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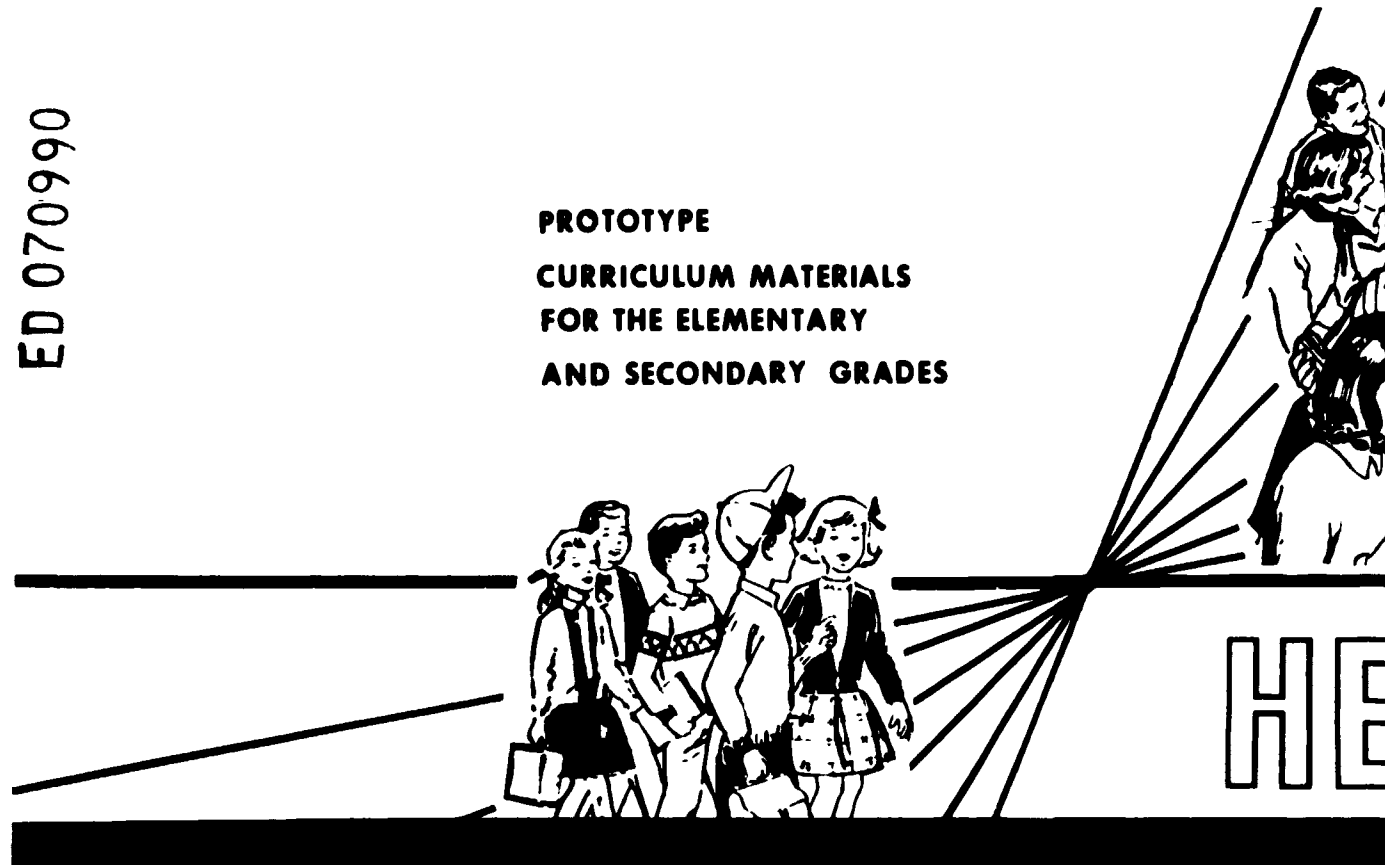
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ABSTRACT

This is a curriculum guide for teaching dental health for grades 4-6. Each topic area is outlined under the headings of: (1) reference; (2) major understandings and fundamental concepts; (3) suggested teaching aids and learning activities; and (4) supplementary information for teachers. Main topics include: (1) growth and development of teeth; (2) nutrition and dental health; (3) dental health status; (4) maintaining oral hygiene; and (5) the dentist and dental health. Some of the course objectives are to: (1) develop good dental health habits including personal care and proper diet; (2) understanding the relationship of dental health to general health; (3) appreciate the relationship of dental health to appearance; (4) encourage periodic professional dental treatment; (5) avoid accidents to teeth, and (6) help the children understand and avoid habits which adversely affect dental health. (Related documents for other grade levels are CG 007 694 and CG 007 696.) (Author/BW)

ED 070990

PROTOTYPE
CURRICULUM MATERIALS
FOR THE ELEMENTARY
AND SECONDARY GRADES



STRAND I PHYSICAL HE

DENTAL HEALTH FOR GRADES 4-

SPECIAL EDITION FOR EVALUATION AND DISCUSSION

THE UNIVERSITY OF THE STATE OF NEW YORK / THE STATE EDUCATION D
THE CURRICULUM DEVELOPMENT CENTER / ALBANY, NEW YORK

CS 007 695



PE
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 ELEMENTARY
 ONDARY GRADES



HEALTH

PHYSICAL HEALTH

4-HEALTH FOR GRADES 4-6

FOR EVALUATION AND DISCUSSION

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4-6 DENTAL HEALTH

Objectives:

1. Develop good dental health habits including personal care and proper diet
2. Understand the relationship of dental health to general health
3. Appreciate the relationship of dental health to appearance
4. Encourage periodic professional dental treatment
5. Avoid accidents to teeth
6. Improve the child's dental health status
7. Help the children understand and avoid habits which adversely affect dental health

REFERENCE

I. Growth and Development of Teeth

MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS

The teeth are calcified structures fixed in bony sockets in the upper and lower jaws. The parts of a tooth include the:

- . ROOT-which anchors it in the jawbone
- . CROWN-the part which is visible in the mouth
- . NECK-which is a slightly narrowed portion where the root and crown meet.

SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES

Review the developmental facts learned in K-3 dental health concerning the primary and permanent teeth.

