learn their magic powers.	This is how _____ of the baby animals _____ in the enchanted forest and _____ their magic powers.

6. Mr. Yes is good friends with Mr. No. A typical conversation between Mr. Yes and Mr. No goes something like this:

- Mr. Yes says something
- Mr. No responds
- Mr. Yes can't believe Mr. No, so he repeats what Mr. No said as a question
- Mr. No responds
- Mr. Yes is pleased and says goodbye.

Here is an example:

*Mr. Yes:* Hello! Did you know that all people need to eat?

*Mr. No:* No, some people do not need to eat.

*Mr. Yes:* What? I can't believe it. Some people do not need to eat?

*Mr. No:* No, all people need to eat.

*Mr. Yes:* That's what I said! Goodbye.

(a) Why is Mr. Yes pleased in the end?

Write the conversation that Mr. Yes and Mr. No would have if Mr. Yes starts with the statement: "All days in Los Angeles are sunny days."

*Mr. Yes:* Hello! Did you know all days in Los Angeles are sunny days?

*Mr. No:*

*Mr. Yes:* What? I can't believe it.

*Mr. No:*

*Mr. Yes:* That's what I said! Goodbye.

7. A statement can be either **true** or **false**. If a statement is true, it means the opposite statement is false. If a statement is false, this means that the opposite of the statement is true.

For example, the statement:

“All days in Los Angeles are rainy days.” is a **false** statement.

The opposite statement is:

“Some days in Los Angeles are not rainy days.”

This is a **true** statement.

If a statement is false, we can find an example demonstrating this. This is called a **counterexample**.

For example:

“Yesterday, it did not rain in Los Angeles.”

is a **counterexample** to the falso statement

“All days in Los Angeles are rainy days.”

For each of the statements below, state whether it is **true** or **false**. If it is false, provide the opposite statement and a counter-example. If it is true give supporting evidence of why that is.

(a) “All numbers are even numbers”.

If true:

Supporting evidence:

If false:

Opposite Statement:

Counterexample:

(b) “Some numbers are not whole numbers.”

If true:

Supporting evidence:

If false:

Opposite Statement:

Counterexample:

(c) "Every even number is followed by an odd number."

If true:

Supporting evidence:

If false:

Opposite Statement:

Counterexample:

(d) "All people own a pet."

If true:

Supporting evidence:

If false:

Opposite Statement:

Counterexample:

(e) "All houses have a garage."

If true:

Supporting evidence:

If false:

Opposite Statement:

Counterexample: