

**Topic 1.1 Why is the reproduction of cells important?*****Salmon and Sustainability, pages 3–4***

1. Questions generated by students will vary depending on their interest. Ensure students take the time to consider if the answers to their questions can be found within the text.
2. Students' spider maps will vary depending on the details that they chose to include. Answers should include reference to the importance of salmon to First Peoples of B.C. Examples that support this include its importance in culture, artwork, and celebrations, and use of traditional ecological knowledge to ensure sustainability. Ensure that students compare their spider maps with a partner, and that they summarize key differences and similarities.
3. Salmon can exist in both freshwater (streams, lakes, and rivers) and saltwater (coastal waters).
4. A keystone species is an organism that plays an important role in the ecosystem. Its existence affects the survival of other organisms. For example, the existence of organisms that eat salmon could become threatened if that food source was no longer available. This could, in turn, affect other organisms.
5. Sexual reproduction occurs in salmon because two parents are required. Female salmon produce eggs, while male salmon produce sperm to fertilize the eggs.
6. First Peoples ensure sustainability of salmon by passing on their knowledge of sustainable methods of fishing and harvesting through their elders.
7. Answers will vary. Students may research net-fishing, stone-fishing, or weir fishing, for example.
8. Students should demonstrate knowledge of what a food web is and how salmon can connect different food webs that occur in B.C. This can demonstrate connection between aquatic and terrestrial food webs. For example, salmon feed on smaller fish and shrimp, which feed on plankton. Salmon are eaten by organisms, such as seals, eagles, and bears. Each of these are members of separate food webs. Have students sketch the food webs.

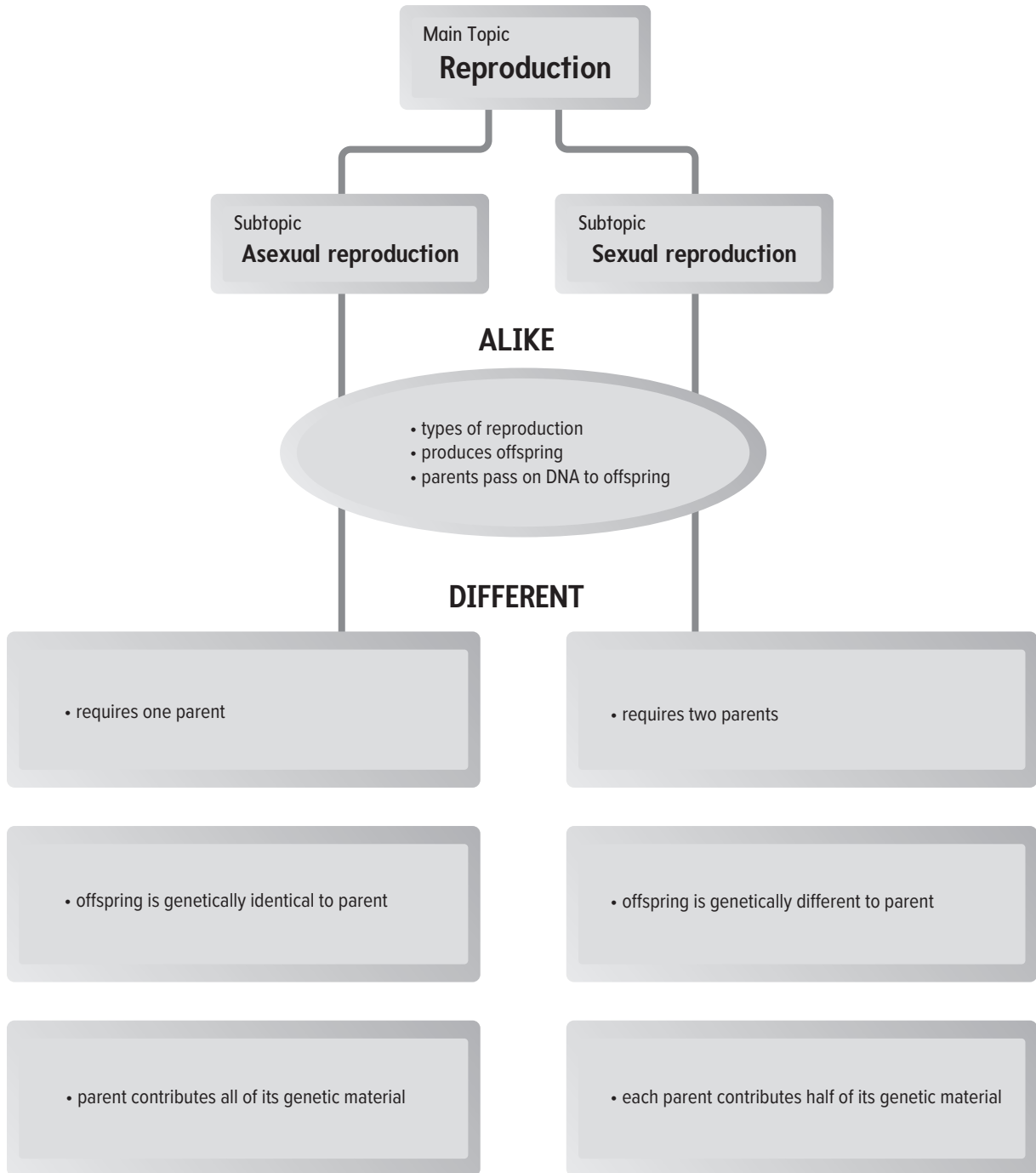
***The Importance of Reproduction, page 5***

