

# Dental Assistant: Dental Science 3

Exam Information	Description												
<b>Exam number</b> <b>722</b>  <b>Items</b> <b>30</b>  <b>Points</b> <b>36</b>  <b>Prerequisites</b> <b>Dental Science 1</b> <b>Dental Science 2</b>  <b>Recommended course length</b> <b>One semester</b>  <b>National Career Cluster</b> <b>Health Science</b> <b>NCHSE Health Science Bundle</b>  <b>Performance standards</b> <b>Included (Optional)</b>  <b>Certificate available</b> <b>Yes</b>	<p>The Dental Science 3 industry certification exam assesses the ability of learners to assist a dentist or dental hygienist in performing the functions of a dental practice. The exam includes evaluations of chair-side assisting, patient preparation, front office functions, selected dental office laboratory procedures, and an introduction to radiology.</p>												
	Exam Blueprint												
	<table> <tr> <th>Standard</th><th>Percentage of exam</th></tr> <tr> <td>1. Prosthodontic Procedures</td><td>31%</td></tr> <tr> <td>2. Common Surgical Procedures</td><td>25%</td></tr> <tr> <td>3. Endodontic Procedures</td><td>17%</td></tr> <tr> <td>4. Orthodontic Skills</td><td>8%</td></tr> <tr> <td>5. In-Office Laboratory Procedures</td><td>19%</td></tr> </table>	Standard	Percentage of exam	1. Prosthodontic Procedures	31%	2. Common Surgical Procedures	25%	3. Endodontic Procedures	17%	4. Orthodontic Skills	8%	5. In-Office Laboratory Procedures	19%
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## Standard 1

Students will perform skills and assist with indirect prosthodontic procedures.

### **Objective 1** Identify and explain the types of prosthetic appliances.

1. Fixed
  1. Crowns
  2. Bridges
  3. Veneers
  4. Inlays/Onlays
  5. Implants
2. Removable
  1. Partial denture
  2. Full denture

### **Objective 2** Explain the setup and use of instruments for crown and bridge procedures.

1. Crown and Bridge prep tray
  - a. Instruments
    - i. Basic setup
    - ii. Hand-cutting instruments (spoon excavator)
    - iii. Cord packing instrument
    - iv. Crown and bridge scissors
    - v. Cement spatula
  - b. Accessories
    - i. Local anesthetic setup
    - ii. HVE tip
    - iii. Saliva ejector
    - iv. Three-way syringe tip
    - v. High and low-speed handpieces with assortment of burs
    - vi. Retraction cord
    - vii. Dental floss
    - viii. Articulating paper and holder
    - ix. Cotton rolls
    - x. 2x2 gauze
    - xi. Final impression material and tray
    - xii. Temporary crown material

- xiii. Temporary cement
  - 2. Crown and Bridge seat tray
    - a. Instruments
      - i. Basic setup
      - ii. Spoon excavator
      - iii. Cement spatula
      - iv. Hemostat
    - b. Accessories
      - i. Local anesthetic setup
      - ii. HVE tip
      - iii. Saliva ejector
      - iv. Three-way syringe tip
      - v. High and low-speed handpieces with an assortment of burs
      - vi. Dental floss
      - vii. Articulating paper and holder
      - viii. 2x2 gauze
      - ix. Permanent cement/bonding
      - x. Bite stick

**Objective 3** Complete laboratory authorization forms

**Objective 4** Explain how to mix cements

- 1. Permanent
  - a. Polycarboxylate
  - b. Glass ionomer
  - c. Zinc phosphate
- 2. Temporary
  - a. Zinc phosphate
- 3. Liner
  - a. Calcium hydroxide

**Objective 5** Explain the set up and use of instruments for the delivery of removable prosthodontics (partials and dentures)

- 1. Basic set up
- 2. Denture
- 3. Hand mirror
- 4. Articulating paper and holder

5. Handpieces
6. Pressure indicating paste
7. Finishing burs
8. Acrylic burs
9. Pliers

### **Standard 1 Performance Evaluation included below (Optional)**

## **Standard 2**

Students will demonstrate basic knowledge of and assist with common surgical procedures.

**Objective 1** Explain the setup and use of instruments in a simple extraction setup.

1. Local anesthetic
2. Basic setup
3. Periosteal elevator
4. Elevator (dentist choice)
5. Forceps (dentist choice – tooth dependent)
6. Surgical curettes
7. Sterile gauze
8. Surgical aspirator tip

**Objective 2** Explain the setup and use of instruments in a surgical extraction setup.

1. Local anesthetic
2. Basic setup
3. Periosteal elevator
4. Elevators (dentist choice)
5. Forceps (dentist choice – tooth dependent)
6. Surgical curettes
7. Root tip picks
8. Bone files
9. Mallet and chisel
10. Rongeur
11. Sterile gauze
12. Surgical aspirator tip
13. Scalpel
14. Suture
15. Needle holders or hemostat
16. Suture scissors
17. Cheek/tissue retractor
18. Handpiece and surgical bur

## 19. Bite block

**Objective 3** Discuss post-operative instructions following extractions to a patient.

1. Control of swelling
2. Causes and treatment of dry-socket
3. Control of post-surgical bleeding
4. Diet

**Objective 4** Explain the setup and use of instruments used in suture removal.

1. Basic setup
2. Suture scissors
3. Sterile gauze

## **Standard 2 Performance Evaluation included below (Optional)**

### **Standard 3**

Students will demonstrate basic knowledge of and assist with procedures related to endodontics.

