

Alabama Department of Public Health
Mother's Milk Education Package for Grades K-12
Level 1

Adapted from New York State Department of Health

BIRDS, NO BEES, AND BABIES

LEARNING OBJECTIVE FOR LEVEL 1:

Students will explain that one function of a family is to care and provide for its members.

SCIENCE CONTENT STANDARDS:

15. Describe characteristics of plants and animals that help them survive.

16. Classify plants and animals according to characteristics.

SOCIAL STUDIES CONTENT STANDARDS:

9. Identify traditions of a variety of cultures in Alabama and local communities.

Using BIRDS, NO BEES, AND BABIES

Birds, No Bees and Babies introduces children to reproduction in animals. Insects are not included in this unit. The pages that follow include activities to help children discover the connection between an adult animal and its offspring. Lesson 1 matches animal parents with their young. Lesson 2 describes changes that occur within a family when a baby is born/adopted. Lesson 3 focuses on how babies grow and what needs they have in order to be healthy. In Lesson 4, students will be introduced to ways they might adjust to a new baby and how each family member can contribute to the overall well being of the family. A nice time to use these lessons is when a class member's family or the classroom teacher is expecting a new baby, though this is not a pre-requisite to using this information.

Resources for BIRDS, NO BEES, AND BABIES

Books:

I Was So Mad!, N. Simon. Illinois: Albert Whitman and Company, 1974.

The New Baby at Your House, Jonna Cole. New York: Mulberry Books, 1985

101 Things To Do With a Baby, Jan Ormerod. Lothrop, Lee and Shepard. New York, 1984.

Peter's Chair, Ezra Jack Keats. Harper Collins, New York, 1967.

See How You Grow, Dr. Patricia Pearse. New York: Barron's Educational Series, Inc., 1988

Videos:

Baby Animals on the Farm, (30 minutes, available on Amazon.com)

Before You Start

Children in Grade 1 can understand the connection between a child and his/her parent(s)/guardian. It is helpful to extend that connection to animals and in later years, insects and plants.

As we study the needs of animals, we learn more about our own needs as humans. In this section of Birds, No Bees, and Babies, your students will be able to realize that offspring in animals and humans are "copies" of their parents. They will also examine how animals must deal with offspring and how this compares to humans as they cope when another family member, specifically a baby, enters their family.

They will also discover how they can help meet their own needs as well as the needs of others in their family as each individual copes with the changes a new baby or family member brings.

An activity on breastfeeding will be included in this unit as part of meeting a baby's physical needs as well as helping children find positive ways of coping while mom is nursing a baby.

Lesson 1 THE MATCHING GAME

Concept: Animals and humans have babies that look like their parents.

Vocabulary Words

reproduction: the process by which animals and plants reproduce new individuals.

offspring: refers to the babies of humans and animals.

adult: a fully grown organism.

parent: a mother or father.

Advance Preparation

Find nature magazines like Ranger Rick, National Geographic, World Student, etc., that have pictures of adult and baby animals. Give each construction paper to be used in a matching game. Have examples of things that are copies to introduce concept of reproduction.

ACTIVITIES

Introduction: Identify ways that we can copy something; e.g. copier machine, repeating what someone said, tracing a picture, etc. Discuss and clarify terms such as adult and parent.

Brainstorm: Identify different kinds of babies: infant, calf, pony, lamb, pup (seal), puppy, kitten, chick, cub, kid (goat)

Discussion:

- How many students have ever seen a baby animal?
- Call on students to tell what kinds of babies they have seen. Decide if the baby animal is called by the same name as the adult animal.
- Ask if any student has ever had a pet that had a baby. What did the mother animal do to prepare for the baby? (Prepare a nest, find a special place to give birth, etc.).
- How did the adult animal take care of the baby animal? (father is sometimes separated from young, mother feeds baby with breastmilk (called nursing), mother spends a great deal of time caring for young, mother/father may hunt for more food, parent becomes very protective of young, adult animal licks baby to keep it clean).

- Did the adult animal have any older offspring at the time the new offspring arrived? If so, how did the adult animal treat the older offspring? (May have spent less time with other sibling, may have let older sibling take care of him/herself.)
- Read "Eye Witness Books. Mammal." It has actual photographs of mammals, including offspring. Have children try to repeat animal names.
- Have students volunteer to hold baby/adult animal pictures in front of classroom. They must find their "offspring match" from students in seats who are holding the baby animal picture. The remainder of class can try to name both the adult and baby animals and check for accuracy.
- Using coloring books with animals, color picture of an adult animal. Students can write the name of the adult animal and the baby if it has a different name; i.e. dog - puppy.

Evaluation:

Using a spelling bee format, have students divide into two teams and name an adult animal and its baby. Pictures can be used and the child answers with the correct name. Teams may work together to answer.

Lesson 2 CHANGING BECAUSE OF BABY

Concept: Babies bring changes to each family.

Vocabulary Words

coping: dealing with problems or changes.

emotion: feelings.

offspring: refers to the babies of humans and animals.

sibling: a brother or sister.

Advance Preparation

Locate a book to read to class on welcoming a new baby, ("Helping Mommy Breastfeed").

Prepare feelings album pages by cutting an 8½" x 11" piece of paper into fourths. Each album should contain at least 8 pages (2 sheets). Find magazine pictures of families with babies.

ACTIVITIES

- **Review:** Identify changes that animals make because of their offspring.
- **Brainstorm:** Identify changes that a family might have to make because of a newborn baby. (Spend time changing diapers and clothing, feeding baby, losing sleep because baby needs to eat often, staying home from work to care for baby, traveling less.)
- **Discuss:**
 1. How many students have younger brothers or sisters?
 2. Do you remember what it was like when the baby arrived?
 3. What things were the same even though baby was there? What things were different because of the new baby?
 4. Did things stay the same, as the baby grew older?
 5. How did you feel about having a new brother or sister? (Answers may range from excited to jealous.)

6. How do we share our feelings (both good and bad) with others? (Tell someone about what makes us happy, explain that we are feeling sad, pout, hit, break things, do nice things for others.)
7. If you were feeling some bad feelings towards a new brother or sister, what are some good ways to deal with your feelings? (Tell mom and/or dad, talk to a trusted adult like a teacher or grandparent, swing, spend some quiet time alone, read a book, do something nice for someone else, remember things will change again as the baby gets older.)
8. Read "helping Mommy Breastfeed" about welcoming a new baby into the family (see resource list). Discuss how the older sibling felt about the new baby. What kinds of changes took place because of the new baby? How did the character in the book deal with his/her feelings in a positive or negative way?

- Read "I Was So Mad" (see resource list) about dealing with anger. Draw out positive and negative ways of dealing with anger.
- Make up a feelings album using small pieces of paper. Students can write the feeling/emotion at the top of each page and draw or cut out pictures to show what each feeling/emotion means.

Evaluation:

Have students find pictures in magazines of families with new babies. Make a list on the board of all the changes a family deals with when a new baby arrives.

Tape several large pieces of butcher paper or newsprint on the chalkboard. Have students take turns to draw a picture on the paper of positive/helpful things they could do while mom or dad is feeding baby, changing diaper, bathing baby or busy doing something else.

Lesson 3 SEE HOW WE GROW

Concept: Infants have needs that must be met in order to remain healthy

Advance Preparation:

- Either bring in a life-like doll or ask a student to bring one in.
- Prepare a flannel board and at least four figures to represent mom, dad, sister, and brother. Other extended family figures could also be included. Label each flannel figure or glue a picture of a face on each figure to help children identify each figure.
- Find a book on how babies grow and develop (see resource list for level 1).
- Have journals available or, if students do not have journals, they can use a piece of lined paper instead.

ACTIVITIES

The teacher or a student brings a somewhat real-life looking doll to class. Ask students what a baby would need to be healthy. Teacher can demonstrate with doll (Answers may include changing a diaper, bathing, appropriate clothing, being held correctly, feeding, etc.). After each answer, teacher can ask: Why is this necessary? (Feeding baby is necessary to help baby grow.) Be sure to include physical, intellectual, emotional, and social needs.

- Read a story about how babies grow. As story continues, make a list of what babies/children need. Compare to ideas children developed in previous activities.

- After discussing needs that a baby must have fulfilled, ask class to think about who can fulfill these needs. Using a flannel board with a felt woman, man, brother, sister, students will recall an example of what a baby needs and come up to the flannel board to show who in the family could be responsible for meeting that need. Be sensitive to non-nuclear families as well. For example:
 - changing diaper (mom, dad, sister, brother if old enough)
 - providing affection (all people)
 - keeping baby safe (all people)
 - breastfeeding baby (mom)
 - bottle-feeding baby with mother's milk (mom, dad, sister, brother, and others)
- Some families may have specific gender roles. Be prepared for comments like "My dad doesn't do that." Ask, "Is he capable of doing it?" "Do other dads do this?" Point out that families can be different and it is okay, but most things could be done by a male or female.
- Some children will be unaware that babies can be breastfed. Briefly explain that women are able to produce milk just as female animals can, after they have had a baby. Present breastfeeding in a positive manner as being the healthiest way to feed a baby but also explain that bottle-fed babies can be well nourished.

Evaluation

Give an assignment for students to write a short story about how their family members met their needs when they were babies. At least three answers should be included in the journal entry.

Lesson 4 ABCs of Coping

Concept: Family members need to help one another especially when changes occur.

Advance Preparation

- Photocopy of the acrostic provided in this lesson and cut up into small slips with one sentence or phrase on each slip.
- Prepare a piece of paper large enough that each student will be able to draw a picture of how they can be helpful to another family member.

ACTIVITIES

- Review definition of coping.
- Ask: What are some situations that can be upsetting or frustrating? (Friend not sharing toys, parent won't allow you to do something, when you can't do something as well as you'd like, parent spends more time with little brother/sister, when a baby cries, etc.)
- Review positive ways of dealing with changes or feelings of upset and frustration.
- Using the letters of the alphabet, write a phrase or sentence that starts with the appropriate letter. The theme of this acrostic will be how to cope with change. Helping other family members can also be incorporated. Students can be given one slip of paper with a phrase on it or they may use the slip they are given and make up one of their own. Tape in alphabetical order on wall or poster board.

