

DNIPRO STATE MEDICAL UNIVERSITY

**The Department of Pediatric Dentistry
Head of the Department Professor I. Kovach**

**LEARNING PROTOCOL for STUDENTS
OF 2 COURSES ON THE PROGRAM:
«Propaedeutics of children's therapeutic
stomatology»**

2nd year student of the _____ faculty
_____ **group**

Teacher _____

CONTENT

1. THEMATIC PLAN OF LECTURES _____
2. THEMATIC PLAN OF PRACTICAL LESSON _____
3. THE LIST OF THEORETICAL QUESTIONS TO EXAM _____
4. TOPIC 1 _____
5. TOPIC 2 _____
6. TOPIC 3 _____
7. TOPIC 4 _____
8. TOPIC 5 _____
9. TOPIC 6 _____
10. TOPIC 7 _____
11. TOPIC 8 _____
12. TOPIC 9 _____
13. TOPIC 10 _____
14. TOPIC 11 _____
15. TOPIC 12 _____
16. TOPIC 13 _____
17. TOPIC 14 _____
18. TOPIC 15 _____
19. LIST OF EDUCATIONAL - METHODICAL LITERATURE _____

THEMATIC PLAN OF LECTURES
(COURSE DURATION - 10)

Topic	Hours
1. Historical stages of development of pediatric dentistry. Place of children's dentistry among dental disciplines and general pediatrics. The main problems, sections of pediatric dentistry, the principles of organizing dental care for children. The role of domestic scientists in the development of discipline	2
Anatomico-morphological, histological and radiological features of the dental system in children in different age periods.	2
Features of preparation of carious cavities of various classes in temporary and permanent teeth in children	2
Modern filling materials used in pediatric therapeutic dentistry: composite materials of chemical and light curing. Types, properties, techniques of application.	2
Instrumental, medicamentous treatment and filling of the root canals of temporary and permanent teeth in children. Filling materials for temporary and permanent obturation of root canals in temporary teeth and permanent teeth with unformed roots.	2
Total	10

Head of the department, professor

Kovach I.V.

**THEMATIC PLAN OF PRACTICAL LESSON
PREVENTION OF DENTAL DISEASES
FOR STUDENTS 2 COURSES
(COURSE DURATION - 30)**

№	Theme of the practical classes
The basic stomatologic toolkit and the equipment. Anatomical structure of temporary and permanent teeth.	
1	Organization of work and equipment of the dental office. Universal dental unit, dental tips. The basic stomatologic toolkit for therapeutic reception: types, purpose. Manufacturing of phantoms.
2	Disinfection and sterilization of dental equipment and instruments. Fabrication of phantoms
3	Topographic anatomy of temporary and permanent teeth at different stages of development. Modeling of teeth from plastic and hard materials.
Dissection of carious cavities in temporary and permanent teeth in children.	
4	Preparation of carious cavities of I and V class in temporary and permanent teeth with unformed root. Selection of tools.
5	Dissection of carious cavities of class II in temporary and permanent teeth with unformed root. Selection of tools.
6	Dissection of carious cavities of III and IV classes in temporary and permanent teeth with an unformed root. Selection of tools.
7	Control
Sealing carious cavities in temporary and permanent teeth in children.	
8	Stomatological cements. Filling of carious cavities of I and V class in temporary and permanent teeth. The technique of filling of carious cavities of II class of SIC in temporary and permanent teeth. Restore the contact point.
9	Composite filling materials and compomers. Technique for filling cavities of I and V classes in temporary and permanent teeth.
10	The technique of filling the carious cavities of class II in temporary and permanent teeth in children with the use of various filling materials.
11	The technique of filling of carious cavities of III and IV classes in temporary and permanent teeth in children with the use of various filling materials.
Instrumental, medicamentous treatment and filling of root canals of temporary and permanent teeth in children.	
12	Modern endodontic tools: types, purpose, choice.
13	Technique of instrumental and medicamentous treatment of root canals in temporary and permanent teeth with unformed roots.

