

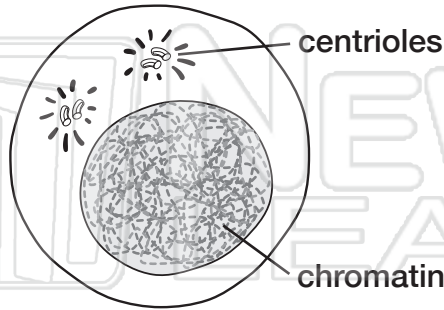


Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

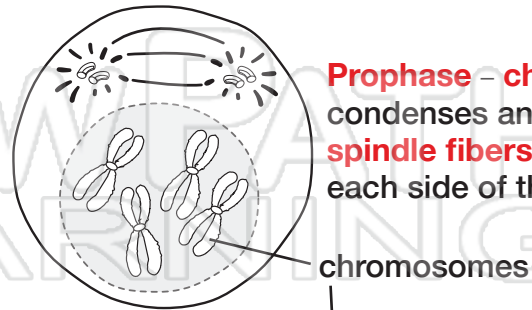
## The Cell Cycle

The **cell cycle** is the sequence of stages of growth and division that a cell undergoes. The three stages of the cell cycle include **interphase**, **mitosis** and **cytokinesis**.

**Interphase** – first stage of the cell cycle and the period before cell division. The cell matures, copies its **DNA** and prepares to divide.



**Prophase** – **chromatin** condenses and **spindle fibers** form at each side of the cell.



## The Cell Cycle

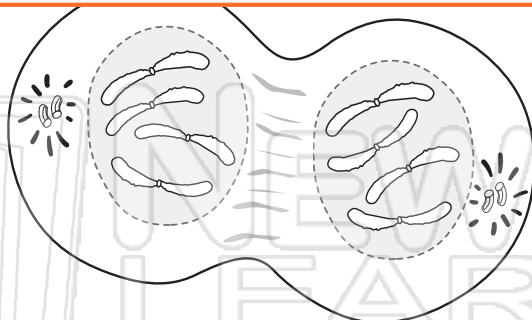
daughter cells

some of attach

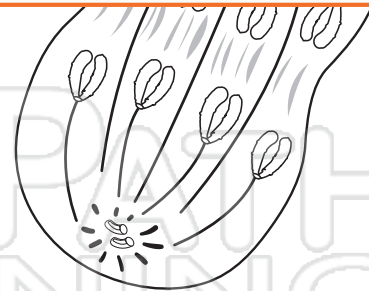
**PREVIEW**

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**Cytokinesis** – the final stage of the cell cycle where the cell membrane pinches off, dividing it into **two daughter cells**. Each daughter cell gets **half** of the cell organelles and an **identical set of chromosomes**.



**Telophase** – chromosomes loosen and nuclear membrane begins to form around the **chromatin**.



**Anaphase** – **chromatids** move to opposite sides of the cell.



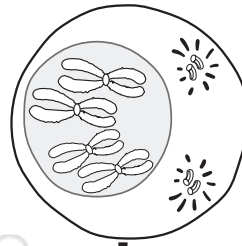
# Mitosis & Meiosis

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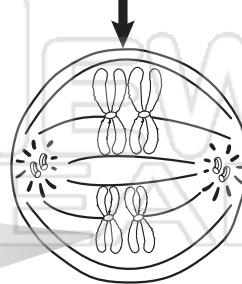
Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

## Meiosis

During meiosis a **parent cell** divides into **four sex cells**, each with half the number of chromosomes. Sex cells of males are called **sperm cells** and sex cells of females are called **egg cells**.



Before meiosis begins, **chromosomes** in the parent cell are **copied**.