- A - Ask mom/dad if they need help.
- B - Be patient.
- C - Call a friend on the phone.
- D - Do a good deed.
- E - Exercise.
- F - Fly a kite.
- G - Go get something for mom/dad when (s)he is tired.
- H - Hide and seek with a friend.
- I - Invite a friend to come over.
- J - Join a club.
- K - Kick, catch, dribble, or throw a ball.
- L - Laugh or cry.
- M - Make breakfast for mom, dad, and brother, sister.
- N - Nap a little.
- O - Organize your desk.
- P - Paint a picture.
- Q - Quiet time is helpful to relax.
- R - Read a book.
- S - Share a toy with a brother or sister.
- T - Tell mom/dad about your feelings.
- U - Use playdough to create something.
- V - View an educational television show.
- W - Write a letter to someone you love.
- X - Xerox (or have an adult to this) a picture and color it.
- Y - You can do school work without being told to do it.
- Z - Zap out a bad feeling by punching a pillow instead of a person.

Note: Teacher can ask for other ideas not listed about helping and coping.

Evaluation

Tape a large piece of butcher paper or newsprint on the chalkboard. Students take turns coming up to the paper and draw a picture of positive/helpful things they could do while mom or dad is feeding baby, changing diaper, bathing baby, or busy doing something else.

**Alabama Department of Public Health
Mother's Milk Education Package for Grades K-12**

Level: 2

Adapted from New York State Department of Health

WATCHING BABY GROW

LEARNING OBJECTIVE LEVEL 2:

Students will identify ways that each family member can contribute to the health and well being of both individuals in the family as well as to the entire group.

SCIENCE CONTENT STANDARD:

6. Identify characteristics of animals, including behavior, size and body covering.

HEALTH CONTENT STANDARD:

7. Identify ways in which a health-related project serves the community.

SOCIAL STUDIES CONTENT STANDARDS:

1. Compare features of modern-day living to those of the past.

6. Identify human-made and natural resources in the world

11. Explain how the diversity of people and customs in the U.S. and the world affect viewpoints and ideas.

Using WATCHING BABY GROW

Watching Baby Grow provides insight into how families care for each other with an emphasis on caring for children. Lesson 1 focus on functions of families including meeting physical, emotional, social, and intellectual needs. An examination of how babies are conceived, born, and continue to grow and change is covered in Lessons 2. Lesson3 examines the excitement of having a new baby and have activities to welcome the baby home. Lesson 4 is about what babies need parents to do in order to keep the baby healthy.

Resources for WATCHING BABY GROW

See How You Grow, Patricia Pearse. Barron's Educational Series, Inc. Hauppauge, New York, 1988.

He Bear, She Bear, Jan and Stan Berenstain. Random House, Inc. New York, 1974.

How Babies Are Made, A. Andrey and S. Schepp. Little, Brown, and Company. Boston, 1979.

Love You Forever, R. Munsch. Firefly Books. Canada, 1989.

The Berenstain Bears' New Baby, Jan and Stan Berenstain. Random House. New York, 1974.

The New Baby at Your House, Joanna Cole. Mulberry Books. New York, 1985.

Let Me Tell You About My Baby, R. Banish. Harper & Row, 1982.

Before You Start:

Children may hear their parent(s) discuss the importance of being healthy. With combined efforts of home and school, children can have this healthy message reinforced and develop positive habits to promote health.

Watching Baby Grow examines needs of infants and builds on this theme by extending into the needs of school-age children. Be sensitive to the fact that many children come from single-parent families or they may live with a guardian or in foster care. Help students understand that all children need to be cared for and there are caring, responsible family members who meet these needs. The definition of family can be defined by the child, which may include members of nuclear, extended, adoptive, blended, foster/guardian, and etc.

The vocabulary referring to the five types of needs (physical, social, intellectual, emotional, spiritual) may be too difficult for students to remember. They should be introduced to at least physical and emotional and you as the teacher can choose to add more. Using pictures or symbols such as a stick figure or happy face for physical and emotional can also help the students remember the vocabulary words.

Some of the information and/or diagrams in [Lesson 3](#) regarding conception and birth may be controversial for some schools. Please consult with your administration or Family Life Education Advisory Council. Certain pages could be skipped over if necessary so that children can still hear and see how babies begin to grow and change throughout their life cycle.

Lesson 1 WHAT ARE FAMILIES FOR?

Concept: Babies and children have physical, intellectual, emotional, social, and spiritual needs that must be met for good health.

Vocabulary Words

family: two or more people who love and care for each other. They are usually related and/or live with one another.

physical: related to the body.

emotional: related to feelings and emotions.

social: related to how we get along with others.

intellectual: related to our minds and our ability to think.

spiritual: related to our values, beliefs and morals.

Advance Preparation

- Give paper to students for drawing a picture of their families. You can have “ME” written in the center of the page or you can have students do this.
- Gather markers and newsprint and label five pieces of paper with Intellectual (Mind), Emotional (Feelings), Physical (Body), Social (Getting Along with Others), Spiritual (Values, Religion, Morals). Have masking tape available to tape to chalkboard or wall.
- Photocopy [My Family Crest Worksheet](#) as a homework assignment.

ACTIVITIES:

Ask: What is a family? Students should try to explain what a family is. You can help by identifying members of the family (mom, dad, sister, brother, etc.) or with a statement of what a family does to care for the family members.

- Draw a picture of your family by drawing a circle with the word ME in the center of it. Draw lines coming out of the circle for each family member. (Some students will draw only those members they live with while others may draw extended, blended, foster, etc. families. Allow the child to define through the drawing of his/her own family.)
- After drawing the family members, write a sentence and draw a picture that represents something about each member.
- Teacher can invite some children to share with class. How were some families the same? Different? What were some special things that family members do? As children share answers about what families do, teacher can list them on board or on easel paper under physical, social, intellectual, emotional, spiritual. You may end up with something like this:
 - Physical* (Body): goes shopping for clothes, plays ball.
 - Intellectual* (Mind): reads with me, teaches me things.
 - Emotional* (Feelings): listens to me, hugs me, kisses me, and encourages me to do well.
 - Social* (How we get along with people): celebrates my birthday, spends time with me.
 - Spiritual* (Religious, Morals, Values): takes me to church/temple/synagogue, teaches me right from wrong.
- In another color chalk or ink, ask students to think of other examples of things families do for each other and add them to previous group lists.

Evaluation:

As a homework assignment, have students take home the My Family Crest Worksheet and complete with a

family member (or by themselves if no family member is available). In each section they should draw a picture or write a phrase or sentence to complete the sentence.

Lesson 2 WATCH ME GROW

Concept: People grow and change throughout life.

Advance Preparation

- Read "See How You Grow" and obtain administrative approval if necessary or decide to skip over certain pages that may be controversial.
- Prepare a note to parent(s) about bringing in some photographs.
- Gather construction paper for student Watch Me Grow! posters.
- Gather paper to make height growth chart or prepare a poster checklist of changes that occur in children during second grade.

ACTIVITIES

- Brainstorm ways that children in class have changed since they were born (taller, older, can read, can write, gained and lost teeth, etc.). Use this activity as an introduction to "See How You Grow," a lift-the-flap baby book on growing and changing.
- Read "See How You Grow" to students. After reading the information under each heading, ask the heading question to the students to see if they can answer it. If a heading is not written as a question already, turn it into one; i.e., it's a boy - How did the parents know the baby was a boy?

Encourage children to use correct anatomical names. Gently remind the student of the scientific word rather than using a slang term. After the story is over, discuss the following:

- What changes happened to Ben in his first year of life?
- What changes did Sarah go through?
- What do you need to grow?
- What food did Ben eat when he was born?
- How was Ben's mom able to produce milk?
- What did Ben eat when he was one year old?
- What will he be able to eat when he is five?
- What does Sarah eat?
- When do you stop growing? Stop changing?
- What do you like best about growing and changing?
-

Have students bring in five photographs (Note: If a child does not have photographs, they can use magazine pictures.). They should bring in:

- 3 pictures - a picture of themselves as an infant, toddler, and second grader.
- 2 pictures - pictures of nearest relative(s) - mom, dad, grandparents, sibling, cousin, etc.

Using these pictures, each child can make a poster showing his/her growth from an infant to a school-age child. Each student should write at least three changes that have occurred.

Using the pictures of relatives, identify some characteristics that are the same as their parent (s)/guardians. Note: Even if a child does not have a genetic link to his/her parent/guardian, (s) he can identify some similarities they share, i.e. similar/same skin, eye/hair coloring, preference for certain hobbies/activities, both right/left handed, etc. Title each poster Watch Me Grow! (Or let child choose an appropriate title).

Buy or make a height growth chart using computer paper or butcher paper. If students are able to measure with a ruler, they can assist in making the growth chart. Measure each child on the completed growth chart and label with their initials. Check once each month for growth progress. A variation of this activity would be for the teacher to prepare a poster checklist listing various changes students might experience in grade 2; i.e., lost a tooth, new tooth grew in, grew taller, hair longer, etc. Periodically, during the school year students can mark an X on the changes that have occurred. Be sure to emphasize this is not a contest. Stress everyone has a

special "body clock" and everyone grows at their own pace and this is part of what makes each person special in their own way.

Evaluation

Have students write about how growing and changing makes him/her feel. Have students give answers to: What was your favorite change and why? What changes are you looking forward to? What do you think you will look like when you grow up?

Lesson 3 WELCOME HOME BABY

Concept: Families provide love and care for each member

Advance Preparation

- Sign out "Love You Forever" and "He Bear, She Bear" from the library.
- Photocopy "[Can I Help?](#)"
- Gather construction paper and art supplies for the Welcome Home Baby card.