Show filmstrip, *The Teeth*, color, from Stanley Bowmar Co.

MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

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SUPPLEMENTARY INFORMATION
FOR TEACHERS

The characteristic dentition of children five-to-seven and eight-to-nine can be found in the K-3 dental health syllabus.

Characteristic dentition of the ten-to-eleven year old child:

- . the primary molars are being shed and replaced by permanent bicuspid.
- . there is the eruption of the cuspids and bicuspid.
- . stains frequently occur on the teeth.

Characteristic dentition of the twelve-to-thirteen year old child:

- . there is the eruption of the upper and lower second molars
- . an irregular appearance of teeth may occur. A child should visit his dentist to check for malocclusion at this time.
- . except for the third molars (wisdom teeth) the child has 28 of his full complement of 32 permanent teeth. The four third molars will usually appear after age seventeen.

REFERENCE

A. The Structure of Teeth

MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS

The tooth is composed of four tissues, the:

- ENAMEL - a hard, shiny substance covering the crown
- CEMENTUM - a bone-like substance covering the root
- DENTIN - an ivory-like substance, softer than the enamel, that forms the body of the tooth
- PULP - contains nerves, blood vessels, lymphatics, and young cells.

SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES

Have a student make a model showing a cross-section picture of a tooth with parts labeled.

Study a cross-section drawing or a model of a tooth to learn the various parts.

Look up the derivation of various dental terms such as periodontal, incisor, and cusp.

Include dental words in spelling lessons. Fourth and fifth grade pupils should be able to spell words such as:

erupt	gingiva
cuspid	bacteria
bicuspid	Novocaine
calcium	premolar
molar	fluoride
permanent	abscess
enamel	malocclusion
pulp	orthodontics
decay	cusps
tartar	impact

Show the film, "Teeth Their Structure and Care A.D.A. 11 min. color. sound.

**MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS**

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- PULP - contains nerves, blood vessels, lymphatics, and young cells.

**SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES**

Have a student make a poster showing a cross-section picture of a tooth with all parts labeled.

Study a cross-section drawing or a model of a tooth to learn the various parts.

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Include dental words in spelling lessons. Fourth and fifth grade pupils should be able to spell words such as:

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**SUPPLEMENTARY INFORMATION
FOR TEACHERS**

The dental pulp, which occupies the chamber in the center of the tooth and the root canal, is composed of connective tissue containing the nerves, arteries, veins, and lymphatics that enter the tooth through an opening at or near the apex of the root.

Make sure the children understand that a tooth is a living thing requiring food and reacting to various stimuli, such as temperature and pressure. The blood vessels in the pulp carry food to the tooth, while the nerve endings in the pulp relay feelings of pain and other sensations to the brain.

The regenerative powers of the pulp tissue are

REFERENCE

MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS

Covering the root of the tooth and lining the wall of the socket in the bone is a thin, fragile layer of tissue called the periodontal membrane that helps to:

- . hold the tooth in place
- . cushion the shock of the teeth coming together in chewing
- . is important in the development of the tooth and bone support in the socket
- . helps to keep infection localized in the area of the socket
- . provides nutrients to

SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES

Make a study of animals' teeth and compare kinds and functions to human teeth. For example, the central incisors, used for cutting food, can be compared to a horse's front teeth which are used for the same purpose.

Compare the animals' teeth to the food they eat. For example, a lion eats meat, hence the use of teeth for tearing food.

SUPPLEMENTARY INFORMATION FOR TEACHERS

relatively poor. If decay is allowed to penetrate the protective dentine, a permanent loss of tooth vitality results. Surgical treatment is usually required involving removal of pulp or extraction of the tooth.

When jaws are closed, the upper front teeth should slightly overlap the lower front teeth and the cusps of the upper and lower molars fit snugly together to form an effective chewing machine.

REFERENCE

MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

SUGGESTED TEACHING AND
LEARNING ACTIVITIES

B. Types and Functions
of Teeth

the tooth

the peridontal membrane is a continuation of the gums around the roots of the teeth.

Our teeth help us to:

- . chew food for good health
- . speak clearly
- . look attractive
- . have proper facial form

Each tooth has a name which indicates its special job in chewing food:

- . the four central incisors, two in each jaw, are the center front teeth used to cut food. The crowns are flat and sharp and there is one root.

There are four lateral incisors, one next to each of the central incisors. The lateral incisors also have a flat, sharp crown and are used to cut food.

There are four cuspids, each located just behind the lateral incisors in the corners of the mouth. The crown of the cuspid is

Have each student bite to some wax or other substance in such a way that the marks left from their incisors show. Have them examine the marks and learn how the incisors in the upper jaw work and those in the lower jaw

Demonstrate with scissors to show how incisors

Have students write oral playlets, poems, or stories that illustrate the functions of each part of tooth.

Using questions compiled for the class, conduct a quiz program regarding the development, function, anatomy, and care of teeth.

Have students make models of teeth from soap, clay, plaster, or paper mache

Ask the pupils why it is that they can bite, tear

MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

SUPPLEMENTARY INFORMATION
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There are four cuspids, each located just behind the lateral incisors in the corners of the mouth. The crown of the cuspid is

Have each student bite into some wax or other soft substance in such a way that the marks left from their incisors show. Have them examine the marks to learn how the incisors in the upper jaw work with those in the lower jaw.

Demonstrate with scissors to show how incisors work.

Have students write original playlets, poems, or stories that illustrate the functions of each kind of tooth.

Using questions compiled by the class, conduct a quiz program regarding the development, function, anatomy, and care of teeth.

Have students make models of teeth from soap, clay, plaster, or paper mache.

Ask the pupils why it is that they can bite, tear,

REFERENCE

MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

a single sharp projection or cusp and there is one root. The cuspids are used for tearing food.

There are eight bicuspid, two of which are located behind each cuspid. The bicuspid, which have two cusps and one or two roots, are used to tear and grind food.

There are twelve molars in all, but the last four, known as wisdom teeth, do not usually erupt until a person is at least seventeen years of age. Three molars are located to the rear of each of the bicuspid. Molars have several cusps and are used to grind food. The upper molars usually have three roots and the lower molars two.

SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

and chew food without pain.

Draw pictures of various kinds of teeth showing their functions such as:

INCISORS - cutters or biters

CUSPIDS - have a sharp cusp or point for tearing

MOLARS - grinders

BICUSPIDS - have two points or cusps to tear and grind

Obtain a chart of the body's blood supply to the teeth.

Have each child make a booklet showing the dentition characteristics of his age level.

Use a mortar and pestle to grind food (such as grain) to show how molars work.

Examine models of teeth to observe pits and fissures.

SUPPLEMENTARY INFORMATION
FOR TEACHERS

REFERENCE

MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

CHART SHOWING RE

Primary (20)

Four central
incisors re

Four lateral
incisors re

Four cuspids re

Four first
molars re

Four second
molars re

II. Nutrition and Dental
Health

Foods necessary for main-
taining oral health are
the same as those needed
for general physical
health.

Review the dietary require-
ments for good mouth health
learned in K-3 dental
health concerning a well-
balanced diet, effect of
sweets, etc.

Highly refined and over
cooked soft foods tend to

Plan a well-balanced meal
for the school cafeteria

UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

SUPPLEMENTARY INFORMATION
FOR TEACHERS

CHART SHOWING REPLACEMENT

Primary (20)

Permanent (32)

Four central incisors replaced by Four central incisors

Four lateral incisors replaced by Four lateral incisors

Four cuspids replaced by Four cuspids

Four first molars replaced by Four first bicuspid

Four second molars replaced by Four second bicuspid

Four first molars

Four second molars

Four third molars
(wisdom teeth)

necessary for main-
oral health are
as those needed
oral physical

Review the dietary require-
ments for good mouth health
learned in K-3 dental
health concerning a well-
balanced diet, effect of
sweets, etc.

A reduction in the fre-
quency of sugar intake is
more important than in the
amount consumed since there
is a fresh attack upon the
teeth by the acid each time
sugar is eaten.

efined and over
ft foods tend to

Plan a well-balanced meal
for the school cafeteria

Eating of granular, fibrous
foods, such as fresh fruits

REFERENCE

MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

SUPPLE

impact between the teeth and cling to their surfaces.

avoiding sweets.

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Coarse foods, such as apples, oranges, cucumbers, celery and carrots help to clean and brush the teeth. Coarse foods also stimulate the gums.

Observe the teeth of a dog to show the benefit of chewing coarse foods which are low in sugars.

Chewing
will ca
move up
in their
conduci

The use of fresh fruits and vegetables, milk, and juices for between meal snacks is better for your teeth and general health than sweet snacks.

Prepare, as a group, such snacks as apple slices, dried fruit, celery, carrot sticks, and nuts that can be eaten between meals. Discuss how satisfying they are to the appetite and the values of each kind of snack. Note how celery and carrot sticks help to cleanse the teeth.

There i
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ITEM
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candy b
cherry

Vitamins A, C, and D, as well as the minerals calcium and phosphorus, are especially important for good dental health.

Have the students find and list the most common sources of vitamins C and D and the minerals calcium and phosphorus.

Consult
labus,
of vitar
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and phos

- . VITAMIN A aids in the deposition of calcium and phosphorus in the teeth during the period of development
- . VITAMIN C helps to make

Have students bring in and analyze a typical week's menu in terms of foods that are detrimental to good dental health.

A lack o

ADDITIONAL CONCEPTS

SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES

SUPPLEMENTARY INFORMATION FOR TEACHERS

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avoiding sweets.

Observe the teeth of a dog to show the benefit of chewing coarse foods which are low in sugars.

Prepare, as a group, such snacks as apple slices, dried fruit, celery, carrot sticks, and nuts that can be eaten between meals. Discuss how satisfying they are to the appetite and the values of each kind of snack. Note how celery and carrot sticks help to cleanse the teeth.

Have the students find and list the most common sources of vitamins C and D and the minerals calcium and phosphorus.

Have students bring in and analyze a typical week's menu in terms of foods that are detrimental to good dental health.

and vegetables, is beneficial to the health of the teeth and gums. Highly cooked, refined foods often impact between the teeth and cling to their surfaces whereas the coarse foods tend to brush off and clean the teeth.

Chewing coarse foods also will cause the teeth to move up and down slightly in their sockets, which is conducive to their health.

There is a substantial amount of sugar in most popular foods.

For example:

ITEM	AMOUNT OF SUGAR
coca-cola	6oz. 4 1/3tsp.
root beer	10oz. 4 1/2tsp.
candy bar	1-5oz. 5-10tsp.
cherry pie	1 slice 10tsp.

Consult the nutrition syllabus, 4-6, for the sources of vitamins A, C, and D and the minerals calcium and phosphorus.

A lack of vitamin C can

REFERENCE

MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS

SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES

- . the walls of blood vessels firm.
- . VITAMIN D helps to absorb calcium from the digestive tract and build calcium and phosphorus into teeth and bones during the period of development.

Discuss possible changes that could be made in the diets to improve dental health.

Have a committee prepare posters and charts of food which are rich in minerals and vitamins. Discuss the mineral needs for sound tooth improvement.

III. Dental Health Status

A. Malocclusion

Malocclusion is the term applied to irregularities in the position of the teeth and the improper coming together of the teeth upon closing the jaw.

There are two general causes of malocclusion. One is heredity, such as tooth size and jaw structure. The other cause is due to poor dental health habits such as:

- . thumb and finger sucking
- . chewing on foreign objects
- . lip biting
- . mouth breathing
- . the early loss of primary or permanent teeth as a result of poor dental care

Study drawings of malocclusion, avoiding personal reference to children who have irregular teeth. Discuss the probable causes.

Procure from a dentist some discarded X-rays or casts of the teeth and look for:

- . teeth that may be out of position
- . impacted teeth
- . malformed roots
- . orthodontic braces and space maintainers

Draw pictures and cartoons showing how teeth affect personal appearances.

Make pictures and posters illustrating dental

UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

SUPPLEMENTARY INFORMATION
FOR TEACHERS

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sels firm.
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up calcium and phosphorus
in teeth and bones
during the period of
development.