14	Filling materials for temporary and permanent obturation of root canals. Technique of root canal filling in temporary teeth. Root filling. Technique for root canal filling in permanent teeth with unformed roots.
15	Final control
	Total

Independent work of the student

- Physico-chemical properties of modern glass ionomer cements (GIC). Traditional, silver-containing and hybrid GIC. Compomers. The technique of using glass ionomer materials in temporary and permanent teeth in children.
- Physico-chemical properties of modern composite materials of chemical and light curing, features of adhesive technique for sealing temporary and permanent teeth with the use of composite materials.
- Technique of aesthetic restoration of permanent teeth with the use of composite materials. Optical properties of permanent teeth in children and adolescents.
- Materials for direct and indirect coating of tooth pulp. Their physical and chemical properties. Indications for use. Technique of use.
- Adhesive systems and their application in dentistry. Types, composition, properties, technique of application.
- Gutta-percha pins. Indications for use. Modern techniques of filling root canals with cold gutta-percha.
- Sealing of the root canals of permanent teeth in children with the use of a heated thermoplastic gutta-percha.

The theme 1: "Organization of work and equipment of the dental office. Universal dental unit, dental tips. The basic stomatologic toolkit for therapeutic treatment: types, purpose. Making phantoms. "

CONTROL QUESTIONS:

1. Sanitary and hygienic requirements for the dental office.
2. Safety rules when working in a dental office.
3. Basic dental equipment
4. The main blocks of the dental unit.
5. Describe the dental handpieces by appointment.
6. Characteristics of dental instruments by appointment.
7. Instruments for examining the oral cavity?
8. Tools for carious cavity preparation.
9. Characteristics of dental burs for the intended purpose.
10. Tools for the removal of dental plaque?
11. Tools for the final processing of seals.

PRACTICAL SKILLS:

1. To be able to use dental equipment.
2. To be able to distinguish burs for turbine, mechanical angular and direct tips.
3. To know the basic stomatologic toolkit and its purpose.

EXTERNAL ACTIVITY. PRACTICAL TASK:

1. List the main blocks of the universal dental unit and their components.
2. Draw a straight, angular mechanical and turbine tips indicating the speed of their rotation.
3. Draw the main dental instruments for examination of the oral cavity.
4. Draw burs for a mechanical corner tip.
5. Draw burs for a straight tip.
6. Draw burs for the turbine tip.

Figure 1. The main blocks of the universal dental unit and their components.

Figure 2. Draw a straight, angular mechanical and turbine tips with indication of the speed of their rotation.

Figure 3. Draw a basic dental instrument for examining the oral cavity.

Figure 4. Draw burs for a mechanical angular tip.

Figure 5. Draw burs for a straight tip.

Figure 6. Draw burs for the turbine tip.

Type of control	Traditional mark	Points	Teacher's signature
Test control			
Interrogation			
Practical skills			
Mark			

The theme 2: "Disinfection and sterilization of dental equipment and instruments"

CONTROL QUESTIONS:

1. Rules for the personal protection of medical workers in a dental clinic.
2. Stages of processing used dental instruments.
3. Disinfection: concept, purpose, methods, means.
4. Presterilization treatment, purpose, methods.
5. Quality control Pre-sterilization treatment (azopyramic, amidopyrine, phenol-phthalate samples).
6. Types and modes of sterilization of dental instruments.
7. Storage conditions for sterile tools.

PRACTICAL SKILLS:

1. To master the methods of disinfection of used dental instruments.
2. To be able to perform pre-sterilization treatment of dental instruments and control its quality.
3. To master the methods of sterilization (air, steam) of dental instruments.

Figure 1. Write down the rules for the personal protection of medical workers in a dental clinic.

Figure 2. Write down the processing steps used dental instruments.

Figure 3. Define disinfection, draw a table of methods and tools for disinfection of dental instruments.

Figure 4. Write methods and means of PST, types of quality control PST.

Figure 5. Give a definition of sterilization, write a table of methods and regimes of sterilization of dental instruments.