ACTIVITIES

- Review with students how families provide care and love for family members. Read, "Love You Forever." Discuss how family members cared for each other.
- Discuss how parents might take care of a new baby. What do they need to do to get ready for a new baby? What are some things that are similar to taking care of older children? What are some things that are different?
- Ask: How does a baby need to be cared for? (They need to be clothed, bathed, fed, held, diapers changed, go for checkups, etc.) Who is responsible for this?
- Read "He Bear, She Bear" by Jan and Stan Berenstain. Discuss roles that both males and females can play.
- Complete [worksheet "Can I Help?"](#) Student reads questions regarding ways babies need to be cared for. After reading, students write "yes" if (s)he can help or "no" if (s)he cannot help. Discuss conclusions written at the bottom of the worksheet.

Evaluation

1. Prepare a Welcome Home Baby! card to give to a family that is having a baby. Include a coupon inside the card of something nice the student could do to help the family with the new baby; i.e., offer to play with baby while mom/dad gets some work done, read baby a story, help the mom/dad in some way, etc. Students can draw pictures or cut out pictures from magazines to make cards. Note: If a family does not know of anyone who is having a baby, the child may still participate as a way of reinforcing the concept that family members may need help at various times in their lives and that as neighbors we can be helpful to others.

2. Using a doll, ask, "How does a baby need to be cared for?" (They need to be clothed, bathed, fed, held, diapers changed, go for checkups, etc.) Have students hold the doll as they give an answer.

Lesson 4 AN OUNCE OF PREVENTION

Concept: There are things we can do to help prevent illness.

Vocabulary Words

health: the state of physical and mental well-being

prevention: to stop something from happening ahead of time.

Advance Preparation

- Gather a food weight scale or balance to be able to demonstrate measuring an ounce and one pound.
- Locate a book on breastfeeding a baby or a book that discusses ways to help keep babies well.

ACTIVITIES

- Ask: "How many of you have ever been sick? How do you feel when you are sick? Do you feel like doing your favorite activities? Why is it important to try to stay healthy? What do you do to stay healthy? What would parents need to do to keep a baby healthy?" Write on the board "An ounce of prevention is worth a pound of cure." Have students weigh something on a food scale that weighs an ounce or two as well as something that weighs a pound. Which of the two measures is lighter? Heavier? Tell students to read the slogan on the board (Some readers may be able to read it for you.). What does the word prevention mean? What does that slogan mean? What are ways we can prevent some illnesses? (Eat right, exercise, get plenty of rest, cover our mouths when coughing or sneezing, wash hands, get immunization shots, etc.) How do moms and dads prevent babies from getting illnesses? (immunizations, breastfeeding, cleanliness, etc.)
- Read a story about taking care of a baby. A few suggestions include "The New Baby at Your House" or "Let Me Tell You About Baby" (see resource list for bibliography). Discuss what parents do to keep a baby well at the same time photographs in story are shown, (i.e., clothe them appropriately -- not too hot or cold, bathe, and breastfeed -- helps protect against colds and diarrhea, best nutritionally, helps prevent allergies, etc.

Evaluation

Have students complete the crossword puzzle reviewing information from WATCHING BABY GROW. Teacher could read clues and once the answer has been given, (s)he could write the answer on the board. Pair up students who are advanced readers with students who may need help with this activity.

MY FAMILY CREST

Name: _____

Directions

Write or draw something in each box about how your family helps you.

The crest is a shield shape with a decorative, scalloped top edge. It is divided into six rectangular boxes by a horizontal line across the middle and two vertical lines. Each box contains a numbered prompt for writing.

1. My family helps me take care of my body.	2. My family helps me when I feel mad or sad.	3. My family helps me learn...
4. My family teaches me how to get along with others.	5. My family believes in...	6. I help take care of my family.

CAN I HELP?

Name: _____

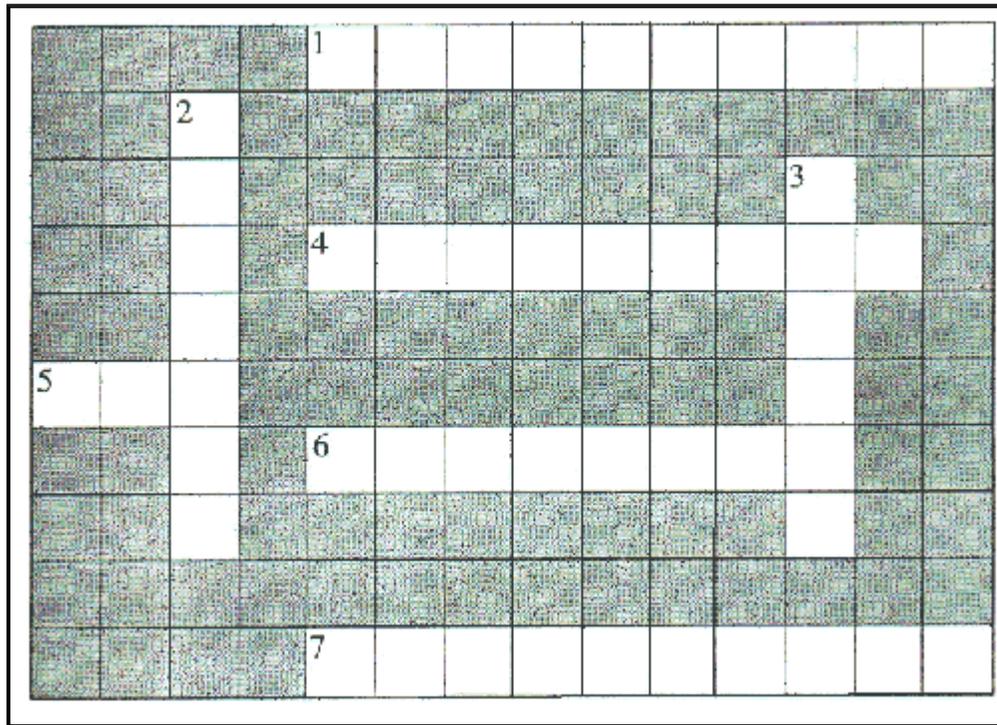
Directions: After reading questions, students check **YES** or **NO** for each.

	YES	NO
1. Hold baby?		
2. Change baby's diaper?		
3. Give baby a bath?		
4. Smile at baby?		
5. Breastfeed baby?		
6. Play with baby?		
7. Read to baby?		
8. Pay for food, diapers, or clothes for baby?		
9. Sing to baby?		
10. Give baby a bottle?		
11. Babysit baby for several hours?		
12. Give medicines to baby?		

Conclusions:

- a. How many ways could you help?
- b. What ways were you not able to help?
- c. If you couldn't help, why not? (Only moms can breastfeed babies, parents need to provide those things that cost money, parents should give medicine to the baby.)
- d. Who else needs to help care for an infant and why?
- e. Why are parents/guardians necessary for infants? children? adults?

CROSSWORD PUZZLE



CLUES

ACROSS

1. Milk produced by moms of babies which helps keep babies healthy.
4. Related to feelings.
5. _____nutritious food to help stay healthy.
6. Related to the body.
7. To keep something from happening.

DOWN

2. Parents want children to be _____so they won't get sick.
3. Two or more people who love and care for each other and usually are related and/or live with one another.

**Alabama Department of Public Health
Mother's Milk Education Package for Grades K-12**

Level: 3

Adapted from New York State Department of Health

BABY'S FIRST FOOD

LEARNING OBJECTIVE FOR LEVEL 3

The student will explain what mammals are, and know that they feed their newborn with milk from their body.

SCIENCE CONTENT STANDARDS:

8. Identify how organisms are classified in the Animalia and Plantae kingdoms.
13. Describe ways to sustain natural resources, including recycling, reusing, conserving and protecting the environment.
 - Recognizing the impact of society on human health and the environment

HEALTH CONTENT STANDARDS:

2. Identify sources of health-related information and services.
3. Compare a variety of health-related advertisements regarding "truth in advertising".

SOCIAL STUDIES CONTENT STANDARD:

6. Explaining different viewpoints on contemporary issues at the local, state, national, and international levels

Using BABY'S FIRST FOOD

In this unit, students begin to identify mammals, and the characteristics they have in common. Mammals, including humans, produce milk as a first food source for their newborns. As the mammal matures, it needs different foods in increased amounts in addition to milk.

In Lessons 1 and 2, students review animal classification (reptiles, birds, etc.) and begin to focus on the characteristics of mammals. Through observation and discussion, they learn about and record the feeding behaviors of a baby mammal.

Lesson 3 continues to discuss mammals, specifically human babies, and the foods they need for health and well being during their first year of life.

Resources for BABY'S FIRST FOOD

Jeremy Isn't Hungry, Barbara Williams. New York: E.P. Dutton, 1978.

Eat Up Gemma, Sarah Hayes, Lothrop, 1988.

Mammals of the North American, Adrian Forsyth, Camden House, 1985.

Mammals, Donald Hoffmeister & Herbert Zim, Golden Books, 1987.

What Do You Call a Baby Rhino: and other baby mammals, Emma Nathan, Hardcover, 1999.

Before you start:

By third grade, students already know there are many, many kinds of animals. They are also beginning to identify classifications and animals within those groups, (reptiles-lizards, snakes or birds-swans, ducks, etc.). This unit specifically addresses the mammal and the way the newborn mammal is fed. By having students look at and record the feeding, growth and development of a mammal they will begin to see how complete the milk diet of a newborn is. This unit may best be taught as part of an in-depth unit on mammals, or included in a lesson on infant feeding, or childcare.

Lesson 1 M IS FOR Mammal's MILK

Concept: Mammals are warm-blooded animals whose offspring are fed with milk secreted by female mammary glands.

Vocabulary Words

offspring: refers to the babies of humans and animals.

vertebrate: a large group of animals that have a spinal column.

mammary: relates to the milk-secreting glands in mammals.

Advance Preparation

- Gather books/pictures of animals with their young.
- Infant growth chart (pediatrician can provide these).
- Copy blank growth chart for recording classroom observation.

ACTIVITIES

Review classifications of animals, i.e. reptiles, birds, mammals, etc.