Discuss possible changes
that could be made in the
diets to improve dental
health.

cause bleeding of the gums.

In studies, the addition
of the essential amino-
acid lysine to controlled
diets has effectively
prevented dental caries in
rats. (National Institute
of Dental Research)

Have a committee prepare
posters and charts of foods
which are rich in minerals
and vitamins. Discuss the
mineral needs for sound
tooth improvement.

Malocclusion is the term
applied to irregularities
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teeth and the improper
relationship of the
teeth upon closing the jaw.

Study drawings of malocclu-
sion, avoiding personal
reference to children who
have irregular teeth. Dis-
cuss the probable causes.

Malocclusion develops most
commonly during the time
when a child is losing his
primary teeth and his per-
manent teeth are erupting.

There are two general
types of malocclusion.
One is heredity, such as
crowding and jaw struc-
ture. The other cause is
poor dental health
such as:
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on foreign ob-

Procure from a dentist
some discarded X-rays or
casts of the teeth and
look for:
• teeth that may be out of
position
• impacted teeth
• malformed roots
• orthodontic braces and
space maintainers

The heredity factors in-
volved with malocclusion
are:

- the eruption of the
teeth more advanced than
the growth of the jaws
- narrow dental arches
- shedding of the deciduous
teeth too early
- prolonged retention of
the deciduous teeth

• prolonged retention of
the deciduous teeth
• early loss of primary
permanent teeth as a
result of poor dental
care

Draw pictures and cartoons
showing how teeth affect
personal appearances.

Make pictures and posters
illustrating dental

The early loss of primary
or permanent teeth as a
result of poor dental care
may result in a drifting

REFERENCE

MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

Malocclusion usually interferes with the chewing of food.

Malocclusion affects the appearance of the teeth and may cause facial deformities.

Malocclusion can often be prevented by proper professional dental care from infancy.

Malocclusion can often be corrected by your dentist or a specialist known as an orthodontist.

Malocclusion makes it difficult to keep the teeth clean.

SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

irregularities caused by loss of teeth.

Study the costs of preventive dentistry as compared to remedial treatment.

Discuss photographs or slides showing "before and after" in orthodontic cases. If possible, obtain X-rays or casts of before and after cases from an orthodontist.

Discuss the effects of poor bite on chewing food, speech patterns, and appearance.

Invite the Dental Hygiene Teacher to discuss with the class the importance of a "good bite."

SUPPLEMENTARY INFORMATION
FOR TEACHERS

out of position of the teeth erupting adjacent to or opposite the space left by a lost tooth.

The harmful effects of malocclusion may include the:

- . interference with proper chewing of food, causing an individual to select foods not suitable for adequate nutrition
- . causing of facial deformities
- . problem of speech defects
- . possibility of social and emotional disturbances
- . increased possibility of tooth decay
- . difficulty of keeping the teeth clean
- . possibility of periodontal (or gum) disease in later life

REFERENCE

MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

B. Dental Caries

Caries begin with a small hole, usually in a fissure or flaw of a tooth, in an area where food may become lodged, or where it is difficult to remove food by brushing.

Review the causes, effects, and treatment of dental caries learned in the K-3 dental health program.

Obtain and examine some molars for fissures or flaws that would be conducive to the development of caries.

Using mirrors, have children examine their own teeth to find areas where food may become lodged or where it is difficult to remove by brushing.

ANDINGS AND
CONCEPTS

SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

SUPPLEMENTARY INFORMATION
FOR TEACHERS

There is no "right" time to break thumb sucking habits: although the sooner it is done, the better.

with a small
in a fissure
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d may become
re it is dif-
ve food by

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Using mirrors, have children examine their own teeth to find areas where food may become lodged or where it is difficult to remove by brushing.

The causes, effects, and treatment of dental caries can be found on page four of the K-3 dental health syllabus.

Research has established the fact that dental caries is caused by the action of bacteria on fermentable carbohydrates, principally sugar, in the mouth. Fermentation caused by the action of bacteria produces acids which can dissolve tooth enamel.

The most significant factors in the cause of damage to the teeth by caries are:

- . the presence of dental plaques
- . the strength of the acids and the ability of the saliva to neutralize them
- . the length of time the acids are in contact with the teeth
- . susceptibility of the teeth to decay

REFERENCE

MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

Unless small cavities are filled, the decay will penetrate the dentin.

Decay progresses rapidly in dentin because it is softer than enamel.

When decay reaches the pulp, the blood vessels and nerves become infected and an abscess will probably form.

There is usually soreness, pulsating pain, and swelling with the abscess.

The extent of damage may be determined by the dentist with an X-ray.

Sometimes such a tooth may have to be extracted.

Bacteria are in a gelatin-like mass known as dental plaque.

SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

A simple dramatic test that can be used to detect dental plaque deposits is the application to the teeth of a harmless food dye which will stain clumps of material sticking to the teeth.

Review the structure of a tooth, then discuss the process of decay from the enamel and the dentin to the pulp. Discuss the importance of early detection and treatment of caries.

Have the students explain the danger of decay in a tooth in relation to adjacent teeth. Make a study of new types of preventives for dental decay, through popular current magazines and from family dentist.

Show movie, "Save Those Teeth," Stanley Bowmar Co., b&w.

Using saliva cultures, conduct bacterial growth experiments to show rapid growth of bacteria.

SUPPLEMENTARY INFORMATION
FOR TEACHERS

Dental plaques are a gluey, gelatin-like substance that adhere to the teeth and afford protection for the bacteria.

The initial action that causes damage to a tooth occurs under a dental plaque.

The foods most easily converted into acids are fermentable sugars, some of which are converted into acids within five to ten minutes after they are taken into the mouth. A longer period may be required for the same process to occur with other foods.

Dental decay cannot be produced in germfree animals. (National Institute of Dental Research)

REFERENCE

MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

Bacteria live on sweets which they convert to an acid which dissolves the tooth enamel, thus starting the decay process.

Procure from a dentist some discarded X-rays and look for:

- . decay
- . small hidden cavities
- . fillings
- . abscesses

Examine tooth decay bacteria under a microscope.

Make posters and pictures illustrating:

- . steps in tooth decay
- . abscess on roots of teeth

Have the children make up graphs which indicate the occurrence of dental decay in the class.