Type of control	Traditional mark	Points	Teacher's signature
Test control			
Interrogation			
Practical skills			
Mark			

The theme 3: "Topographical anatomy of temporary and permanent teeth at different stages of development. Modeling of teeth from plastic and hard materials. "

CONTROL QUESTIONS:

1. The source of development of dental tissues.
2. The main stages of development of temporary teeth, their characteristics.
3. Features of the anatomical structure of temporary teeth.
4. Features of the microscopic structure of the structure of hard tissues of temporary teeth.
5. The main anatomical and topographic features of temporal incisors of the upper and lower jaw.
6. The main anatomical and topographic features of temporal canines of the upper and lower jaw.
7. The main anatomical and topographic features of temporary molars of the upper and lower jaw.
8. Clinical formulas for recording temporary teeth and bite.
9. Timing of laying, eruption, mineralization, the formation of the roots of temporary teeth.
10. Stages of formation of the roots of temporary teeth.
11. Types of root resorption of temporary teeth.
12. The main stages and timing of the development of permanent teeth.
13. Stages of formation of the roots of permanent teeth. X-ray signs.
14. Features of anatomo-histological structure of permanent teeth with an unformed root.
15. The main anatomical and topographic features of permanent incisors of the upper and lower jaw.
16. The main anatomical and topographic features of the permanent canines of the upper and lower jaw.
17. The main anatomical and topographic features of premolars of the upper and lower jaw.
18. The main anatomical and topographic features of permanent molars of the upper and lower jaw.
19. Clinical formulas for the recording of permanent bite teeth.

PRACTICAL SKILLS:

1. To be able to distinguish between temporary teeth and permanent teeth.
2. To master the technique of recording clinical dental formulas of temporary, replaceable bite in panoramic photographs.
3. To be able to determine the types of resorption of the roots of temporary teeth according to TF Vinogradova from X-ray photographs.
4. Know the timing of laying, erupting, mineralization, the formation of the roots of temporary teeth and determine the age of the child from panoramic shots.
5. Know the timing of laying, erupting, mineralization, the formation of the roots of permanent teeth and determine the age of the child from panoramic shots.
6. To master the technique of recording clinical dental formulas of permanent bite in panoramic photographs.
7. To be able to determine the radiographic stages of development of the roots of permanent teeth.

Figure 1. Write down the main stages of development of temporary teeth.

Figure 2. Draw a histological structure of the enamel of temporary teeth.

Figure 3. Histological structure of dentin of temporary teeth

Figure 4. Anatomico-topographic differences between temporary and permanent teeth.

Figure 5. Table of the timing of laying, eruption, mineralization, formation of the roots of temporary teeth.

Figure 6. Draw the main anatomical and topographic signs of temporal incisors of the upper and lower jaw.

Figure 7. Draw the main anatomical and topographic signs of temporal canines of the upper and lower jaw.

Figure 8. The main anatomical and topographic features of temporary molars of the upper and lower jaw.

Figure 9. Write the clinical formulas of temporary teeth (according to Zygmund-Palmer, according to the international WHO scheme, according to the American scheme).

By Zygmund-Palmer:

By International WHO scheme:

By American scheme:

Figure 10. To draw the types of resorption of the roots of temporary teeth.

Figure 11. Write down the stages of development of permanent teeth.

Figure 12. Anatomical and histological structure of the pulp of permanent teeth at the stage of root formation.

Figure 13. Anatomical and histological structure of the periodontal of permanent teeth at the stage of root formation.

Figure 14. Write down table of terms of laying, eruption, mineralization, forming the roots of the permanent teeth.

Figure 15. Write and draw the stages of the formation of the roots of permanent teeth, their radiographic signs.

Figure 16. Draw the main anatomical and topographic features of permanent incisors of the upper and lower jaw.

Figure 17. Draw the main anatomical and topographic features of the permanent canines of the upper and lower jaw.

Figure 18. Draw the main anatomical and topographic features of permanent premolars of the upper and lower jaw.

Figure 19. Draw the main anatomical and topographic features of permanent molars of the upper and lower jaw.