- Write the definition of mammal on the board or newsprint for students to read.
- "Mammal: A large class of warm-blooded, usually hairy vertebrates whose offspring are fed with milk secreted by the female mammary glands."
- Read aloud each piece of the definition and underline key terms to be discussed.
- Spend time discussing with students key terms and clarifying characteristics of mammals.

Evaluation

When students understand the definition, brainstorm with class different types of mammals. Use the following example of a checklist on the board as each animal is named.

Subject	Warm Blooded	Usually Hairy	Vertebrate	Fed with Mother's Milk	Mammal
Dog	✓	✓	✓	✓	yes
Pig	✓	✓	✓	✓	yes
Fish					no
Gerbil	✓	✓	✓	✓	yes
(Others may include: baboon, goat, cat, human, cow, rabbit, whale.)					

Lesson 2 WHAT IS MOTHER'S MILK?

Concept: All mammals, including humans, produce milk as a complete first food for their newborn.

Activities:

Ask & Discuss:

- How many students have a pet that is a mammal?
- Call on students to tell what kind of pet they have and have class decide if it is a mammal or not (help by referring back to definition on the board).
- How many have had pets that have had babies (kittens, puppies)?
- Remember how tiny they were when they were born?
- How did your cat/dog take care of new kitten/puppy?
 - Kept it warm
 - curled up close, found warm dry spot.
 - Protected it from harm
 - bark, snarl, and bite anyone coming near.
 - Fed it
 - fed with milk from mother.

Observation

Have students observe a mammal with new offspring. Many classrooms will already have mascots, i.e., mice, rats, rabbits, gerbils, etc. If not, have child bring pet from home or visit a farm or zoo. Using [worksheet Mammal Observations](#), record the activities of the nursing gerbil, hamster, etc. This can be done individually or as a group project.

- Using a blank chart and an infant growth chart, have students record and answer the following:
 1. Look at a human infant growth chart. How long does it take for an average infant to double its birth weight?
 2. Chart the weight of a mammal you observed (or ask veterinarian or farmer for information). How long did it take for the mammal you observed to double its birth weight?
 3. Did the mammal you observed take a longer or shorter amount of time to double its weight? Why do you think this happens?
- Using [worksheet Mammal Word Find](#), have students circle names of animals that are mammals. Words can be up, down, diagonal or backwards.

Evaluation

Have students draw a picture of an imaginary mammal and write a descriptive paragraph about it. Be sure to keep in mind the definition of a mammal discussed in this lesson -- warm blooded, hairy, etc. Their paragraph should include the habits of the mammal, environment, where it lives, and how it cares for its young.

Lessons 3 FOODS TO GROW ON

Concept: Like all mammal babies, human infants need special foods to help them grow.

Vocabulary Words

breastfed: babies suck on breasts to receive breast milk.

nutrients: substances in food needed to keep us alive and healthy.

Advance Preparation

- Make copies of "My Feeding History" Worksheet for each child. Bring in old magazines (Parents, Good Housekeeping, etc.) for cutting up.
- Borrow copy of "Jeremy Isn't Hungry" by Barbara Williams, or similar book from library.

ACTIVITIES

Explain and ask:

- Mother's milk is the first food source for newborn mammals. As the animal matures, it needs additional foods in greater amounts.
- The following mammals all drink their mother's milk as a baby. What other foods do they eat as they get older?
 - Cow (grass)
 - Rabbit (carrots, lettuce)
 - Horse (hay)
 - Lion (smaller animals/meats)
 - Dog (dog food)
 - Elephant (grass/leaves)
 - Humans (baby food)
- Invite a zookeeper, farmer, or veterinarian to speak to the class about the kinds of foods animals eat. Have him/her bring in samples if possible for students to look at, feel, smell, and taste.
- Human infants also drink their mother's milk. Mother's milk has all the nutrients the baby needs during the first months of life. Like other mammals, as the newborn gets older, it begins to need some additional foods.
- In addition to mother's milk or formula, what other foods do babies eat?
 - infant cereal (about 4-6 months of age)
 - juice, fruit, cooked vegetables (about 5-8 months of age)
 - meat, egg yolk (about 8-10 months of age)
 - "table foods" (10-12 months of age)
- It is important for a baby to only eat foods that are right for him/her at the right age.
- Think about the foods you eat for lunch (sandwiches, pretzel, apple). Why would it be difficult and even dangerous for a baby to eat those foods?
- Chart food needs for a newborn to 1 year old. Draw a time line on newsprint or black board. Have students complete the following:
 - a. Color red the area on the time line where the baby would only be drinking breast milk or formula (birth to 4 months).
 - b. Place a star about the time the baby could begin eating infant cereal (4 months).
 - c. Put an X on the month the baby would probably start on juices, vegetables and fruits (6 months).
- Have students take home worksheet "My Feeding History" to be filled out with help from a parent, relative or someone who knew them as a baby.
- Follow-up "My Feeding History" by making a pie graph of the number of students breastfed vs. bottle-fed. Make another showing favorite baby foods.

- Have students bring in pictures of themselves as infants eating (i.e. first solid food, first birthday cake, etc.). Make a bulletin board display of the pictures "Our First Foods".
- Read, "Jeremy Isn't Hungry" by Barbara Williams or another story about feeding babies.
- Cut out pictures from magazines of babies eating and drinking. Make a collage of the pictures. Have students look at the pictures and food the baby is eating, and from that information, guess the baby's age.

Evaluation

Have students draw a picture of the optimal feeding for a baby at ages one month, six months and one year.

Mammal Observations

Name: _____

Type of mammal: _____

Number of babies: _____

How do the babies stay warm?

How do the parents protect the babies from harm?

What do the babies eat?

What do the babies do?

Mammal Word find

Name: _____

CAT

COW

ZEBRA

DOG

HORSE

CAMEL

HAMSTER

GOAT

LION

N N B C E H I L H A M S T E R
O A S X F U T E V C M B T J I
I D T B K O L H F D C B I R D
L O K Y G E C F G K O R C N T
E C E W X G Y U O K T G W A A
B M A B D A Y U I B T K O N L
A W B M E Q C A T O P G L N K
O P C R E D E Y V N M I Y M E
I I P M U L B X O S W L I A R
H X W L M Y O R N G F E C I W
W O C N E C R E I L A S O F W
P T R S S C Y V J K J T W I K
N E G S C N A C H Y N N U S W
Q A Z X E H T V Y J M U I H T
P L M K Z E B R A L R E S B K

"My Feeding History"

Name: _____

Directions:

Take this worksheet and interview someone with a young child, like a friend, relative or neighbor.

1. When was the child born?
2. When did s/he begin eating?
3. Was s/he nursed or bottle-fed?
4. For how long was s/he nursed or bottle-fed?
5. What was his/her first solid food?
6. How did s/he react when s/he first tasted it?
7. What was his/her favorite food as a baby?

Alabama Department of Public Health
Mother's Milk Education Package for Grades K-12
Level: 4
Adapted from New York State Department of Health

IT'S ALL IN THERE

LEARNING OBJECTIVE FOR LEVEL 4

Students will be able to understand that for a number of reasons, mother's milk is more beneficial than human milk substitutes.

SCIENCE CONTENT STANDARD:

5. Describe the interdependence of plants and animals.
- Tracing the flow of energy through a food chain
 - Identifying characteristics of organisms, including growth and development, reproduction, acquisition and use of energy and response to the environment.

HEALTH CONTENT STANDARDS:

2. Complete activities or projects related to school and community health advocacy.
4. Identify health-related messages found in media advertising.

SOCIAL STUDIES CONTENT STANDARD:

10. Describe significant social and educational changes in Alabama during the late nineteenth and early twentieth centuries.

Using IT'S ALL IN THERE

In this unit, students take an in-depth look at the benefits of mother's milk. Students will begin to weigh the advantages and benefits breastfeeding has to the mother as well as the newborn, they will:

- become "carriers of information" to others making infant feeding decisions;
- understand and be supportive of a parent or other adult who has made a decision to provide mother's milk; and
- begin to form their own ideas and attitudes about breastfeeding that they will carry with them into adulthood

In Lessons 1 and 2, students examine the benefits of mother's milk, and identify risks of mother's milk substitutes. In Lessons 3, pressures in our society that influence the decision to breast or bottle-feed will be discussed.

Resources for Level 4

Pamphlets on mother's milk from local sources including:

- pediatrician, obstetrician, family physician, childbirth educator
- WIC program and/ or health department
- International Lactation Consultation Association: Position paper on Hazards of Infant Formula
- La Leche League brochures

Nutrition of Infancy & Children, 54th ed., St. Louis, Mo (Times/Mirror/Mosby College Publishing, 1989).

Child of Mine: Feeding With Love & Good Sense, by Ellyn Satter, (Bull Publishing Co., 1986).

Points to Remember Before You Start:

Nutritionally, mother's milk is best for almost all newborn infants. It contains the right balance of nutrients, some (mostly minerals) of which cannot be found in commercial formulas. Mother's milk also offers disease-preventing antibodies. Babies who are breastfed generally have less diarrhea and fewer respiratory infections and colds. Babies are not allergic to human milk but some babies can be allergic to formula.

Commercial formulas are the substitute for mother's milk. These formulas can be very expensive, and more difficult to prepare (mix, heat, etc.).

This unit explores the reasons women and men make decisions about the way they will feed their child.

Lesson 1 YOUR BEST BET

Concept: The student will understand that there are two ways to feed an infant, breastfeed and bottle feed

Vocabulary Words

advantage: a favorable circumstance

benefit: helpful

risk: harmful

formula: a commercial product made of a combination of chemicals, milk and/or non-milk products

Advance Preparation

- Read a pamphlet or book from resource list to become familiar with the benefits of mother's milk.
- Blackboard/Newsprint

ACTIVITIE:

Review information students have learned in earlier lessons *Levels K-3* (i.e. mammals nurse their young).

Ask students to give some reasons mothers may choose to nurse (breastfeed) their baby.

On the board, have students brainstorm benefits of nursing (breastfeeding) a baby.

- ideal nutrients for baby
- easier to digest
- cost less
- no mixing or heating bottles, etc.