**Objective 1** Explain the set up and use of instruments and accessories used in endodontic treatment.

1. Basic setup
2. Local anesthetic setup
3. Dental dam setup
4. Handpieces with burs
5. Irrigating syringe
6. Broaches and files
7. Rubber stops
8. Paper points
9. Gutta-percha
10. Sealer
11. Lentulo spiral
12. Endodontic spoon excavator
13. Endodontic explorer
14. Endodontic spreaders and pluggers
15. Glick
16. Mm ruler
17. HVE tip
18. Three-way syringe tip
19. Irrigating solutions

**Objective 2** Discuss steps in the endodontic exam including the methods of pulp testing.

1. Subjective
  - a. Pain
  - b. Swelling
  - c. Sensitivity
2. Objective
  - a. Medical and Dental history
  - b. Radiographs
3. Pulp testing
  - a. Thermal
  - b. Electric
  - c. Percussion
  - d. Palpation

**Objective 3** Explain the steps of a root canal procedure.

1. Anesthetic
2. Isolation
3. Access pulp
4. Debridement
5. Obturation
6. Post-treatment instructions
7. Record in the patient chart.

**Objective 4** Explain the setup and use of instruments for a dental dam.

1. Dental dam material
2. Dental dam hole punch
3. Dental dam frame
4. Dental dam clamps
5. Dental dam forceps
6. Crown and bridge scissors
7. Floss
8. Beaver-tail burnisher or explorer

**Standard 3 Performance Evaluation included below (Optional)**

## Standard 4

Students will demonstrate basic knowledge related to orthodontics.

**Objective 1** Identify primary and permanent teeth using the Palmer numbering system.

**Objective 2** List the benefits of orthodontic treatment.

1. Eliminate dental disease
2. Improve function
3. Decrease psycho-social issues

**Objective 3** Explain proper care, oral hygiene, and dietary instructions as it relates to orthodontic appliances.

## STANDARD 5

Students will utilize materials and demonstrate skills related to in-office laboratory procedures.

**Objective 1** Explain the set up and use of equipment found in the laboratory.

1. Model trimmer
2. Vacuum former
3. Impression vibrator
4. Dental lathe
5. Lab handpiece

**Objective 2** List the three types of impressions taken in a dental office.

1. Preliminary
2. Final
3. Bite registration

**Objective 3** Explain the setup and use of preliminary impressions.

1. Alginate impression
  - a. Alginate powder
  - b. Measuring scoop
  - c. Water and measuring cup
  - d. Rubber bowl
  - e. Mixing spatula
  - f. Upper and lower trays
  - g. Moist paper towels
2. Alginate impression pour up
  - a. Rubber bowl
  - b. Mixing spatula
  - c. Upper and lower impressions
  - d. Gypsum product
  - e. Water
  - f. Impression vibrator



## Dental Science 3

Performance assessments may be completed and evaluated at any time during the course. The following performance skills are to be used in connection with the associated standards and exam. To pass the performance standard the student must attain a performance standard average of 8 or higher on the rating scale. Students may be encouraged to repeat the objectives until they average 8 or higher.

**Student's Name:** \_\_\_\_\_

**Class:** \_\_\_\_\_

### Performance standards rating scale

0	Limited skills	2	→	4	Moderate skills	6	→	8	High skills	10
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#### Standard 1 – Prosthodontic Procedures

**Score:**

- Set up for a crown and bridge procedure
- Mix cements – both temporary and permanent
- Prepare a set up tray for removable prosthodontics (partials and dentures)

#### Standard 2 – Common Surgical Procedures

**Score:**

- Set up for a basic extraction
- Place and remove post-extraction dressings (2X2 gauze)
- Set up for a suture removal

#### Standard 3 – Endodontic Procedures

**Score:**

- Set up for basic endodontic procedures
- Place and remove dental dam
- Take preliminary impressions
- Pour, trim, and evaluate the quality of models
- Fabricate a thermal plastic tray

### Workplace Skills

Describe the characteristics of a professional dental assistant.

- Professional appearance
- Teamwork
- Attitude
- Dedication
- Responsibility
- Initiative
- Legal requirements/confidentiality
- Personal qualities
- Courtesy and respect for patients and team members
- Attendance of work hours
- Professional communication (grammar)
- Problem-solving
- Critical thinking
- Dependability
- Accountability

**Performance standard average score:**

**Evaluator Name:** \_\_\_\_\_

**Evaluator Title:** \_\_\_\_\_

**Evaluator Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_