Figure 20. Write down the clinical formulas for the replaceable and permanent bite (according to Zygmund-Palmer, according to the international WHO scheme, according to the American scheme).

By Zygmund-Palmer:

By International WHO scheme:

By American scheme:

Type of control	Traditional mark	Points	Teacher's signature
Test control			
Interrogation			
Practical skills			
Mark			

The theme 4: «Preparation of carious cavities of I and V class in temporary and permanent teeth with unformed root. Selection of tools».

CONTROL QUESTIONS:

1. Rules for the preparation of carious cavities of teeth.
2. Classification of carious cavities by Black.
3. Features of the preparation of carious cavities in temporary teeth.
4. Features of the preparation of carious cavities in permanent teeth with an unformed root.
5. The basic rules for the preparation and formation of carious cavities of the first class in temporary teeth.
6. The basic rules for the preparation and formation of carious cavities of the first class in permanent teeth with an unformed root.
7. Basic rules for the preparation and formation of carious cavities of the V class in temporary teeth.
8. The basic rules for the preparation and formation of carious cavities of the V class in permanent teeth with an unformed root.

PRACTICAL SKILLS:

1. To be able to dissect carious cavities of the first class according to Black on phantom models.
2. To be able to dissect carious cavities of V class according to Black on phantom models.

EXTERNAL WORK

1. Draw a diagram - a classification of the localization of carious cavities according to Black in temporary teeth.
2. Record the stages of preparation of tooth cavities and list the instruments used at each stage.
3. Draw and list the elements of the carious cavity.
4. Draw variants of localization and a variety of carious cavities of the 1st class on the Black before preparation and after it.
5. Draw variants of localization and a variety of carious cavities of the V class on the Black before preparation and after it.

Figure 1. Draw a diagram - a classification of the localization of carious cavities according to Black in temporary teeth.

Figure 2. Record the stages of preparation of tooth cavities and list the instruments used at each stage.

Figure 3. Draw and list the elements of the carious cavity.

Figure 4. Draw variants of localization and a variety of carious cavities of the 1st class on the Black before preparation and after it.

Figure 5. Draw variants of localization and a variety of carious cavities of the V class on the Black before preparation and after it.

Type of control	Traditional mark	Points	Teacher's signature
Test control			
Interrogation			
Practical skills			
Mark			

The theme 5. Dissection of carious cavities of class II in temporary and permanent teeth with a developing root. Selection of tools.

CONTROL QUESTIONS:

1. Features of the spread of the carious process on the contact surfaces of the teeth.
2. Basic rules for the preparation and formation of carious cavities of class II.
3. Features of preparation of carious cavities of class II in permanent teeth with a developing root.
5. Errors and complications in the preparation of carious cavities of class II in temporary teeth and in permanent teeth with an unformed root.

PRACTICAL SKILLS:

1. To be able to dissect carious cavities of class II according to Black on phantom models.

EXTERNAL ACTIVITY.

1. Draw variants of localization and a variety of carious cavities of class II according to the Black in temporary teeth and in permanent teeth with an unformed root.
2. Draw varieties of formed carious cavities of class II according to Black in temporary teeth and in permanent teeth with an unformed root.
3. Write down the features of the preparation of carious cavities of class II according to the Bleek in temporary teeth and in permanent teeth with an unformed root.

Figure 1. Draw variants of localization and a variety of carious cavities of class II according to the Black in temporary teeth and in permanent teeth with an unformed root.

Figure 2. Draw varieties of formed carious cavities of class II according to Black in temporary teeth and in permanent teeth with an unformed root.

Figure 3. Write down the features of the preparation of carious cavities of class II according to the Bleek in temporary teeth and in permanent teeth with an unformed root.

Type of control	Traditional mark	Points	Teacher's signature
Test control			
Interrogation			
Practical skills			
Mark			

The theme 6. Dissection of carious cavities of III, IV classes in temporary and permanent teeth with an developing root. Selection of tools.