Have students state reasons given for not of breastfeeding.

- not enough time
- harder for someone else to feed baby, etc.

Have students brainstorm a similar list of benefits and risks of bottle-feeding with commercial formula.

Review the two lists with the whole class. Divide students into small groups of 3-4 and develop consensus on which is best, breastfeeding or formula feeding. Assign someone in the small group to record major points of their discussion and report back to the class how consensus was

reached. Also include a description of how the group came to their conclusion. Did any groups feel they did not have enough information to make to a decision? Where could they get additional information?

Evaluation

Have students tell a partner one benefit of breastfeeding and have their partner respond with one risk of bottle-feeding.

Lesson 2 NO MATCH FOR MOTHER'S MILK

Concept: There are both advantages and benefits mother's milk and risks to substitutes.

ACTIVITIES:

- Invite a pediatrician, family physician or lactation nurse to talk to the class about the immunological properties of mother's milk. Have students prepare questions in advance to ask the guest speaker.
 1. Are there common ailments that can be prevented?
 2. Can drugs the mother is using be passed to infant also? Etc.
- Have students research the amount of formula a newborn to 1 month old and a 6-month-old infant would require. Have students compute the number of cans of formula used by the infant during the 6-month period.
 1. How much does each can cost?
 2. How much would it cost for formula to feed a baby for 6 months?
- A breastfeeding mother needs about 500 additional calories from each day (about \$1.00 - \$2.00 worth). Find out how much money could be saved by providing mother's milk instead of formula feeding.
- Have student research some substitutes to mother's milk. Provide different kinds of milks to be sampled by the class.
 - 1%, 2%, whole and skim milk
 - goat milk
 - store bought baby formula
 - milk based and soy based
 - soy milk
 - an equal mixture of sweetened condensed milk & whole milk for mock mother's milk

Have students look, smell, pour and taste the milks if possible.

Evaluation:

Have students write a letter to an imaginary mother explaining why providing mother's milk would be a positive option for her to consider. Be sure to include all the ways breastfeeding would benefit her and her baby.

Lesson 3 FEEL THE PRESSURE

Concept: There are many factors that influence the choices parents make about feeding their infant.

Vocabulary Words

pasteurization: a method of destroying bacteria in milk by a special heating process.

sterilization: a process of removing and/or destroying all organisms from a product

Advance Preparation

- Secure magazines, some old if possible (check the library) for student use.
- Copy Worksheet "Infant Feeding Survey."

ACTIVITIES:

Review with students benefits of breastfeeding vs. formula feeding or brainstorm a new list. Have students discuss: given the "facts" on the board about mother's milk vs. formula, which based on benefits alone would be best? Ask students, then why would a woman choose not to breastfeed? Allow time for brainstorming of some possible reasons:

- friends/spouse against it.
- media promotes formula, etc.

Distribute Worksheet "Infant Feeding Survey." Instruct students to survey at least one woman, for each of the following age groups.

1. under 25 years old
2. 25-40 years old
3. 40-60 years old
4. over 60 years old

Have students discuss and graph answers to survey. What happened around 1940 that made changes in the way babies were fed?

- refrigeration
- pasteurization
- development of infant formulas

What were the most common reason women chose not to provide their milk for their baby?

Activities

- Have students design a poster or TV commercial showing the benefits of breastfeeding. This can be used as an individual or group project. You may also want to share the project with the local WIC program, or Health Department.
- Invite a pediatric nurse or OB nurse to the class to talk about some of the things they do in the hospital to promote breastfeeding as a positive option for feeding the newborn.
- Have students look through magazines of different eras. How is infant feeding portrayed? Do they find more formula ads in newer magazines? What year do formula ads begin showing up? Why?

Evaluation

Have each student list 5 advantage of mother's milk and 5 disadvantage of infant formula.

Infant Feeding Survey

Name: _____

	Age Group	Breast or Bottle	Why? What influenced her decision?
1.	Under 25		
2.	25-40		
3.	40-60		
4.	Over 60		

Alabama Department of Public Health
Mother's Milk Education Activity Package for Grades K-12
Level: 5
Adapted from New York Department of Health

NATURE TAKES ITS COURSE

LEARNING OBJECTIVE FOR LEVEL 5

Students will describe the benefits of mother's milk over formula feeding as it relates to nutrition, health, economics, ecology, and time management.

SCIENCE CONTENT STANDARD:

8. Identify major body systems and their functions, including the circulatory system, respiratory system, excretory system and reproductive system.

HEALTH CONTENT STANDARD:

3. Explain how messages from media and other sources influence health behaviors.

SOCIAL STUDIES CONTENT STANDARD:

13. Identify social, political, and economic changes that occurred during the Reconstruction

Using NATURE TAKES ITS COURSE

Four lessons related to breastfeeding are included in Level 5. These lessons include broader content areas such as ecology, nutrition, puberty, economics, time management, and the impact of the mass media. While studying the broader content areas, the teacher can use each lesson in its entirety or choose to use certain activities within the lessons.

Lesson 1 examines puberty including the study of the mammary glands. Lesson 2 may be used when the class is studying ecological issues as it involves the comparison of formula (and the cans it is packed in) to mother's milk. Time management is the focus of Lesson 3 and activities are provided for students to compare the amount of time and energy used in breastfeeding versus formula feeding. The media has a great impact on the choices we make and Lesson 4 examines how our beliefs are impacted by the advertising industry.

Resources for NATURE TAKES ITS COURSE

Books

The What's Happening To My Body Book for Girls. L. Madaras, New Market Press, New York, 1988.

The What's Happening To My Body Book for Boys. L. Madaras. New Market Press. New York, 1988.

Before You Start:

Each of the lessons included in this level contain learning activities that promote breastfeeding. It is recommended that each lesson be taught at various times throughout the year. One lesson does not need to be used in sequence with another. Rather, these lessons should be incorporated into various subject areas. The activities listed can supplement your lessons on ecology, nutrition, decision-making, time management, and puberty education. The lessons on puberty only incorporate information relative to mother's milk and are to supplement primary units on puberty.

Lesson 1 WHAT IS MY BODY DOING?

Concept: Human milk is produced by the mammary glands.

Vocabulary Words

reproductive System: system of the body that has the ability to produce offspring.

puberty: the period of growth from childhood to adulthood.

mammary Gland: glands located in the breasts, which secrete milk.

lactation: process of producing milk. (Other words will be introduced but the students should not be required to memorize all of them.)

Advance Preparation

- Photocopy pre- and post-test and vocabulary word list.
- Obtain and/ or photocopy any materials already used for puberty lessons.
- Gather audio-visual equipment needed for a program on puberty.

ACTIVITIES

- Ask students if they can ever remember a time when they felt embarrassed to ask a question or to answer one.
- What rules could a class follow that could help everyone feel comfortable?
- Develop a list of ground rules to be used during class and post on a wall where they can be seen. Rules might include listen to others, do not laugh at anyone's answer, no put-downs, do not talk while others are speaking, be able to pass (not answer a question) if it makes one uncomfortable, use scientific terminology rather than slang, be respectful, accept that others will think differently or have different values, etc. Stress that a safe comfortable atmosphere is needed, as sensitive material will be discussed.
- Pass out the puberty quiz and use it as a pre-test. Teacher should collect papers and grade or have students correct their own. Save pre-tests to compare to post-tests.
- Pass out the vocabulary word list for students to keep as a reference sheet. Students should not be required to memorize all these terms. Rather, they should become familiar with the terminology.

Additional Activities

- Pass out blank index cards to each student. Have them write questions anonymously regarding puberty. Every student should write something -- either a question or No Question. This makes everyone feel comfortable about asking questions because they will not feel like they are the only ones writing. Everyone will be busy writing something and the pressure is off those who really want to ask a question. Teacher answers questions. (Read question so that students can ask follow-up questions comfortably.)

Evaluation

Give post-test to determine if students learned new material. Check for questions that several students may still not understand and re-teach any problem areas. (Students could be embarrassed to admit they had incorrect answers in front of their peers. Do not have students switch papers to correct.)

Lesson 2 WASTE NOT, WANT NOT

Concept: Breastfeeding is better for the environment than formula feeding.

Vocabulary Words

environment: the world around us, our surroundings.

ecology: the study of the relationships between organisms and their environment.

recycling: to use again.

waste Management: the act of controlling or supervising trash removal.

Advance Preparation

- Obtain books, pamphlets or videos on protecting the earth
- Gather markers and newsprint for brainstorming activity.
- Ask a parent of a newborn or call a local hospital or pediatrician/family physician to determine an average amount of cans used per day to formula feed a baby.
- Contact and arrange for a guest speaker regarding waste removal and recycling.
- Make arrangements for a field trip to a recycling plant.

ACTIVITIES

- When studying about ecology and methods of protecting the environment through recycling and waste management, ask what are some things your family could do to reduce trash? Give reading assignments on protecting the earth.
- Have students break into groups of 4-5 and brainstorm ideas for reducing trash. One student should be a recorder to write answers down and another can be the reporter to share the group's answers with the class. NOTE: Teacher will include mother's milk vs. formula if students don't have the topic included.
- Using formula feeding an infant as an example, try to calculate how many bottles, cans, etc. are used each day, week, month, and year using formula instead of breastfeeding.
- In front of class, calculate together:
 - (a) How many cans/bottles are used per day for a two-month-old infant?
 - (b) How many cans/bottles are used per week?
 - (c) How many cans/bottles are used in a month?
 - (d) How many cans/bottles are used in a year?
 - (e) What is one way to reduce the amount of cans/bottles used to feed an infant?
Students will need to be guided with this question. We do not necessarily choose something a baby needs strictly on an environmental basis. However, in combination with the fact that mother's milk is better nutritionally and helps the infant remain healthy against colds and diarrhea as well as other medical problems, breastfeeding is a choice parents could make to reduce waste.