C. Periodontal Disease

Diseases of the gums and other supporting structures of the teeth are called periodontal diseases.

Obtain from a local dentist a series of slides showing stages of periodontal diseases.

The most common periodontal diseases are:

- . GINGIVITIS, or inflammation of the gums, in which the gums are red, puffy, and may bleed easily.

Invite a dentist or dental hygiene teacher or dental hygienist to discuss the cause, effect, and treatment of periodontal diseases.

Have the students write short compositions on various dental diseases and how they can be prevented.

VINCENT'S INFECTION,

UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

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cause, effect, and treat-
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ous dental diseases and
how they can be prevented.

SUPPLEMENTARY INFORMATION
FOR TEACHERS

Periodontal is derived
from the Greek, the prefix,
"peri" meaning "around,"
and "odontos" meaning
"tooth".

Gingivitis is caused by an
accumulation of soft and
hard deposits (tartar),
packing of food between the
teeth, lack of proper tooth-
brushing, injury, or poor
nutrition.

Vincent's Infection,

REFERENCE

MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

which attacks the gums and tissues of the mouth and throat, causes swollen, easy to bleed tissues that are tender and painful. It also causes bad breath.

- . PERIODONTITIS usually originates as gingivitis. As the inflammation spreads the gum withdraws from the tooth, forming a pocket which fills with bacteria and pus. This weakens the support of the tooth and may cause its loss.

Periodontal diseases can best be prevented by:

- . proper tooth brushing including the massaging of the gums
- . a well-balanced diet
- . regular visits to the dentist

The loss of teeth in adults is commonly caused by periodontal disease.

SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

Make posters or arrange a bulletin board display showing the stages of periodontal disease. Include a poster or section on prevention of these diseases.

Discuss the importance of maintaining the permanent teeth and good oral health throughout life.

SUPPLEMENTARY INFORMATION
FOR TEACHERS

commonly known as "trench mouth", is often seen in adolescence or early adulthood, 12-18 years. It is non-contagious.

Vincent's Infection may follow illness, dietary deficiency, or emotional upset.

Periodontitis frequently starts during the latter part of mixed dentition (eight to twelve years).

The removal of tartar by a dentist is important in the prevention of gingivitis and periodontitis.

Canker sores, which are usually single small ulcers in the lining of the mouth, are not considered to be a periodontal disease. They are probably caused by a virus and usually heal in from eight to ten days. A dentist can treat canker sores to relieve the pain associated with them. However, certain kinds tend to persist or to come back in spite of any treatment known.

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REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCPETS	SUGGESTED TEACHING AND LEARNING ACTI
D. Traumatic Injury	Traumatic injury can crack, loosen, or knock out teeth. Traumatic injury to the facial bones and tissues can cause malocclusion and affect speech patterns and personal appearance.	Invite the dental h teacher to discuss onstrate the recom first aid procedure cases of accidental to the teeth or the porting structure. Stress the importan immediate attention broken or loosened
E. Missing Teeth	Teeth work in pairs. When one is missing, its mate cannot work well. Premature loss of primary teeth is the most frequent cause of malocclusion. Missing teeth may cause other teeth to shift posi- tions, causing an inter- ference with chewing and destroying the normal sym- metry of the face and jaw.	Stress the fact tha tooth has a proper tion to the teeth or side of it and to t teeth it bites again when the jaws close Have a committee of dren make posters sh dental irregularitie caused by loss of t

**UNDERSTANDINGS AND
MENTAL CONCEPTS**

**SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES**

**SUPPLEMENTARY INFORMATION
FOR TEACHERS**

injury can crack,
knock out teeth.

Invite the dental hygiene teacher to discuss and demonstrate the recommended first aid procedures in cases of accidental injury to the teeth or their supporting structure.

The maxillary or upper front teeth are the most frequently injured.

injury to the
es and tissues
malocclusion and
ch patterns and
appearance.

Stress the importance of immediate attention to broken or loosened teeth.

It is possible for a dentist to cap temporarily a fractured tooth until permanent repair can be made.

If a tooth is completely knocked out, immediate re-implantation may be possible if the tooth is dropped into a glass of water and the tooth and child are rushed to the dentist.

in pairs. When
sing, its mate
k well.

Stress the fact that each tooth has a proper relation to the teeth on each side of it and to the teeth it bites against when the jaws close.

loss of primary
e most frequent
malocclusion.

Have a committee of children make posters showing dental irregularities caused by loss of teeth.

Space maintainers can be placed when primary teeth are lost early, thus lessening or even preventing more complicated treatment later.

eth may cause
to shift posi-
ing an inter-
h chewing and
the normal sym-
e face and jaw.

A fixed bridge is supported by crowns and inlays on the abutment teeth which stabilizes these teeth, thus preventing a drifting or movement which may lead to serious malposition.

REFERENCE

MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

IV. Maintaining Oral
Hygiene

A. Techniques of home
care

Missing permanent teeth are replaced with appliances known as partial dentures.

- . A fixed partial denture is used when the space made by missing teeth is between two teeth.
- . A removable partial denture must be used when there is no tooth behind the space.

Proper home care of the teeth is one of the most important single contribution of mouth health.

Brushing regularly is the basis for home care of the teeth. The dentrifice used serves three purposes:

- . to assist the toothbrush in freeing debris and stain from the accessible surfaces of the teeth
- . to aid as a caries preventive agent
- . preventing and controlling mouth odors

Massaging the gums:

- . promotes a better distribution of blood to all parts of the tissues.

Obtain discarded partial dentures from a dental office. Examine, discuss, and demonstrate their value and method of attachment.

Discuss the problems caused by missing teeth and the necessity of professional dental care to prevent or control these problems.

Review the techniques and importance of proper brushing covered in grades K-3.

Show movie, *You can Prevent Tooth Decay*, A.D.A. Discuss why, when, and how we brush our teeth.

Assign class members to collect dental products advertisements. Discuss the scientific accuracy of the claims made.

Show movie, *Three Cheers for a Big Smile*, National Dairy Council.