CONTROL QUESTIONS:

1. Characteristics of Carious Cavities III, IV classes by Black.
2. Basic rules for the preparation and formation of carious cavities of III, IV classes in temporary teeth.
3. The basic rules for the preparation and formation of carious cavities of III, IV classes in permanent teeth.
4. Errors and complications that arise as a result of impaired preparation of carious cavities of III, IV classes in Black.

PRACTICAL SKILLS:

1. To be able to dissect carious cavities of III class on Black on phantom models.
2. To be able to dissect carious cavities of Class IV according to Black on phantom models.

EXTERNAL ACTIVITY.

Figure 1. Draw variants of localization and a variety of carious cavities of the III class according to Black in temporary teeth and in permanent teeth with a forming root before and after preparation.

Figure 2. Draw variants of localization and a variety of carious cavities of the IV class according to the Black in temporary teeth and in permanent teeth with the forming root before and after preparation.

Figure 3. To write down the features of preparation of carious cavities of Classes III and IV according to Black in temporary teeth and in permanent teeth with a forming root.

Figure 4. To write down the errors and complications that occur when preparing caries cavities in temporary teeth and in permanent teeth with an unformed root.

Type of control	Traditional mark	Points	Teacher's signature
Test control			
Interrogation			
Practical skills			
Mark			

]

Type of control	Traditional mark	Points	Teacher's signature
Test control			
Interrogation			
Practical skills			
Mark			

The theme 8. Stomatological cements. Filling of carious cavities of I and V class in temporary and permanent teeth. The technique of filling of carious cavities of II class of GIC (glass-ionomer cement) in temporary and permanent teeth. Restore the contact point.

CONTROL QUESTIONS:

1. Classification of dental restorative materials.
2. Classification of dental cements.
3. Classification, composition, basic physical and chemical properties, indications for use, the technique of preparation and use of glass ionomer cements.
4. The main groups of materials for insulating and medical pads, their main properties, indications for use.
5. Know the technique of mixing glass ionomer cements.
6. ART-technique. Indications for using in temporary teeth and permanent teeth with an unformed root, technique, indications.
7. Chemical - mechanical removal of carious tissues, indications for conduction, the mechanism of action of gels, the procedure for conducting.
8. "Open", "closed" sandwich technique, indications, contraindications to the conduct, methods of conducting.

PRACTICAL SKILLS:

1. To be able to seal with glass ionomer cement carious cavities of I and V classes on Black on phantom models.
2. To be able to prepare and impose in the carious cavities isolating and therapeutic gaskets on phantom models.
3. To be able to fill the carious cavities of class II according to Black with various groups of SIC on phantom models.
4. Do master the methods of "open" and "closed" sandwich techniques on phantom models.
5. To master the technique of restoring the contact point.

EXTERNAL ACTIVITY. PRACTICAL SKILLS:

1. Write down the classification of dental filling materials.
2. Write down the classification of dental cements.
3. Write down the classification of glass ionomer cements.
4. Write down the composition, properties, indications for the use of various groups of glass ionomer cements.

5. Draw the technique of applying insulating and medical pads in temporary teeth and in permanent teeth with an unformed root in carious cavities of different classes according to the Black.
6. Write down the mechanism of action of hydroxidcalcium-containing cement.
7. Draw the scheme of kneading and filling the cavity with glass ionomer cement.
8. Schematically depict the stages of hardening of glass ionomer cement and describe the processes taking place at each stage.
9. Draw the stages of the ART-technique with the help of a gel system for the chemical-mechanical removal of carious tissues and record the indications for carrying out this technique.
10. Draw a scheme for restoring a contact point when using an "open" and "closed" sandwich technique.

Figure 1. Write down the classification of dental filling materials.

Figure 2. Write down the classification of dental cements.

Figure 3. Write down the classification of glass ionomer cements.

Figure 4. Schematically depict the stages of hardening of glass ionomer cement and describe the processes taking place at each stage.

Figure 5. Write down the composition, properties, indications for the use of various groups of glass ionomer cements.