Additional Activities

- Using a resource on protecting the earth, have students calculate other items they use in a day, week, month, and year. Have them identify ways to reduce the amount of waste they produce.
- Invite a guest speaker to come in from an environmental agency. Prepare questions ahead of time for the speaker. Have the speaker address concerns for the future regarding waste removal and recycling.
- If possible, visit a recycling plant. Ask to have a tour guide to explain what is being done. If field trips are not possible, invite a person from the recycling plant to visit your class.

Evaluation

Students write a report on some aspect of recycling/waste management. Included in the report should be ways that they can contribute to help deal with waste management and/or recycling.

Lesson 3 NOT ENOUGH HOURS IN THE DAY

Concept: Decisions are based on values.

Vocabulary Words

values: ideas or beliefs we hold dear.

conflict: sharp disagreement in ideas or interests.

Advance Preparation

- Photocopy “Ten Things I Like to Do”.
- Prepare a Worksheet with blocks of time measured in half hour intervals; photocopy.

ACTIVITIES

- Complete worksheet “Ten Things I Like To Do.” Be sure students complete the open-ended sentences on the bottom of the worksheet. What are some things the class valued?
- Keep a record of how they spend their time by giving them worksheet “How I Spend My Time” to record what they do using half-hour intervals. Examples: 7:00 - get up and shower; 7:30 - eat breakfast; 8:00 - ride bus; 8:30 - begin school

Discussion Questions

- (1) Was there any time that you could have used to get something else done?
 - (2) Do you think you use your time wisely?
 - (3) What did you spend the most time on other than school?
 - (4) What is one change you could make to improve on how you spend time?
 - (5) Why do you think people care about spending time wisely?
- Explain to students that values affect our decisions about what we do and what we buy, what we say, etc. Once values are clarified, it can lead to more satisfying choices and decisions. Values can change over time. Conflicting values can also make decisions difficult to choose. A person may be unsure about what is valued most. People often say they value certain things, but it is their actions that really show us what they value. A person might say that good health is valued yet never exercises. Does this person really value good health? Is something else valued more than exercise, i.e. sleeping, watching television, etc.
 - Explain that the class will be taking a look at what people value. Choose seven things that fifth grade children might value, teenagers might value, and that an adult about to have a child might value. List these items on the board, separating them by age group. Some examples are listed below:

Fifth Grader	Teen-ager	Adult about to have a baby
sports	friends	good health
television	television	safe home
food	sports	money to adequately provide for family
friends	talking on phone	family
good grades	family	friends
family	getting a license	breastfeeding
reading	reading	

- Compare what each group values. What are some things that are the same? different? Do you think values change over time? Using breastfeeding a baby as an example, why might a person make a choice to breastfeed a baby? What might they value? Give examples of why a mother chooses breastfeeding:

1. **good health for baby:** mother's milk is the most nutritious food for infants and it can help protect infants from getting illnesses like the flu, diarrhea, and may prevent some allergies.
2. **convenience:** mother's milk is always the right temperature and you do not need to sterilize bottles. You also do not have to carry bottles whenever you go somewhere. To better understand the value of convenience, estimate how much time it takes each day to wash and sterilize bottles. Multiply for a week, month, and year.
3. **good health for mom:** breastfeeding helps the mom's uterus and body weight return to its normal size.

Evaluation

Have students write a paragraph describing something that he/she is able to have control over your choice. Students are to include an explanation of what it is that he/she has chosen to do and identify what is valued.

Lesson 4 ADVERTISING AFFECTS ME

Concept: The media has an important impact on what we value.

Advance Preparation

- Keep a running list of slogans/jingles you hear often on television.
- Gather popular magazines with advertisements for children who may not have any at home.
- Gather magazines like "Parent" where babies would be featured.
- Gather art supplies to make collages.

ACTIVITIES

- Ask the students if they know any jingles or slogans from advertisements. Count how many they can remember; i.e. Coke-- it's the real thing, Pepsi -- Uh Huh... etc.
- Have students cut out five advertisements from magazines or watch television for 30 minutes, paying attention to the commercials. What messages are given in the commercials/advertisements? (You need this product to be beautiful or handsome, to be successful, to be popular, etc.)
- Explain that advertising is a multi-million dollar industry. Companies are interested in ways to advertise so a consumer will buy their product. They realize people want to look young, attractive, have wealth, or status. It is important for us to realize what advertisers are doing so we can make satisfying, informed decisions.
- Using magazines that show babies, calculate how many times babies are shown breastfeeding versus formula feeding. What message do you think is being sent? Why do you think advertisers want people to believe their message?
- Identify "pressures" that advertisers place on us like you've got to be thin, cool, young, sexy, etc. Discuss whether the products being advertised can actually make us thin, cool, young, sexy, etc. What can we do to be more aware of this pressure and resist it? (Just being aware of this fact helps. Ask yourself can it really do what the ad says?)

Evaluation Have students work together in small groups to make a collage showing ads that pressure the consumer to buy a product that really will not do what it promises.

PUBERTY QUIZ

Directions: Read the statements related to changes that occur during puberty listed below. Write in T for a true statement and F for a false statement.

- 1. Menstruation begins for both males and females.
- 2. Breasts grow larger for girls only.
- 3. Erections may occur more frequently.
- 4. Body hair increases for males only.
- 5. The reproductive organs begin to stop functioning.
- 6. Egg cells are capable of being fertilized after menstruation occurs.
- 7. Changes in moods are less common.
- 8. Males and females find themselves more interested in the opposite sex.
- 9. Families may experience more conflict due to a teen wanting more freedom.
- 10. Females are capable of producing breastmilk once puberty begins.
- 11. Males may begin to have ejaculations during puberty.

Vocabulary Words for Puberty

1. **AREOLA:** dark area around the nipple of the breast.
2. **ANUS:** the opening through which bowel movements (feces) leave our bodies.
3. **BREAST:** either of two milk-secreting glands at the upper front part of a woman's body.
4. **CERVIX:** neck-like, narrow end of uterus which opens into the vagina; it stretches to allow a baby to be born.
5. **CIRCUMCISION:** an elective surgical operation that removes the foreskin from the penis; if done, it usually occurs when a boy is only a few days old.
6. **CLITORIS:** sensitive female genital organ located in front of urethra and vagina.
7. **EJACULATION:** release of semen from the penis during intercourse or sleep.
8. **ENDOCRINE SYSTEM:** a system of the body that works with the nervous system to regulate certain activities of the body.
9. **ERECTION:** the spongy tissue of the penis fills with blood causing the penis to become larger and firmer. Same happens to clitoris in females.
10. **FALLOPIAN TUBES:** Two tubes through which eggs travel on their way to the uterus after being released from the ovaries.
11. **HORMONE:** chemicals (produced by glands) that control the growth and activity of the body.
12. **LABIA:** folds of skin that cover the vaginal/urethral openings.
13. **MENSTRUATION (PERIOD):** the process of shedding the lining of the uterus.
14. **NOCTURNAL EMISSION (WET DREAM):** the release of semen from the penis during sleep.
15. **OVARIES:** two small organs on either side of the uterus where the eggs (ova) are produced and stored and where female hormones are produced.
16. **OVULATION:** release of a mature egg from the ovary; usually occurs monthly midway between menstrual period.
17. **PENIS:** male sex organ; also the male urinary organ.
18. **PITUITARY GLAND:** a gland in the brain that triggers the beginning of puberty.
19. **PUBERTY:** the period of transition from childhood to adulthood.
20. **REPRODUCTIVE SYSTEM:** the system of the body that has the ability to produce offspring.
21. **SCROTUM:** the sack of skin that holds the testicles, just underneath the penis.
22. **SEMEN:** fluid containing sperm that is ejaculated from the penis.
23. **SPERM:** male reproductive cells produced by the testes.
24. **TESTES/TESTICLES:** the two oval shaped organs contained in the scrotum which produce sperm and male hormones.
25. **URETHRA:** the duct through which urine is discharged and in males, through which semen is discharged.
26. **UTERUS:** pear-shaped female reproductive organ in which baby grows and develops until birth.
27. **VAGINA:** passage that leads from uterus to external genital organs (vulva).
28. **VAS DEFERENS:** tube that allows sperm to pass from the testicle.
29. **VULVA:** female external genital organs, including labia and clitoris.

PUBERTY QUIZ

Directions: Read the statements related to changes that occur during puberty listed below. Write in T for a true statement and F for a false statement.

- 1. Menstruation begins for both males and females.
- 2. Breasts grow larger for girls only.
- 3. Erections may occur more frequently.
- 4. Body hair increases for males only.
- 5. The reproductive organs begin to stop functioning.
- 6. Egg cells are capable of being fertilized after menstruation occurs.
- 7. Changes in moods are less common.
- 8. Males and females find themselves more interested in the opposite sex.
- 9. Families may experience more conflict due to a teen wanting more freedom.
- 10. Females are capable of producing breastmilk once puberty begins.
- 11. Males may begin to have ejaculations during puberty.

Ten Things I Like to Do

Name: _____

Directions: Students write a list of ten things they like to do. After this has been completed, students code their answers as follows:

Write D if you do this daily in the first column. Write W if you do this weekly in the second column. Write M if you do this monthly in the third column. Write Y if you do this yearly in the fourth column. Write a \$ if it involves spending money. Write an A if you like to do it alone. Write T if you like to do it together with someone. Write an H if it is something that is a healthy thing to do.

Things	D	W	M	Y	\$	A	T	H

1. What did you find out about yourself? I learned that _____

2. I was surprised (or pleased) that _____

3. Something I value or think is important is _____

How I spend My Time

Name: _____

Time	What I Did	Time	What I Did
6:00-6:30 am		2:00-2:30 pm	
6:30-7:00		2:30-3:00	
7:00-7:30		3:00-3:30	
7:30-8:00		3:30-4:00	
8:00-8:30		4:00-4:30	
8:30-9:00		4:30-5:00	
9:00-9:30		5:00-5:30	
9:30-10:00		5:30-6:00	
10:00-10:30		6:00-6:30	
10:30-11:00		6:30-7:00	
11:00-11:30		7:00-7:30	
11:30-12:00 pm		7:30-8:00	
12:00-12:30		8:00-8:30	
12:30-1:00		8:30-9:00	
1:00-1:30		9:00-9:30	
1:30-2:00		9:30-10:00	

Discussion Questions:

1. Was there any time that you could have used to get something else done?
2. Do you think you use your time wisely?
3. What did you spend the most time on other than school?
4. What is one change you can make to improve on how you spend time?
5. Why do you think people care about spending time wisely?