## Meiosis I

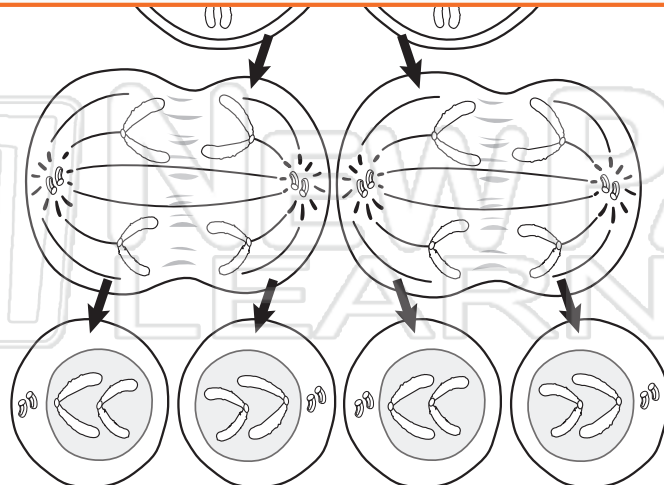
**Chromosome pairs** line up in the middle of the cell.



lit ends

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**Centromeres** split and **single chromosomes** move apart to opposite ends of the cell.

**4 sex cells** are produced, each with one chromosome from each original pair.



# Mitosis & Meiosis

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Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

Briefly explain what happens in a cell during the cell cycle and each stage of mitosis. Draw a picture to illustrate.

Interphase:

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Prophase:

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**Met**

**PREVIEW**

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**Ana**

Telophase & Cytokinesis:

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# Mitosis & Meiosis

Sci  
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Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

Use the graphic organizer to compare and contrast Mitosis and Meiosis.

**Mitosis**

**Meiosis**



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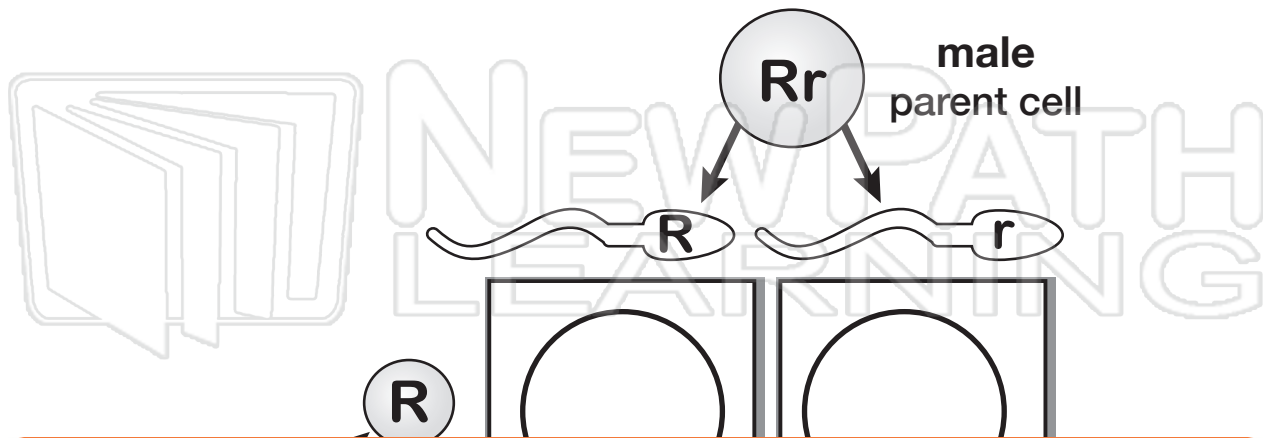


# Mitosis & Meiosis

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Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

A **Punnett Square** shows all the possible allele (gene) combinations in the offspring of two organisms. Complete the square below.