Cements	Advantages	Disadvantages	Indications for use
<i>GIC I type</i>			
<i>GIC II type</i>			
<i>GIC III type</i>			

--	--	--	--

Figure 6. Draw the technique of applying insulating and medical pads in temporary teeth and in permanent teeth with an unformed root in carious cavities of different classes according to the Black.

Figure 7. Write down the mechanism of action of hydroxidcalcium-containing cement.

Figure 8. Draw the scheme of kneading and filling the cavity with glass ionomer cement.

Figure 9. Draw the stages of the ART-technique with the help of a gel system for the chemical-mechanical removal of carious tissues and record the indications for carrying out this technique.

Figure 10. Draw a scheme for restoring a contact point when using an "open" and "closed" sandwich technique.

Type of control	Traditional mark	Points	Teacher's signature
Test control			
Interrogation			
Practical skills			
Mark			

The theme 9. Composite filling materials and compomers. Technique for filling cavities of I and V classes in temporary and permanent teeth.

The theme 10. The technique of filling the carious cavities I and V and classes in temporary and permanent teeth in children with the use of various filling materials.

CONTROL QUESTIONS:

1. Modern classification of composite materials.
2. Composition, physical and chemical properties of composite materials, types, features, indications for use in temporary teeth and in permanent teeth with a forming root.
3. Mechanisms of adhesion of filling materials, modern classification of adhesive systems, generation of adhesive systems, features of application in pediatric dentistry.
4. Features of the use of composite materials in children.

PRACTICAL SKILLS:

1. To master the technique of preparation and sealing of carious cavities of cavities of I and V classes in temporary and permanent teeth with composite materials of chemical curing.
2. To master the technique of preparation and filling of carious cavities of cavities of I and V classes in temporary and permanent teeth with composite materials of light curing.

EXTERNAL ACTIVITY. PRACTICAL SKILLS:

1. Write a modern classification of composite materials.
2. Schematically depict the structure of composite materials depending on the particle size.

3. Write the modern classification of adhesive systems, give a characterization to each generation.
4. Schematically depict the differences in etching of dentin and surface conditioning under a composite material and glass ionomer cement.
5. Draw a diagram of the direction of polymerization shrinkage of composite materials of chemical and light curing.
6. Draw a diagram of the technique for introducing and curing layers when filling a carious cavity with light-curing composite material: 1) by directional polymerization, 2) with reduced polymerization shrinkage.
7. Draw a scheme for filling the carious cavity with a composite material of chemical curing.
8. Draw a scheme for filling the carious cavity with light-curing composite material.

Figure 1. Write a modern classification of composite materials.

Figure 2. Schematically depict the structure of composite materials depending on the particle size.

Figure 3. Write the modern classification of adhesive systems, give a characterization to each generation.

Figure 4. Schematically depict the differences in etching of dentin and surface conditioning under a composite material and glass ionomer cement.

Figure 5. Draw a diagram of the direction of polymerization shrinkage of composite materials of chemical and light curing.

Figure 6. Draw a diagram of the technique for introducing and curing layers when filling a carious cavity with light-curing composite material: 1) by directional polymerization, 2) with reduced polymerization shrinkage.

Figure 7. Draw a scheme for filling the carious cavity with a composite material of chemical curing.

Figure 8. Draw a scheme for filling the carious cavity with light-curing composite material.

Type of control	Traditional mark	Points	Teacher's signature
Test control			
Interrogation			
Practical skills			
Mark			

The theme 11. The technique of filling of carious cavities of III and IV classes in temporary and permanent teeth in children with the use of various filling materials.

КОНТРОЛЬНЫЕ ВОПРОСЫ:

1. Modern filling materials for filling of carious cavities of III and IV classes in temporary teeth.
2. Modern filling materials for filling of carious cavities of III and IV classes in permanent teeth.
3. Modern additional means for sealing carious cavities of III and IV classes in temporary and permanent teeth (celluloid strips, sectional matrices, wedges, rings, etc.)
4. Technique of filling of carious cavities of III and IV classes in temporary and permanent teeth with composite filling materials.
5. Technique of filling of carious cavities of III and IV classes in temporary and permanent teeth with glass ionomer cements.