**Alabama Department of Public Health
Mother's Milk Education Package for Grades K-12**

Level: 6

Adapted from New York Department of Health

PASSING IT ON

LEARNING OBJECTIVE FOR LEVEL 6

Students will recognize how choices regarding nutrition, drugs, alcohol, tobacco and environmental factors can affect pregnancy and lactation

SCIENCE CONTENT STANDARDS

All content standards that relate to the impact of environment on health and ways to protect the environment.

HEALTH CONTENT STANDARDS:

1. Identify health advocacy strategies.
2. Identify services provided by local, state, and national health agencies and organizations.
3. Identify the influence of positive and negative cultural messages on health behaviors.
4. Recognize criteria to be used in determining reliability of health information, products and services.

FAMILY AND CONSUMER SCIENCE CONTENT STANDARDS:

TEEN CHALLENGES

1. Describe basic human needs
9. Explain the functions of the family.
10. Recognize the significance of traditions on family life.

Passing It On is a unit that blends well with nutrition, health, and a tobacco, alcohol, and drug curriculum. Lesson 1 examines the nutritional differences between a pregnant and lactating woman. Lesson 2 studies the effects of substances such as drugs, alcohol, tobacco, and medicines on a pregnant woman, fetus, and newborn baby. Lesson 3 examines the issue of whether or not breastmilk is better for a baby as well as identifying diseases that can be contracted or prevented through breastmilk. Lesson 4 examines some environmental hazards to a fetus or newborn as well as some hereditary factors that can cause birth defects.

Resources for PASSING IT ON

Usborne Facts of Life Series, Babies: Understanding Conception, Birth and First Years. Robyn Gee. Usborne Publishing, Ltd. London, 1991.

Healthy You, Healthy Baby. CD-ROM, March of Dimes, Atlanta, GA. 800-367-6630,
www.marchofdimes.com.

Before You Start:

These lessons are designed to help students become aware of the fact that what they do now can have a lasting effect on their future from a health and nutritional point of view. It is through a realization that choices made today could produce lasting positive or negative effects on self or one's offspring that helps students value abstinence from negative behaviors.

Students at this age are beginning to grow rapidly and they may have little concern for their nutritional health. Their primary focus for eating may revolve around what tastes good or what will fill me up rather than being concerned about whether or not something is nutritious.

This unit probably will not change most students' eating behavior permanently. Perhaps it will, however, provide another glimpse at why we need to make healthy choices. When a person understands why something is positive or negative, the value that is being taught is more likely to be adopted. We can provide opportunities to reinforce health and well being until at some point a child cherishes a value so much that actions are congruent with beliefs.

In addition to nutrition education, this unit examines environmental dangers that also can affect us now or in the future. Prevention education related to drugs, alcohol, tobacco, and sexual activity can help students resist pressures to engage in unhealthy behaviors. In doing so, we promote the health of this generation of students as well as the next.

Education regarding mother's milk becomes an important element in practicing nutritious eating habits and abstaining from harmful substances especially for females but also for males.

Some might question why males need to learn about mother's milk. Though males do not nurse babies, they can have an important influence on their partner's decisions about breastfeeding and success in doing it. They will be in settings where breastfeeding takes place (education, home, employment) and, thus, can play a supportive role.

By learning the benefits of mother's milk, as well as learning about other factors that can affect human health, students can better grasp the importance of practicing healthy behaviors now and in the future.

Lesson 1 EATING FOR TWO

Concept: It is important for all people to eat nutritious meals.

Advance Preparation

- Photocopy or make an overhead of the Recommended Daily Allowance Chart.
- Gather magazines (especially ones that contain pictures of people of all ages and food).
- Photocopy the worksheet "Increasing the Nutritional Value of Meals."

Vocabulary Words

Lactation: process of producing milk, breastfeeding.

Lactating: refers to lactation

Nutrient: something that helps an organism grow

ACTIVITIES

- Using the Recommended Daily Allowance Chart provided, compare the amounts of nutrients needed for an adult female compared to a pregnant and lactating female. What are the similarities? the differences? Why do pregnant and lactating females need more nutrients? What might happen if these nutritional needs were not met? (Research suggests that little harm is done to a fetus if the mother does not eat correctly. However, there may be serious problems for the mother as the nutrients may be "robbed" from her body to provide for the nutritional needs of a child. A nursing mother needs to follow nutritional recommendations so her milk will be nutritious for the baby.)
- Using the Food Guide Pyramid, compare and contrast nutritional needs of various age groups. What do all groups need (well-balanced meals low in sugar, salt and

fat)? What kinds of foods should people eat most? (foods on the base of the food pyramid -- grains, breads, cereals, pasta, fruits and vegetables.)

- Prepare a collage showing the nutritional needs of one of the following age groups:
 - baby(from birth to 1 year)
 - toddler
 - preschooler
 - school-age child
 - teenager
 - adult male
 - pregnant female
 - lactating female
 - senior citizen
 -

Evaluation

- Complete worksheet on Increasing the Nutritional Value of Meals. Foods may be added or deleted to improve a nursing mother's diet. Note to teacher: Generally a nursing mom should increase her calorie intake by 500 calories per day. She should drink plenty of fluids. Most health professionals recommend continuing vitamins and minerals supplements from pregnancy through the nursing period. Foods rich in iron are especially important because infants need iron and is found in breastmilk. The nursing mother needs to maintain her energy level during breastfeeding and not become anemic.
- Vitamins B and C are water-soluble which means that excess amounts are excreted through urine. It is important to eat foods containing vitamins B and C each day.
- Vitamins A, E, D and K are fat-soluble and excess amounts are stored in the fat cells of the body. Foods rich in these vitamins should be eaten at least every other day
- Discuss some reasons why nutritious eating habits are important for people of all ages. Is there any merit in developing nutritious eating habits now versus waiting until later in life? Why or why not?

Lesson 2 I'LL NEVER GIVE MY BABY DRUGS

Concept: There are harmful substances that harm babies during pregnancy and/or breastfeeding.

Vocabulary Words

Embryo: a developing baby from conception to the end of the third month.

Fetus: a developing baby between the 12th week to the end of pregnancy.

Placenta: an organ that carries food and oxygen to the baby and waste products from the baby back to mother.

Hormones: chemical substances produced by the body which control certain processes.

Glands: group of cells that produces chemical substances, which affects other body parts.

Withdrawal: term used for symptoms that appear when a person stops using a drug.

Advance Preparation

- Find an illustration of an embryo/fetus or purchase Usborne's *Facts of Life Series Babies*: by Royin Gee.
- Photocopy crossword puzzle.
- Arrange a visit from a nurse who works in a nursery with newborns.
- Gather art materials to make posters for WIC agencies.

ACTIVITIES

- Hold up a diagram in a book or pass out a worksheet illustrating a fetus in the uterus. Explain where the following body parts are located: uterus, fetus, umbilical cord, placenta, and amniotic sac. (Usborne's Facts of Life Series BABIES:)
- Explain how food and oxygen are passed on to the fetus through the placenta. Briefly describe the functions of each of the body parts above. Also describe how waste products from the baby are transferred
- Explain the functions of various organs listed above:

Information to Provide for Students

The human body needs food and oxygen to stay alive and healthy. In addition, it needs to be able to get rid of waste products. Similarly, a fetus needs food and oxygen to grow and develop and also needs to be able to eliminate waste products.

While a baby is inside its mother's uterus, it does not eat or breathe. Rather, food and oxygen is passed on through an organ called the placenta. It is through the placenta that waste products are passed from the blood of the fetus back to the mother's blood.

Early in the development of the embryo the placenta is formed. A group of blood vessels are formed and they mix with some blood vessels of the mother. These blood vessels are separated by a layer of cells that acts as a barrier to prevent many harmful substances from entering the baby's body. However, not all substances are blocked.

The umbilical cord is attached to the baby's navel and it connects to the placenta. Blood travels from the placenta through the umbilical cord and into the baby's body. Waste products are moved from the baby's body through the umbilical cord, back to the placenta and then passed into the mother's blood.

Therefore, it is important for the mother to eat properly and be careful about what substances are taken into her body. She should avoid tobacco, alcohol, illegal drugs and even many medicines. It is important for a woman to check with her doctor before taking any medicine.

- Read aloud pages 9 and 15 of Usborne's Facts of Life BABIES by Robin Gee. After reading, have students complete the crossword puzzle activity to practice vocabulary in this lesson.
- Have students do a research project and prepare a brief oral report on the possible side effects of certain substances on a fetus or infant. They may use resource books, experts, magazine articles or pamphlets from organizations like The March of Dimes. Some possible topics include:
 1. Tobacco - reduces the flow of blood and oxygen to unborn baby. Possible effects include low birth weight, premature babies, stillborn babies, and miscarriages. Also more at risk for catching infections. Some experts believe babies of fathers who smoke are more likely to experience problems as well.
 2. Crack/Cocaine - possible chance of AIDS if you share needles. The baby may become addicted to drugs and experience withdrawal. This may cause him/her to be shaky and hard to care for. The baby could also be born too early, too small, or too weak.
 3. Caffeine - a stimulant. Passes into breastmilk and can interfere with baby's sleep.
 4. Alcohol - Fetal Alcohol Syndrome can result in low birthweight, physical deformities, mental retardation, behavior problems, and stunted growth that are not reversible. This damage is permanent and does not get better with age or special education programs. Fetal Alcohol Effect is when some of these problems occur because of lesser amounts of alcohol consumed by the mother. This damage is permanent also.

5. Other substances could include marijuana, heroin, stimulants, depressants, aspirin, over the counter drugs, prescription drugs, etc.