Have some students demonstrate various methods of massaging the gums:
. while brushing their teeth

MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

SUPPLEMENTARY INFORMATION
FOR TEACHERS

Missing permanent teeth
are replaced with appli-
ances known as partial
dentures.

A fixed partial denture
is used when the space
made by missing teeth is
between two teeth.

A removable partial
denture must be used
when there is no tooth
behind the space.

Proper home care of the
teeth is one of the most
important single contribu-
tions to mouth health.

Brushing regularly is the
basis for home care of the
teeth. The dentifrice used
serves three purposes:
to assist the toothbrush
in freeing debris and
stain from the accessible
surfaces of the teeth
to aid as a caries pre-
ventive agent
in preventing and controlling
mouth odors

Massaging the gums:
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all parts of the tissues.

Obtain discarded partial
dentures from a dental of-
fice. Examine, discuss,
and demonstrate their value
and method of attachment.

Discuss the problems caused
by missing teeth and the
necessity of professional
dental care to prevent or
control these problems.

Review the techniques and
importance of proper brush-
ing covered in grades K-3.

Show movie, *You can Prevent
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Assign class members to
collect dental products
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the scientific accuracy
of the claims made.

Show movie, *Three Cheers
for a Big Smile*, National
Dairy Council.

Have some students demon-
strate various methods of
massaging the gums:
while brushing their
teeth

Both fixed and removable
partial dentures may be
used to replace one or
several missing teeth.

Techniques of brushing the
teeth can be found on pages
2 and 3 of the K-3 dental
health syllabus.

A dentifrice, in itself,
will not prevent dental
caries. However, the use-
fulness of stannous fluor-
ide dentifrice as a caries
preventive agent is recog-
nized by the Council on
Dental Therapeutics of the
American Dental Association.

One way to massage the gums
is with toothpaste placed
on the thumb and forefinger.
Rub the gums with a circu-
lar motion.

REFERENCE

MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

- next to the teeth.
- . serves as a stimulant to the blood stream and brings about relaxation of the nerves by relieving congestion.
- . will make the mouth feel better and cause the gums to become firmer and healthier.

Rinsing the mouth helps to remove loose particles of food from the teeth and mouth. The mouth should be rinsed thoroughly both before and after brushing the teeth.

SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

- . with a rubber-tipped brush
- . with a clean index finger and thumb

Have the children evaluate dentifrice advertisements.

In reference to rinsing, point out that:

- . pure water is a satisfactory mouthwash
- . the usual commercial mouthwash has no medicinal value.
- . a medicinal mouthwash should not be used unless

SUPPLEMENTARY INFORMATION
FOR TEACHERS

Using the proper method of toothbrushing will both massage the gums and clean the teeth.

A rubber tip device on the end of a toothbrush should be used only on the recommendation of a dentist and after careful instructions have been given.

The use of foreign objects in the mouth, smoking, or neglected teeth may cause an irritation of the teeth and oral tissues that may lead to oral cancer.

A water pick, which essentially does the same job as dental tape or floss, is recommended by many dentists.

Dentists discourage the use of toothpicks because of possible injury to the gum.

Most commercial mouthwashes consist mainly of flavored, sweetened colored water.

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MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

prescribed by a dentist
for certain conditions
of the gums and other
tissues of the mouth.

Dental tape, or dental
floss, can be used to re-
move food particles wedged
between the teeth beyond
the reach of the tooth-
brush.

Have a dentist or dental
hygiene teacher explain
the purpose and techniques
of using dental tape or
dental floss. Special
care must be taken to avoid
injury to the fragile
gingival tissues between
the teeth.

B. Safety

Most traumatic injuries
to the teeth and oral tis-
sues can be prevented.

Discuss and list on the
blackboard such unsafe
actions as:

- . pushing and shoving at
drinking fountains
- . running, walking or rid-
ing with sharp or point-
ed objects in the mouth
- . biting on hard objects
- . careless riding of
bicycles
- . carelessly throwing ob-
jects
- . pushing, shoving, and
tripping
- . cracking nuts or opening
soda bottles with the
teeth

**STANDINGS AND
AL CONCEPTS**

**SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES**

**SUPPLEMENTARY INFORMATION
FOR TEACHERS**

prescribed by a dentist
for certain conditions
of the gums and other
tissues of the mouth.

or dental
e used to re-
articles wedged
teeth beyond
the tooth-

Have a dentist or dental
hygiene teacher explain
the purpose and techniques
of using dental tape or
dental floss. Special
care must be taken to avoid
injury to the fragile
gingival tissues between
the teeth.

Dental tape may be obtained
in several thicknesses; the
need depending on the space
between the teeth. Dental
tape or floss should be used
with great care and only on
advice of the dentist be-
cause of possible harm to
the soft tissue around the
teeth.

Contrary to many advertising
campaigns, chewing gum is
not a dental aid.

c injuries
and oral tis-
revented.

Discuss and list on the
blackboard such unsafe
actions as:

- . pushing and shoving at
drinking fountains
- . running, walking or rid-
ing with sharp or point-
ed objects in the mouth
- . biting on hard objects
- . careless riding of
bicycles
- . carelessly throwing ob-
jects
- . pushing, shoving, and
tripping
- . cracking nuts or opening
soda bottles with the
teeth

REFERENCE

MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

SUGGESTED TEACHING
AND LEARNING ACTIVITIES

In competitive sports, teeth, face, and mouth can be protected by wearing fitted mouth or face protectors. Have the children develop rules for dental safety at school and at home. These could be the basis for a bulletin board display.

C. Habits

Lip biting, persistent sucking, chewing on foreign objects, and other poor habits may cause malocclusion, oral infection, chipping of the teeth, and other dental health problems.

Discuss and list on blackboard good and dental health habits. Explore the formation of habits, and why substituting a good habit is the best way to break a poor habit. Ask why it is often hard to break bad habits even if you want to.

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**UNDERSTANDINGS AND
MENTAL CONCEPTS**

etitive sports, teeth,
nd mouth can be pro-
by wearing fitted
r face protectors.

**SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES**

Have the children develop
rules for dental safety at
school and at home. This
could be the basis of a
bulletin board display.

**SUPPLEMENTARY INFORMATION
FOR TEACHERS**

Mouth protectors made of
soft rubber or plastic
help to reduce sudden
shock to the teeth.