PRACTICAL SKILLS:

1. To master the technique of preparation and sealing of carious cavities of III and IV classes in temporary and permanent teeth with composite materials of chemical curing.
2. To master the technique of preparation and filling of carious cavities of III and IV classes in temporary and permanent teeth with composite materials of light curing.
3. To master the technique of preparation and sealing of carious cavities of III and IV classes in temporary and permanent teeth with glass ionomer cements.

EXTERNAL ACTIVITY. PRACTICAL SKILLS:

1. Draw a scheme of filling of carious cavities of III and IV classes in temporary and permanent teeth with composite material of chemical curing.
2. Draw a scheme of layer-by-layer filling of carious cavities of III and IV classes in temporary and permanent teeth with a composite material of light curing.
3. Draw a scheme for filling cavities of III and IV classes in temporary and permanent teeth with glass ionomer cement.

Figure 1. Draw a scheme of filling of carious cavities of III and IV classes in temporary and permanent teeth with composite material of chemical curing.

Figure 2. Draw a scheme of layer-by-layer filling of carious cavities of III and IV classes in temporary and permanent teeth with a composite material of light curing.

Figure 3. Draw a scheme for filling cavities of III and IV classes in temporary and permanent teeth with glass ionomer cement.

Type of control	Traditional mark	Points	Teacher's signature
Test control			
Interrogation			
Practical skills			
Mark			

The theme 12. Современный эндодонтический инструментарий : виды, назначение, выбор.

CONTROL QUESTIONS:

1. Topographic anatomy of the cavities of teeth in temporary teeth.
2. Topographic anatomy of the cavities of teeth in permanent teeth with an unformed root.
3. Modern endodontic tools: types, purpose, choice.
4. Stages of endodontic treatment of temporary teeth and permanent teeth with a developing root in children.
5. Features of endodontic treatment of temporary teeth and permanent teeth with a developing root in children.

PRACTICAL SKILLS:

1. To master the technique of preparing the cavity of the tooth in temporary teeth.
2. To master the technique of preparing the cavity of the tooth in permanent teeth with an unformed root.

EXTERNAL ACTIVITY. PRACTICAL SKILLS:

1. Draw schematically the topographic and morphological features of the root canal system of temporary teeth.
2. Draw a schematic topographical and morphological features of the root canal system of permanent teeth with an unformed root.
3. To write down the classification of endodontic instruments according to ISO, according to clinical application (Curson in Borovsky modification).
4. Schematically depict: the basic elements of the endodontic instrument, the basic parameters, the size of the endodontic instrument according to ISO.
5. Draw options for opening the tooth cavity in temporary teeth.
6. Draw options for opening the tooth cavity in permanent teeth with an unformed root.

Figure 1. Draw schematically the topographic and morphological features of the root canal system of temporary teeth.

Figure 2. Draw a schematic topographical and morphological features of the root canal system of permanent teeth with an unformed root.

Figure 3. To write down the classification of endodontic instruments according to ISO, according to clinical application (Curson in Borovsky modification).

Figure 4. Schematically depict: the basic elements of the endodontic instrument, the basic parameters, the size of the endodontic instrument according to ISO.

Figure 5. Draw options for opening the tooth cavity in temporary teeth.

Figure 6. Draw options for opening the tooth cavity in permanent teeth with an unformed root.

Type of control	Traditional mark	Points	Teacher's signature
Test control			
Interrogation			
Practical skills			
Mark			

The theme 13. Technique of instrumental and medicamentous treatment of root canals in temporary and permanent teeth with unformed roots.

CONTROL QUESTIONS:

1. Amputation, extirpation, removal of pulp dissolution from the root canals. Toolkit and features of carrying out these manipulations in temporary and permanent teeth with unformed roots.
2. Features of preparation (instrumental processing) of root canals in temporary and permanent teeth with unformed roots: "Step-back" and "Crown-down" techniques.
3. Features of medicamentous treatment of root canals in temporary and permanent teeth with unformed roots. Drug groups used for this.
4. Errors and complications arising in the endodontic treatment of temporary and permanent teeth with unformed roots. Ways of preventing them.

