



uBEATS Teacher's Guide:

Careers in Dentistry

(Grades 11-12)

This teacher guide is a supplementary text to support the use of the uBEATS "Careers in Dentistry" module for grades 11-12.

To help students develop the knowledge necessary for an incredible future in health care, we created UNMC Building Excellence in Academics Through STEM (uBEATS), an online health science resource for Nebraska students.

UNMC uBEATS modules are short (15 minutes or less), interactive online health science modules to supplement curriculum taught in grades 6 – 12. These do not replace curriculum but are a supplement for teachers and students incorporating evidence-based information and UNMC expert guided material. Each module is chunked into sections with formative and summative assessments with immediate feedback provided.

Tips on how to utilize uBEATS modules:

- Internet access is required to view uBEATS modules.
- For those who have access to one-to-one technology, modules can be used in or outside of the classroom as a topic introduction, extension, or review.
- For classrooms without individual student devices modules can be used in whole group instruction. Formative assessment questions can use the teacher's preferred call and response method and summative assessment questions can be displayed on the board and answered individually by students or printed and distributed to students after viewing the module.

Objectives

- List health science careers in Dentistry.
 - Determine high school courses that can prepare a person for a career in dentistry.
 - Explain how dentistry professionals are involved in solving real-world problems.
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Introduction

Did you know that oral health is actually linked to your overall health? It's true. Poor oral health is linked to heart or cardiovascular disease, birth complications, and even pneumonia. Aside from that, good oral health can increase your confidence and self-esteem. That's why dental professionals are an integral part of our health care team! In this module you will learn about several professional opportunities in dental health and what you can do now to prepare for a career in dentistry.

Prior Knowledge

Before beginning this module, the student should understand the Next Generation Science Standards (NGSS) featuring [Three-Dimensional Learning](#).

Core Idea LS1.A Structure and Function [A Framework for K-12 Science Education](#)

- *How do the structures of organisms enable life's functions?*

A central feature of life is that organisms grow, reproduce, and die. They have characteristic structures (anatomy and morphology), functions (molecular-scale processes to organism-level physiology), and behaviors (neurobiology and, for some animal species, psychology). Organisms and their parts are made of cells, which are the structural units of life and which themselves have molecular substructures that support their functioning. Organisms range in composition from a single cell (unicellular microorganisms) to multicellular organisms, in which different groups of large numbers of cells work together to form systems of tissues and organs (e.g., circulatory, respiratory, nervous, musculoskeletal), that are specialized for particular functions.

Science and Engineering Practices [NGSS](#)

- Constructing explanations and designing solutions

Crosscutting Concepts [NGSS](#)

- Structure and Function

Key Terms/Vocabulary

Dentist, dental hygienist, periodontal disease, oral health, plaque, tartar, calculus, cavity, pit, fissure, orthodontics, pediatric dentistry, periodontics, temporomandibular joint disorder (TMJ), dental implant.



Science Standards

Nebraska Science Standards

SC.HSP.6 Structure and Function: Anatomy & Physiology

- Gather, analyze, and communicate evidence of the relationship between the structures and physiological processes of the human body systems.

SC.HSP.3 Chemistry: Structure and Properties of Matter

- Evaluate a solution to a complex, real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

Extensions of the lesson

- To help students become more familiar with the Key Terms of this module, the teacher can use the vocabulary list for a classroom Word Wall, or integrate the vocabulary into classroom word games during review sessions.
- To help the students see personal relevance, suggest that they privately ponder people they know (particularly relatives, friends, neighbors) who work in any of the careers mentioned in this module.
- As student misconceptions become apparent, the teacher may need to reinforce these important concepts:
 - It is always important to remember how oral health influences the health of the entire body.
 - When you visit a dentist, be sure to notice the different jobs of your hygienist and your dentist. Those two occupations have different responsibilities and different education requirements.
 - A dental hygienist carries out minimally-invasive procedures (taking X-rays, cleaning teeth), while a dentist is qualified to fix cavities and perform oral surgeries.
 - Specializations, such as orthodontics, require further education beyond a dentist's degree in dental medicine (DMD) or dental surgery (DDS).
 - A dentist's income is greatly influenced by the location of the practice, and by number of patients.



Enrichment

- For information about career opportunities, see UNMC's [Careers in Healthcare](#).
- The [Occupational Outlook Handbook](#) provides detailed information about becoming a [Dental Hygienist](#) or a [Dentist](#).
- UNMC's College of Dentistry offers details about [Dental Hygienist](#), as well as the [Dental Program](#).
- To learn more about careers in orthodontics, see [American Association of Orthodontists](#).
- To investigate opportunities for high school students, consider joining groups for future health professionals, such as [HOSA](#).
- To make connections in your community, contact local dental offices, orthodontics offices, and universities.