Parents and teachers must
constantly impress upon
children the danger of un-
safe actions and insist on
adherence to safety pro-
cedures.

Mechanical water irrigating
devices are useful in re-
moving loose debris from
areas inaccessible to the
toothbrush. They should
be used only on the recom-
mendation of the dentist.

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the teeth, and
ntal health prob-

Discuss and list on the
blackboard good and poor
dental health habits. Ex-
plore the formation of
habits, and why substitut-
ing a good habit is often
the best way to break a
poor habit. Ask why it is
often hard to break bad
habits even if you want to.

Consult the K-3 Dental
Health Syllabus, page 3,
for additional information
on poor dental health hab-
its. Use a positive ap-
proach. Don't embarrass
children who still suck
their thumbs or have simi-
lar habits. Each case
should be dealt with care-
fully or an individual
basis.

Chewing on foreign objects
may injure the teeth and
membranes which support
the teeth.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SU
D. Halitosis	<p>The primary cause of halitosis, or bad breath, is lack of proper oral hygiene.</p> <p>Other causes of halitosis are:</p> <ul style="list-style-type: none"> . infected teeth or gums . periodontal disease . stomach disorders . certain types of food, such as raw onions, cause temporary halitosis . infections, in the nose, throat and lungs . lung cancer . smoking . diabetes 	<p>Have the children bring in reports on various television, newspaper, and magazine advertisements pertaining to products that "sweeten" or "clean" a user's breath. These could form the basis of a report and discussion on halitosis. Also, an evaluation of such advertisements could be made in terms of scientific accuracy, and a conclusion reached as to the best ways to maintain oral hygiene and prevent bad breath could be reached.</p> <p>Use the magazine and newspaper advertisements mentioned above in a bulletin board display pertaining to halitosis and other dental health problems.</p> <p>Such a display should be balanced with one showing the social advantages of good dental health.</p>	A d and sho bes ora the hom cus fes
V. Dentist and Dental Health	<p>All dental decay cannot be prevented, so there is no substitute for regular visits to the dentist.</p>	<p>Give either an oral or a written pretest to determine how much the children already know about the responsibilities of a dentist and the importance of regular professional care.</p>	Pag Den tai den car

**SUBSTANTIAL UNDERSTANDINGS AND
DENTAL CONCEPTS**

**SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES**

**SUPPLEMENTARY INFORMATION
FOR TEACHERS**

A primary cause of halitosis and bad breath, is shown proper oral hygiene. best oral causes of halitosis the home teeth or gums cus dental disease fes disorders types of food, raw onions, temporary halitosis, in the nose, and lungs cancer

Have the children bring in reports on various television, newspaper, and magazine advertisements pertaining to products that "sweeten" or "clean" a user's breath. These could form the basis of a report and discussion on halitosis. Also, an evaluation of such advertisements could be made in terms of scientific accuracy, and a conclusion reached as to the best ways to maintain oral hygiene and prevent bad breath could be reached.

A discussion of halitosis and commercial remedies should reveal that the best method to maintain oral hygiene is through the proper techniques of home care previously discussed and regular professional care.

Use the magazine and newspaper advertisements mentioned above in a bulletin board display pertaining to halitosis and other dental health problems.

Such a display should be balanced with one showing the social advantages of good dental health.

Pages 5 and 6 in the K-3 Dental Health Syllabus pertain to the work of the dentist and professional care.

Give either an oral or a written pretest to determine how much the children already know about the responsibilities of a dentist and the importance of regular professional care.

Pages 5 and 6 in the K-3 Dental Health Syllabus pertain to the work of the dentist and professional care.



REFERENCE

MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS

SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES

A. Preventive Examination and Treatment

The work of the dentist falls into two groups:

- . PREVENTIVE - to avoid possible dental health problems
- . REMEDIAL - to correct existing dental health problems

Discuss the statement, "Regular dental care is less expensive than 'emergency' care," in terms of mouth health as well as financial cost.

Have the children prepare a television commercial or short play recommending periodic professional examination.

Write letters to make an appointment with the dentist.

Dental X-rays are especially valuable in preventive dentistry.

When there are teeth missing, a dentist may prescribe and fit artificial teeth and dentures.

Careful cleaning of the teeth by a dentist or dental hygienist consists of the removal of all foreign material from the crowns of the teeth and the smoothing and polishing of tooth surfaces to:

- . improve appearance
- . prevent damage to the gums which may result due to the irritation

Compare periodic "check-ups" for the family car to periodic dental health 'check-ups'. (less costly smoother functioning, etc.) Invite a dentist to show the use of various instruments and answer questions pertaining to fillings, cleaning, X-rays, etc.

Have children list why dental X-rays are important.

Procure from a dentist some discarded X-rays and look for:

- . bony destruction in pyorrhea cases.
- . decay
- . teeth that may be out of position

UNDERSTANDINGS AND
CONCEPTS

the dentist
two groups:
- to avoid
dental health
- to correct
dental health

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SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

Discuss the statement,
"Regular dental care is
less expensive than
'emergency' care," in
terms of mouth health as
well as financial cost.

Have the children prepare
a television commercial or
short play recommending
periodic professional ex-
amination.

Write letters to make an
appointment with the
dentist.

Compare periodic "check-
ups" for the family car to
periodic dental health
'check-ups'. (less costly
smoother functioning, etc.)
Invite a dentist to show
the use of various instru-
ments and answer questions
pertaining to fillings,
cleaning, X-rays, etc.

Have children list why
dental X-rays are important.

Procure from a dentist some
discarded X-rays and look
for:

- . bony destruction in
pyorrhea cases.
- . decay
- . teeth that may be out of
position

SUPPLEMENTARY INFORMATION
FOR TEACHERS

Make sure that the chil-
dren understand the relation-
ship of dental health to
general health, i.e.:

- . chewing food is import-
ant; decayed teeth and
sore gums will not per-
mit one to chew effec-
tively.
- . infection from diseased
teeth can be carried
through the blood stream
to other parts of the
body and set up another
focus of infection.

