

Even and odd numbers

The numbers  $0, 1, 2, 3, \dots$  are named the whole numbers.

The numbers  $0, 2, 4, 6, \dots$  are called even numbers.

The numbers  $1, 3, 5, 7, \dots$  are called odd numbers.

The terms even and odd describe numbers which have special properties.

We can use different kinds of models to demonstrate and understand the meaning of "even" and "odd".

Models for even numbers

1. Think about the meaning of the word "even" in ordinary language.  
Can you give a non-mathematical example of something "even"?

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2. Read the list of even numbers. Select an even number which is larger than 4 but smaller than 20.

Write the number in the box.

3. Count out unit blocks  $\blacksquare$  equal to the number you have selected.  
Arrange the blocks in a way which will demonstrate that your selected number is an even number.

Sketch your block model here.

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Think of a simple arithmetic problem (using  $+$  and/or  $\times$ ) which describes your model. Write your arithmetic problem on the line next to your sketch

4. How does the arrangement of your model show the idea of "even"?

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How does your arithmetic problem indicate the idea of "even"?

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5. Use what you have learned. Complete the following definition.

An even number \_\_\_\_\_

## Models for odd numbers

1. Think about the meaning of the word "odd" in ordinary language. Can you give a non-mathematical example of something "odd"?

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2. Read the list of odd numbers. Select an odd number which is larger than 4 but smaller than 20.  
Write the number in the box.

3. Count out unit blocks  equal to the number you have selected. Arrange the blocks in a way which will demonstrate that your selected number is an odd number. Sketch your block model.

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Think of a simple arithmetic problem (using + and/or X) which describes your model. Write your arithmetic problem on the line next to your sketch

4. How does the arrangement of your model show the idea of "odd"?

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How does your arithmetic problem indicate the idea of "odd"?

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5. Use what you have learned. Complete the following definition.

An odd number \_\_\_\_\_

## Models for square numbers

The numbers 1, 4, 9, 16, ... are called perfect squares or square numbers.

- Build a block model which demonstrates that these are square numbers.
- Write a simple arithmetic problem which shows that 16 is a square number.

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## Models for multiples

The numbers 3, 6, 9, 12, ... are all multiples of 3.

- Arrange your blocks to show that these numbers are all multiples of 3.
- Write a simple arithmetic problem which shows that 12 is a multiple of 3.

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