

Chapter 40 Project

Concept Mapping Animal Reproduction

Project Goal + Timeline

In this project, we will be reviewing your knowledge of the reproductive system by designing a concept map to explain animal reproductive systems.

Concept maps are a powerful way to visualize relationships between the many ideas that make up a complex topic—in this case, animal reproductive systems. Starting with a list of terms, you will create an extensive network of interconnected terms with each term in its own bubble. This will be your concept map. Terms written in big bubbles should indicate larger, more encompassing ideas than terms written in smaller bubbles. All terms should be connected to other terms by arrows, and all arrows must include a written explanation for that relationship.

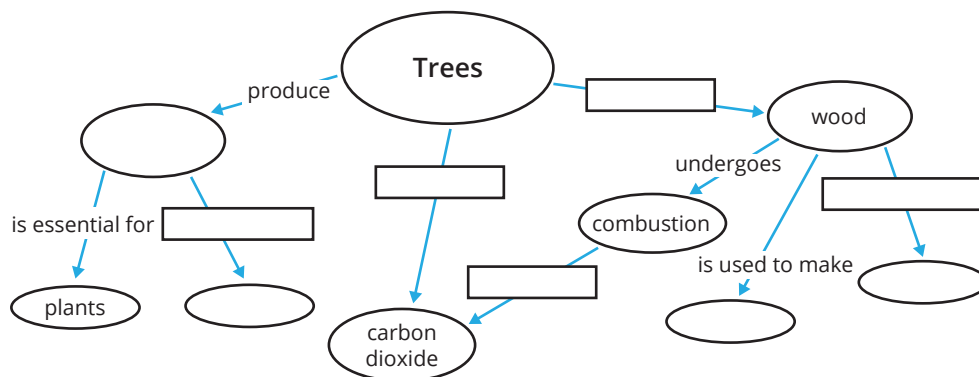
You'll start this project by completing a practice concept map to better understand the process, and then you'll complete your concept map of animal reproduction. This project should be completed by yourself or in a group within two hours.

Directions

Part 1: Design an Example Concept Map

In this part, complete a quick example of a concept map to familiarize yourself with the process. Fill in the empty bubbles and rectangles with appropriate terms surrounding the central idea of "Trees."

Terms: oxygen, animals, is essential for, consume, produces, provide, is used to make, paper, houses



Part 2: Develop an Animal Reproduction Concept Map

Your central idea in the concept map should be animal reproduction. Use your concept map from Part 1 for guidance on getting started. Be aware that the animal reproduction concept map will be more complicated and will contain more complex idea branching.

Include the following terms in your concept map: animal reproduction, asexual reproduction, sexual reproduction, germline, gametogenesis, human reproduction, spermatogenesis, oogenesis, ovarian cycles, menstruation, sperm, egg, embryo, zygote, fertilization, infertility, infertility treatment options, contraception, animal development, cleavage (animal development), gastrulation (animal development), embryogenesis and organogenesis, fission (binary fission), budding

Include at least one specific example of the following: contraception, asexually reproducing species, sexually reproducing species, options for treating infertility

Hint 1: If the list of terms seems overwhelming, it may help to begin by grouping the terms into big ideas and little ideas.

Hint 2: Start by drawing rough drafts. Once you're satisfied with your rough draft, draw your final concept map neatly on a blank piece of paper or create it on a computer.

Technical requirements are as follows:

- Each term should appear in a separate bubble.
- Use every term from the list. Feel free to include additional terms.
- Every term should be connected to at least one other bubble.
- Every arrow connecting terms should include a written explanation of that relationship.

Part 3: Complete Review Questions

Finish your project by answering the following questions:

1. Describe some methods of asexual and sexual reproduction.
2. Describe advantages and disadvantages of asexual and sexual reproduction.
3. Discuss causes of infertility and the therapeutic options available.

Project Materials

- Tree concept map
- Blank sheets of paper
- Pen or pencil
- Project questions
- *Optional: Access to a computer*

Student Checklist

- ☐ Complete Part 1 concept map
- ☐ Complete Part 2 concept map
- ☐ Complete Part 3 review questions