Dental X-rays are used to:

- . reveal the beginning of
decay
- . determine if permanent
teeth are in normal
position
- . detect small, hidden
cavities
- . locate tartar or calcu-
lus deposits
- . reveal presence of im-
pacted teeth, malformed
roots, abscesses, cysts,
tumors, and foreign
bodies that may be pres-
ent in the jaws.

Professional dental care
can arrest the progress of
infections that originate
in the teeth, tongue,

REFERENCE

MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS

SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES

from tartar or calculus
deposits
reduce adhesion of food
debris and plaque to
make brushing easier.

- . small hidden cavities
- . impacted teeth
- . malformed roots

List and discuss preventive
practices such as fillings,
cleaning, fluoride applica-
tions, etc.

Show film, *Inside Story*,
A.D.A., 10 min. b&w. s.

B. Surgical Treatment

In cases of advanced den-
tal decay, advanced peri-
odontal disease, severe
traumatic injury, tumors,
or tooth mouth rehabilita-
tion, and jaw deformity,
surgical treatment may be
required.

Have a dental surgeon give
an illustrated talk on the
why and how aspects of den-
tal surgery.

C. Orthodontist

An orthodontist is a
dentist who has been spe-
cially trained to straight-
en teeth and oral bone
structure in order to:

Obtain X-rays, pictures,
or stone cases showing be-
fore and after cases of
malocclusion treated by an
orthodontist.

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OR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

SUGGESTED TEACHING AIDS
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SUPPLEMENTARY INFORMATION
FOR TEACHERS

om tartar or calculus
posits
duce adhesion of food
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re brushing easier.

- . small hidden cavities
- . impacted teeth
- . malformed roots

lips, jaws, and associated
structures.

List and discuss preventive
practices such as fillings,
cleaning, fluoride applica-
tions, etc.

Consult section 3E of this
unit for information on
artificial teeth.

Show film, *Inside Story*,
A.D.A., 10 min. b&w. s.

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ases of advanced den-
ecay, advanced peri-
al disease, severe
atic injury, tumors,
both mouth rehabilita-
and jaw deformity,
cal treatment may be
red.

Have a dental surgeon give
an illustrated talk on the
why and how aspects of den-
tal surgery.

Surgical treatment includes:

- . extractions
- . removal of diseased oral
tissues both hard and soft
tissues
- . tiring of the jaws in
cases of severe fracture
or othodontal care
- . capping of the teeth
- . application on inlays and
bridgework
- . oral bone and soft tissue
- . correction of congenital
deformities such as cleft
palate and hare lip
(Usually in cooperation
with a plastic surgeon
and an orthodontist)
- . preparation of teeth for
fillings

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orthodontist is a
st who has been spe-
ly trained to straight-
eth and oral bone
cture in order to:

Obtain X-rays, pictures,
or stone cases showing be-
fore and after cases of
malocclusion treated by an
orthodontist.

Much of the work done by
an othodontist has an ef-
fect on the emotional and
personality development of
children. Irregular teeth

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPORT
D. Fluoridation or Topical Fluoride Application	<ul style="list-style-type: none"> . improve appearance . correct malocclusion . correct irregularities of teeth and biting relationships for more efficient digestive function 	<p>Children who have had orthodontal work may wish to discuss this with the class.</p> <p>Obtain pictures of braces or discarded braces from an orthodontist to serve as the basis of a discussion.</p> <p>Discuss the importance of orthodontal correction in terms of emotional as well as general health.</p>	<p>or a cause shy, where is a self-</p>
	Fluoride solutions make the teeth more resistant to dental caries.	<p>After a period of research, debate the topic, "To Fluoridate or Not: That is the Question."</p> <p>Show film, "Fluoridation," A.D.A. 5 min. color. sound.</p>	<p>Consult Dental a list and me suppor</p>
	The addition of fluorides to water is the most effective and least expensive dental caries preventive available.	Interview members of the local water department to find the cost of fluoridation and the procedure for initiating such a program.	<p>The av dation supply person the co annual chemica</p>
	The daily use of fluoride tablets, as prescribed by a dentist, has been shown to cause a significant reduction in dental caries.		<p>Fluoric method a sixty cent re young c</p>

SLIPDINGS AND
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SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

SUPPLEMENTARY INFORMATION
FOR TEACHERS

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Children who have had orthodontal work may wish to discuss this with the class.

or a receding jaw line cause some people to become shy, morose, or antisocial, whereas a good set of teeth is a source of pride and self-confidence.

Obtain pictures of braces or discarded braces from an orthodontist to serve as the basis of a discussion.

Discuss the importance of orthodontal correction in terms of emotional as well as general health.

make
istent

After a period of research, debate the topic, "To Fluoridate or Not: That is the Question."

Consult page 5 of the K-3 Dental Health Syllabus for a list of the scientific and medical groups which support fluoridation.

Show film, "Fluoridation," A.D.A. 5 min. color. sound.

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Interview members of the local water department to find the cost of fluoridation and the procedure for initiating such a program.

The average cost of fluoridation in a community water supply is ten cents per person annually, including the cost of equipment and annual expenditures for chemicals and labor.

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aries.

Fluoride treatment by any method usually results in a sixty to sixty-five percent reduction in caries in young children.

REFERENCE

MAJOR UNDERSTANDINGS AND
FUNDAMENTAL CONCEPTS

Topical application of fluorides makes the enamel of the tooth more resistant to mouth acids.

SUGGESTED TEACHING AIDS
AND LEARNING ACTIVITIES

Call in dental hygiene teacher to demonstrate procedure for applying topical fluoride.

SUPPLEMENTARY INFORMATION
FOR TEACHERS

Children who drink fluoride water from birth mature with two-thirds less tooth decay and stronger, straighter teeth.

Recent research shows that adding phosphates to topical fluoride solutions appears to increase their ability to control tooth decay. Similarly, adding phosphate to a fluoride dentifrice seems to improve its effectiveness.

In preliminary laboratory studies, a solution containing traces of calcium, phosphate, and fluoride has been found effective in rehardening tooth enamel.

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1974	Joseph C. Indelicato, M.D.-----	Brooklyn
1976	Mrs. Helen B. Power, A.B., Litt.D., L.H.D.-----	Rochester
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