

## Unit Overview –Cell Cycle—Interphase and Cell Division

<div style="border: 1px solid black; padding: 2px; display: inline-block;"><b>Essential Questions</b></div> <ul style="list-style-type: none"> <li>How are characteristics of living things passed on to future generations?</li> </ul>		<input type="checkbox"/> I totally get it <input checked="" type="checkbox"/> I kinda get it <input type="checkbox"/> I don't get it	
<b>What Came First:</b> <ul style="list-style-type: none"> <li>(2<sup>nd</sup> Grade) Recognize that there is variation among individuals that are related.</li> <li>(5<sup>th</sup> Grade) Explain why organisms differ from or are similar to their parents based on the characteristics of the organisms.</li> </ul>			
<b>What Comes Next:</b> <ul style="list-style-type: none"> <li>(High School: Biology) Explain the role of meiosis in sexual reproduction and genetic variation.</li> </ul>			
<b>Enduring understanding</b>	<b>Important to know and do</b>	<b>Worth being familiar with</b>	
<input type="checkbox"/> Explain why offspring that result from sexual reproduction have greater variation from parents than the offspring that result from asexual reproduction <input type="checkbox"/> Describe how cells divide to make new cells during the cell cycle	<input type="checkbox"/> Identify the <u>two</u> parts of the cell cycle as interphase and cell division (mitosis or meiosis)—identify which part the cell spends the majority of its life <input type="checkbox"/> Identify and explain the four phases of mitosis <input type="checkbox"/> Compare and contrast meiosis and mitosis (somatic cells vs. gametes) <input type="checkbox"/> Discuss the significance of the cell <b>and</b> every organism have a specific number of chromosomes that come in pairs <input type="checkbox"/> Asexual reproduction results in offspring (daughter cells) that are genetically identical to the parent cell <input type="checkbox"/> Sexual reproduction results in offspring that has a combination of genetic information from two parents	<input type="checkbox"/> Two organisms can look alike but have different underlying gene combinations. <input type="checkbox"/> Mutations occurring during mitosis will only be passed to direct descendants of the original mutated parent cell and could have no affect or result in disease (cancer is an example of a disease caused by mutations in somatic cells ) <input type="checkbox"/> Mutations occurring during meiosis will be found in every cell of the entire organism and could <u>possibly</u> result in a genetic disease (sickle-cell anemia or Down Syndrome is an example of a disease caused by mutations in gametes)	
<b>Vocabulary to master</b>			
<input type="checkbox"/> Cell Cycle	<input type="checkbox"/> Asexual reproduction	<input type="checkbox"/> Anaphase	<input type="checkbox"/> Gametes (sex cells)
<input type="checkbox"/> Mitosis	<input type="checkbox"/> Interphase	<input type="checkbox"/> Telophase	<input type="checkbox"/> Haploid
<input type="checkbox"/> Meiosis	<input type="checkbox"/> Prophase	<input type="checkbox"/> Chromosomes	<input type="checkbox"/> Diploid
<input type="checkbox"/> Sexual reproduction	<input type="checkbox"/> Metaphase	<input type="checkbox"/> Somatic cells (body)	<input type="checkbox"/> Mutations