**PREVIEW**

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Which allele combination(s) represents a recessive trait? \_\_\_\_\_

What percentage of offspring will show a dominant trait? \_\_\_\_\_

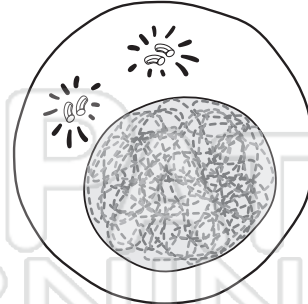
What percentage of offspring will show a recessive trait? \_\_\_\_\_



## Answer Key - example

Briefly explain what happens in a cell during the cell cycle and each stage of mitosis. Draw a picture to illustrate.

**Interphase:** Period before cell division. The cell matures, copies its DNA and prepares to divide.



**Prophase:** Chromatin condenses and spindle fibers

form

Met

line

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Ana

opp

apart by spindle fibers.

**Telophase & Cytokinesis:**

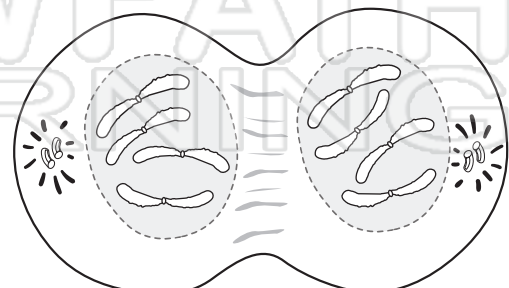
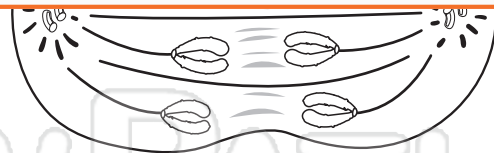
Chromosomes loosen, nuclear membranes form around chromatin.

Cell pinches in middle and divides.



## PREVIEW

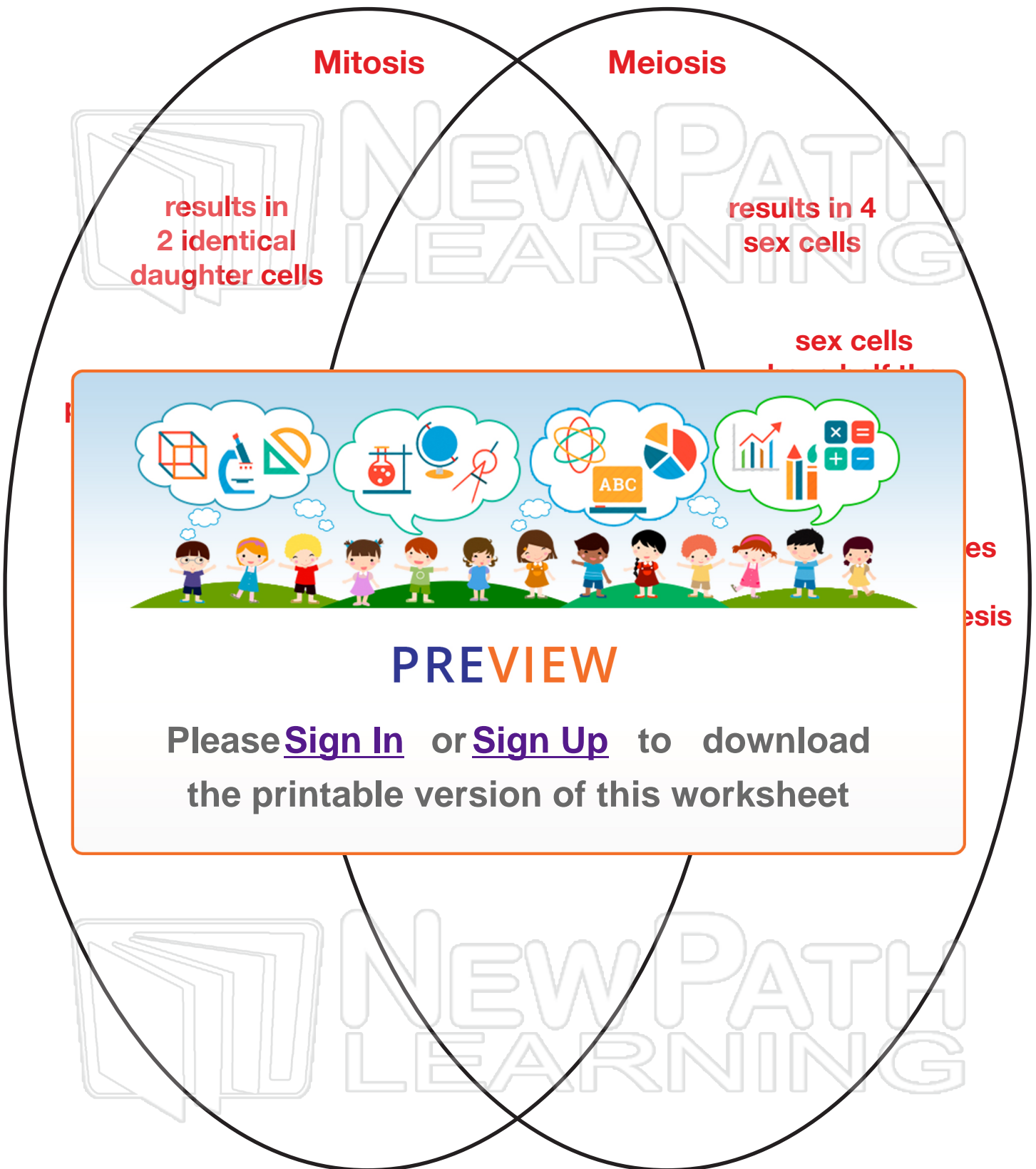
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## Answer Key - example

