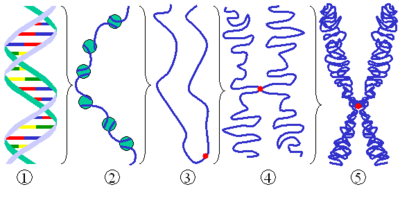
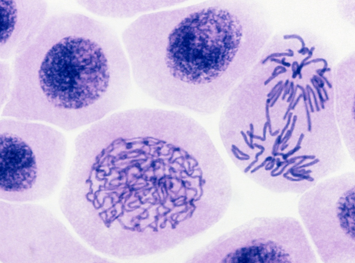
1. Define **somatic** –
2. Define **gametic –**

**Interphase**

1. What do cells do during **interphase**?
2. What is the difference between **chromatin** and **chromosomes**?
   1. Label the part of this diagram that shows DNA, **histones**, and a chromosome.



1. How many chromosomes are in the human genome?
   1. How many chromosomes come from each parent?
2. How do cells in interphase look different than other stages?
   1. Label the cell(s) in this picture that are in interphase.

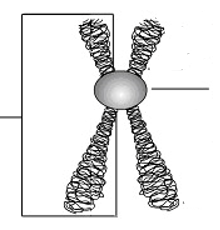


1. Describe what occurs during each of these parts of interphase.
   1. G1 –
   2. S –
   3. G2 –

**Mitosis**

1. Define **mitosis –**
2. What changes about cells in **prophase**?
   1. Define **chromatid –**
   2. Define **centromere –**

1. Label the chromatid and centromere in this diagram.



1. What changes in cells during **metaphase**?
   1. How do chromosomes move?
2. What changes in cells during **anaphase**?
   1. What are the now-separated chromatids called?
3. What changes in cells during **telophase**?
4. What changes in cells during **cytokinesis**?
5. Explain how cytokinesis proceeds differently in animal and plant cells.
   1. Animal Cells –
   2. Plant Cells –

**Cancer**

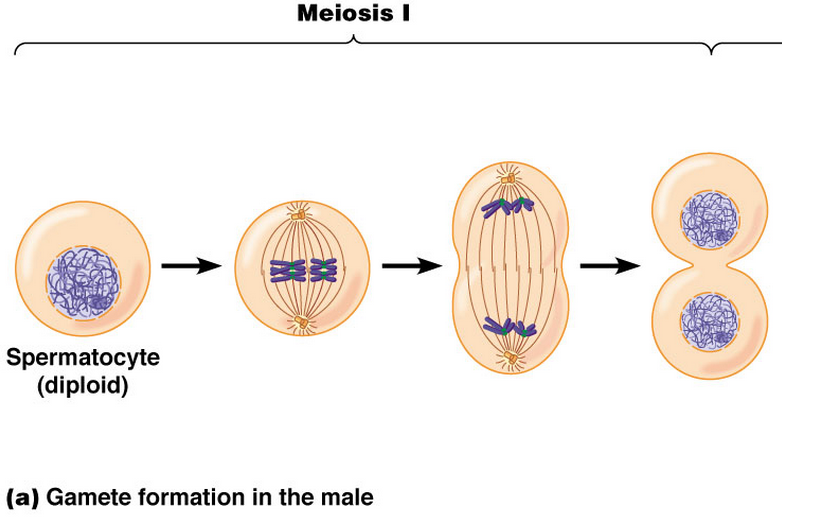
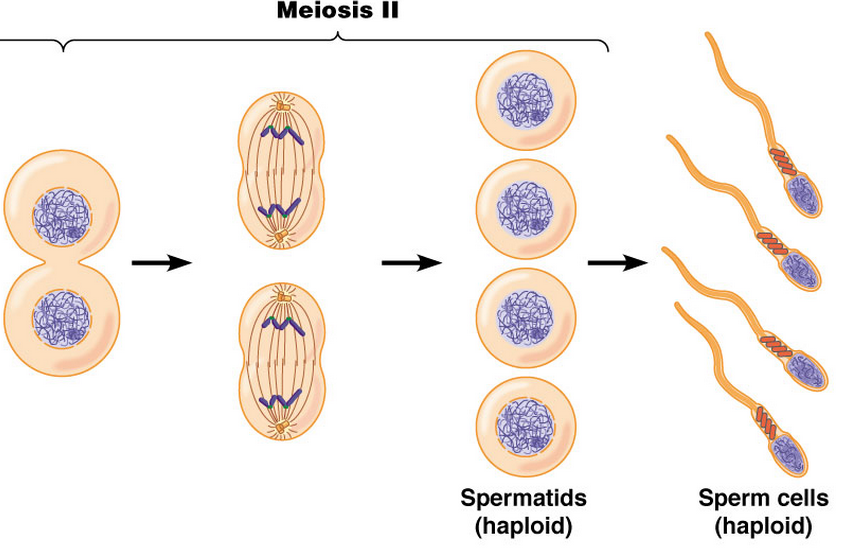
1. Do cells divide constantly?
2. What are **growth factors**?
3. Explain how each of these environmental factors can limit cell growth:
   1. Density-dependent inhibition:
   2. Anchorage dependence:
4. What is the difference between a benign and a malignant tumor?
   1. Benign –
   2. Malignant –

**Cell Division and Reproduction**

1. In multicellular organisms, mitosis is primarily for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. In unicellular organisms, mitosis is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Define **asexual reproduction** –
   1. What types of organisms rely on asexual reproduction?
4. Define **sexual reproduction –** 
   1. What advantage do sexual reproducers have over asexual ones?
5. Where do sperm begin?
6. What are the end products of **spermatogenesis**?
   1. What happens to each daughter cell?
7. Define **diploid (2n)** –

**Meiosis**

1. What are the end products of **meiosis**?
2. Define **haploid (n) –**
3. What is a **tetrad**?
   1. What stage of meiosis do tetrads form?
   2. Explain what occurs during crossing over at a tetrad.
4. Label each phase of meiosis I and II in this diagram.



1. How is meiosis different in **oogenesis** compared to spermatogenesis?
   1. What is a polar body?