CONTROL QUESTIONS:

1. Amputation, extirpation, removal of pulp dissolution from the root canals. Toolkit and features of carrying out these manipulations in temporary and permanent teeth with unformed roots.
2. Features of the preparation (instrumental processing) of root canals in the temporary and permanent teeth with unformed roots: "Step-back" and "Crown-down" techniques.
3. Features of medicamentous treatment of canals in temporary and permanent teeth with unformed roots. Drug groups used for this.
4. Errors and complications arising in the endodontic treatment of temporary and permanent teeth with unformed roots. Ways of prevention them.

EXTERNAL ACTIVITY. PRACTICAL SKILLS:

1. Draw the basic endodontic tools.
2. Record the features of instrumental processing of root canals in temporary and permanent teeth with unformed roots at all stages of endodontic treatment.
3. Draw a scheme of instrumental processing of root canals using the "Step-back" technique.
4. Draw a scheme for instrumental processing of the root canals using the "Crown-down" technique.
5. Write down the mistakes and complications that arise in the endodontic treatment of temporary and permanent teeth with unformed roots.

Figure 1. Draw the basic endodontic tools.

Figure 2. Record the features of instrumental processing of root canals in temporary and permanent teeth with unformed roots at all stages of endodontic treatment.

Figure 3. Draw a scheme of instrumental processing of root canals using the "Step-back" technique.

Figure 4. Draw a scheme for instrumental processing of the root canals using the "Crown-down" technique.

Figure 5. Write down the mistakes and complications that arise in the endodontic treatment of temporary and permanent teeth with unformed roots.

Type of control	Traditional mark	Points	
-----------------	------------------	--------	--

Test control			Teacher's signature
Interrogation			
Practical skills			
Mark			

The theme 14. Filling materials for temporary and permanent obturation of root canals. Technique of root canal filling in temporary teeth. Root filling. Technique for root canal filling in permanent teeth with unformed roots.

CONTROL QUESTIONS:

1. To know the stages of impregnational methods of root canal treatment.
2. To know the classification of filling materials for temporary and permanent teeth with unformed roots, their characteristics.
3. Know the requirements for the root filling in temporary and permanent teeth with unformed roots.
4. Know the tools for root canal obturation in temporary and permanent teeth with unformed roots.
5. To know the methods of obturation of root canals in temporary teeth and in permanent teeth with unformed roots.

PRACTICAL SKILLS:

1. To master the technique of impregnation of the root canals in temporary and permanent teeth with unformed roots.
2. To be able to seal the root canals of temporary teeth with various filling materials.
3. To be able to fill the root canals of permanent teeth with unformed roots with various filling materials.

EXTERNAL ACTIVITY. PRACTICAL SKILLS:

1. Draw schemes of impregnational methods for processing root canals (silvering, resorcinol - formalin method).
2. Record the classification of filling materials for temporary and permanent teeth with unformed roots.
3. Record the requirements for the root fill in temporary and permanent teeth with unformed roots.
4. Draw a scheme of obturation of root canals in temporary teeth.
5. Draw a scheme of temporary obturation root canals in permanent teeth with unformed roots paste.
6. Record the errors and complications that occur when obturation of temporary teeth.

Figure 1. Draw schemes of impregnational methods for processing root canals (silvering, resorcinol - formalin method).

Figure 2. Record the classification of filling materials for temporary and permanent teeth with unformed roots.

Figure 3. Record the requirements for the root fill in temporary and permanent teeth with unformed roots.

Figure 4. Draw a scheme of obturation of root canals in temporary teeth.

Figure 5. Draw a scheme of temporary obturation root canals in permanent teeth with unformed roots paste.

Figure 6. Record the errors and complications that occur when obturation of temporary teeth.

Type of control	Traditional mark	Points	Teacher's signature
Test control			
Interrogation			
Practical skills			
Mark			