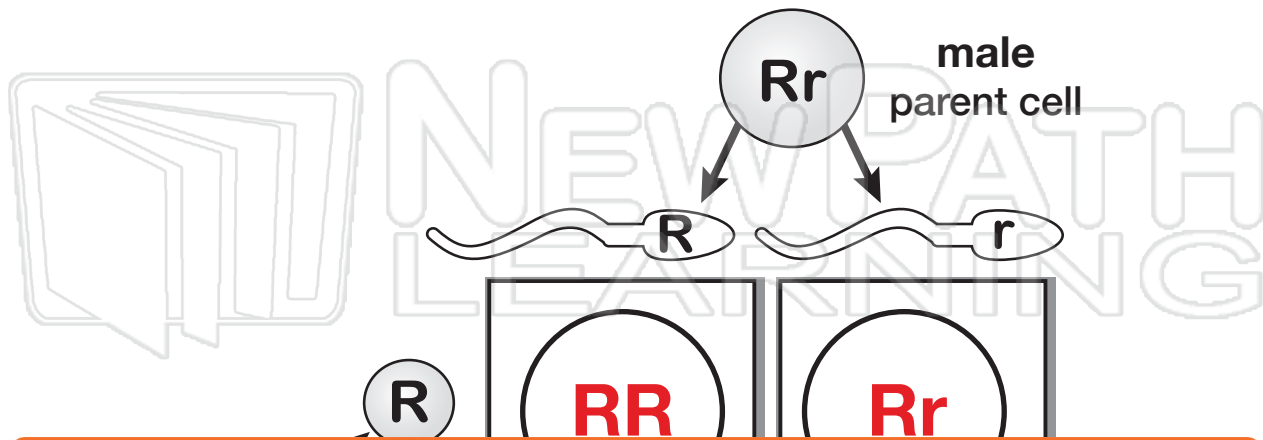
Use the graphic organizer to compare and contrast Mitosis and Meiosis.





## Answer Key

A **Punnett Square** shows all the possible allele (gene) combinations in the offspring of two organisms. Complete the square below.



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pa

**PREVIEW**

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Whic

Which allele combination(s) represents a recessive trait? rr

What percentage of offspring will show a dominant trait? 75%

What percentage of offspring will show a recessive trait? 25%