1. a) Students might say that they have seen insect pollinators like the hummingbird, butterfly, bee, etc. in their garden transferring pollen from one flower to another.  
b) Sample answer: Animals such as birds have different mating rituals like dances and songs to help attract a mate.  
c) Sample answer: They do not show the details of what occurs at the level of each cell.

*Asexual and Sexual Reproduction, pages 6–7*

1.

**COMPARE AND CONTRAST**



2. a) Sexual reproduction – Two parents are required.

b) Sexual reproduction – Two parents are required.

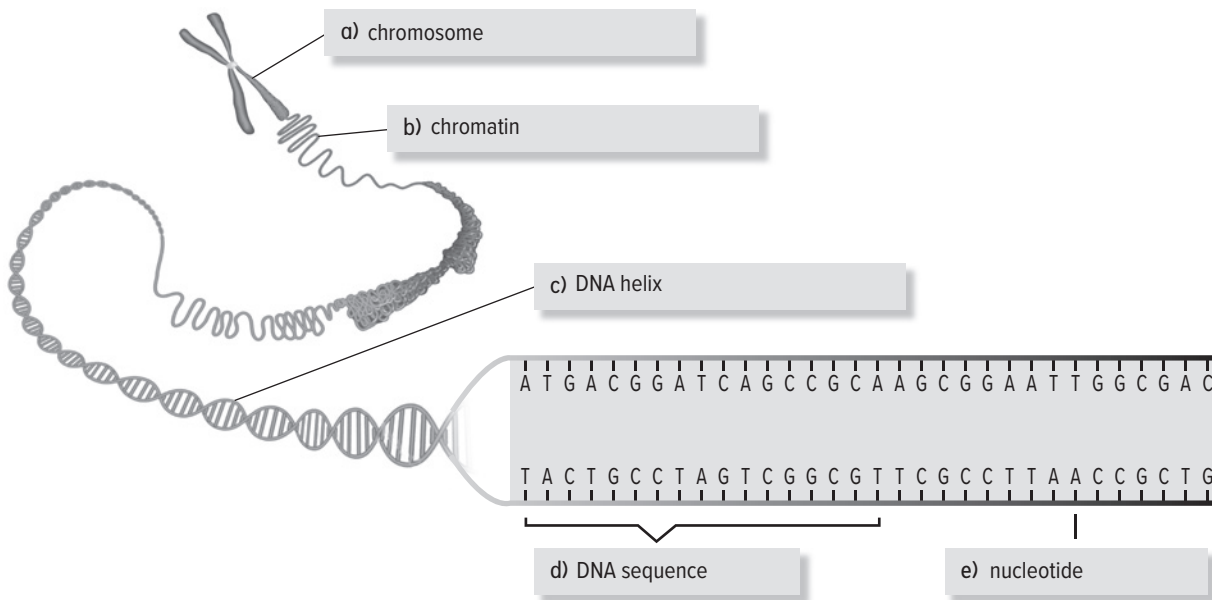
c) Asexual reproduction – There is only one parent involved.

d) Asexual reproduction – There is only one parent involved.

- e) Sexual reproduction – Two parents are required.
- f) Asexual reproduction – There is only one parent involved and the offspring are genetically identical to the parent snake.
- g) Sexual reproduction – Two parents are required.

**Organizational Levels of DNA, page 8**

1.



2.

	Organization Level of DNA	Description
a)	Chromatin	• form of DNA that is coiled and condensed
b)	Chromosome	• during cell division/reproduction, DNA is further condensed
c)	DNA helix	• DNA molecule is made up of two strands shaped like a twisted ladder
d)	DNA sequence	• specific order of nucleotides in a DNA molecule
e)	Nucleotide	• building blocks of DNA consisting of A, T, C, and G

- 3. a) In order for DNA to fit into the cell nucleus, it has to be condensed into a form called chromatin.
- b) Chromosomes carrying the parent’s genetic information are passed onto the offspring through reproduction.
- c) The DNA sequence is determined by the order that four different nucleotides are repeated within the DNA.

**1.1 Assessment, pages 9–11**

1. C
2. D
3. A
4. B
5. A
6. B
7. D
8. B
9. B
10. B
11. A
12. A
13. C
14. D
15. B
16. D
17. A
- 18.