- Interview a nurse who works with newborns. What kinds of health problems are seen among newborns? How could these problems be reduced? What kind of special care do they need? Why is low birthweight a problem?

Evaluation

Prepare posters and deliver to a local WIC agency to inform people about the dangers of harmful substances on unborn children and infants.

Mother's milk is the best food for babies.

Lesson 3 IS MOTHER'S MILK BETTER?

Concept: Mother's milk cannot be duplicated by formulas made by man in chemistry laboratories.

Vocabulary words

Oxytocin: a hormone that makes muscles contract to send milk down ducts and out the nipples.

Letdown reflex: process of milk being released due to oxytocin.

Prolactin: a hormone that is produced when a baby sucks causing more milk to be produced.

Advance Preparation

Read the section on lactation ahead of time in Usborne's Facts of Life BABIES.

ACTIVITIES

- Students brainstorm benefits of mother's milk. Benefits include: best nutritionally in most cases; provides immunities to some illnesses; changes to meet baby's needs as while growing; inexpensive; convenient; no bottles to sterilize and it is always the right temperature; provides bonding between mother and child; helps mom relax; helps mom's uterus to get back down to normal size; helps mom lose weight gained during pregnancy.
- Read pages on lactation in Usborne's *Facts of Life BABIES* by Robin Gee to class. It shows a cross-section of a breast and explains how breastfeeding works. Be sure to show the illustrations for better understanding.

Discussion Questions:

- (a) When does a woman become able to produce milk?
 - (b) Why is she able to produce milk?
 - (c) What is oxytocin? How does it produce the "let-down reflex"?
 - (d) What is prolactin? How does prolactin influence the milk supply?
 - (e) What are some reasons a woman might not breastfeed her baby?
 - (f) What are some reasons why she should?
 - (g) What should a mother do in order to produce good quality milk?
 - (h) Can any diseases be prevented through mother's milk?
 - (i) Can any diseases be passed along through mother's milk? (HIV can be transmitted through breastmilk if mother is HIV positive.)
- Review ways that HIV/AIDS can be transmitted (blood, mucus membranes, semen and vaginal secretions.).
 - Ask: Are there times when mother's milk is not recommended? List answers on board.
 - mother uses drugs or alcohol (including some prescription drugs)

- mother is HIV positive, has AIDS or some other communicable disease (tuberculosis) that can be passed through breastmilk

Evaluation

Have students pretend to write a letter to an older brother or sister who is expecting a baby. The young couple has not decided whether to breastfeed. The intent of the letter is to promote breastfeeding.

Lesson 4 WATCH OUT!

Concept: Teratogens can have harmful effects on an embryo and/or fetus. Some birth defects can be prevented.

Advance Preparation

- Order *Into Adolescence: Learning About Reproduction and Birth Network Publications*
- Photocopy materials for Lessons 5 and 6 mentioned above.
- Invite a nurse (works in maternity, for an obstetrician or public health) to visit the class. Prepare questions with students.
- Invite a guest speaker from the March of Dimes to discuss prevention of birth defects.
- Prepare essay directions and scoring criteria.

ACTIVITIES

- Use a resource that describes conception and birth and define the following: embryo, birth disorder, developmental disabilities, genetic disorders, congenital disorders, teratogens (diseases, physical agents, or chemicals).
- Use a resource that birth disorders, developmental disabilities and their causes, including teratogens. Secure the steps to FDA drug approval to share with students.
- Obtain infant mortality information from a local public health office or from Center for Health Statistics, Alabama Department of Public Health. Obtain national data regarding infant mortality from the March of Dimes. Have students develop graphs to compare infant mortality rates among various states.
- Review harmful substances that can affect a baby while being breastfed, i.e. aspirin, medications, tobacco, alcoholic beverages, etc.
- Invite a nurse to speak to the class about healthful practices a mother- and father-to-be should practice. Ask the nurse to speak about possible consequences of unhealthy behaviors (smoking, drinking, improper diet, etc.). Also include information on the affects of certain illnesses and diseases on an unborn child or infant like rubella, flu, chicken pox, etc.
- Invite a guest speaker from the March of Dimes to speak to the class on birth defects. Have students prepare questions ahead of time. Focus on what contributes to birth defects. How can they be prevented? How does a child with a birth defect cope? What special needs might this child have? (Note: It is important for students to realize that not all birth defects can be prevented. However, when possible, we should do all we can to contribute to our own well-being and good health as it can affect us now and/or in the future.) Can a child with birth defects be breastfed?

Evaluation

Students write an essay on one of the following topics: (1) why teens should avoid drugs, alcohol, and tobacco; (2) why a couple planning to have children should avoid the misuse and abuse of drugs, alcohol, and tobacco; or (3) preventing birth defects; (4) the importance of abstinence from sexual activity prior to marriage/monogamous relationship.

Food Guide Pyramid

	Many women and older adults	Children, teen girls, active women and most men	Teen boys and active men
Calories	1,600	2,200	2,800
Bread, grains, cereal, rice and pasta	6	9	11
Vegetables	3	4	5
Fruit	2	3	4
Milk, yogurt and cheese	2-3*	2-3*	2-3*
Meat, poultry, fish, dry beans, eggs and nuts	2 total 5 oz. per day	2 total 6 oz. per day	3 total 7 oz. per day

*Teenagers, pregnant women, lactating women and young adults up to age 24 should have three

"The Food Guide Pyramid" Booklet, Cornell Cooperative Extension, Ithaca, New York, 1992.

Increasing the Nutritional Value of Meals

Name: _____

Directions: Using the following menus, add or delete certain food items to make the meal more nutritious for a nursing mom. When something is deleted, you may substitute something in its place.

Menu 1

turkey sandwich
potato chips
apple
cola
2 candy bars

How could I change this meal?

Menu 2

steak
french fries
applesauce
milk
blueberry pie

Menu 3

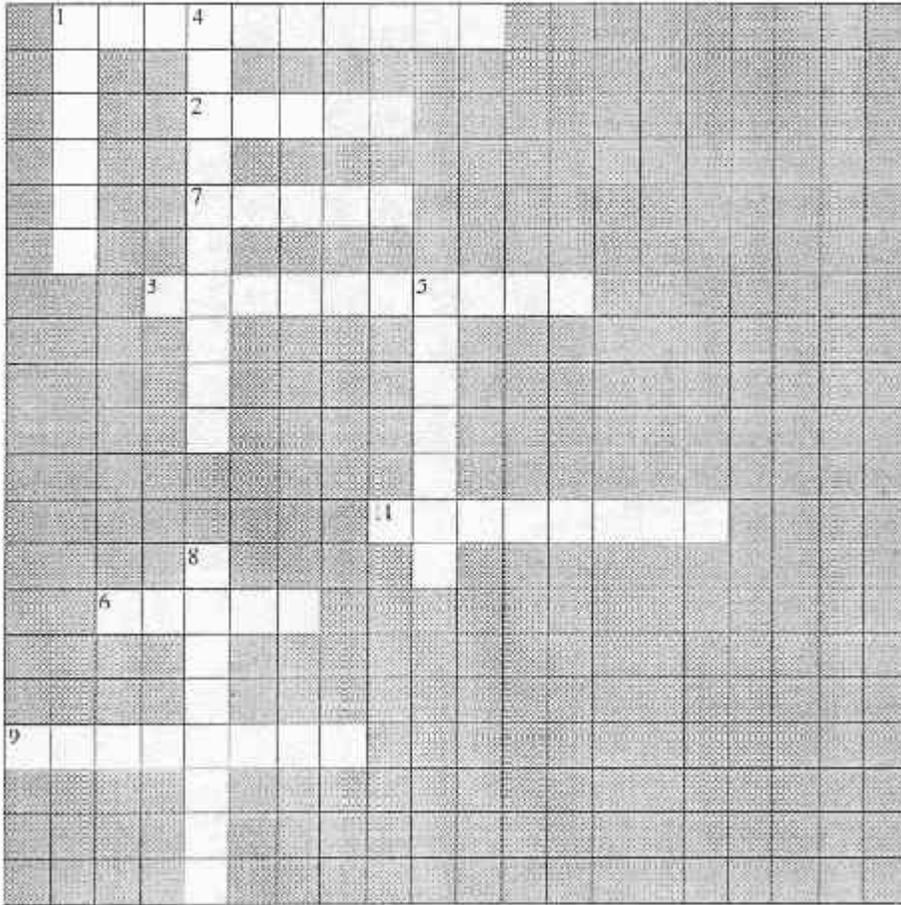
chicken breast
rice
corn
green beans
brownie

Snacks

cola
chocolate cake

Crossword Puzzle

Name: _____



Clues

Across

1. germ fighting proteins in breastmilk.
2. a developing baby between the 12th week to the end of pregnancy.
3. term used for symptoms that appear when a person stops using a drug.
6. group of cells that produces chemical substances which effects other body parts.
7. type of cocaine.
9. an organ that carries food and oxygen from mother to baby and waste products from the baby back to mother.
10. chemical substances produced by the body which control certain processes.
11. nicotine is found in this.

Down

1. area around nipple of breast.
4. contagious; can be passed from one person to another.
5. causes Fetal Alcohol Syndrome. It can be passed from mother to baby in breastmilk.
8. found in coffee, tea, chocolate; may cause wakefulness and irritability in a baby.

Alabama Department of Public Health
Mother's Milk Education Activity Package for Grades K-12
Level: 7-8
Adapted from New York State Department of Health

REPRODUCTIVE HEALTH AND THE BENEFITS OF MOTHER'S MILK

LEARNING OBJECTIVE FOR LEVEL 7-8

Students will explain the relationship of mother's milk to the reproduction process.

SCIENCE CONTENT STANDARDS:

3. Relate major tissues and organs of the skeletal, circulatory, reproductive, muscular, respiratory, nervous and digestive systems to their functions.
4. Describe organisms in the six-kingdom classification system by their characteristics.

HEALTH CONTENT STANDARDS:

- Grade 7; 1.** Analyze how health-related decisions are influenced by individuals, families and community values.
- Grade 8; 1.** Apply health advocacy strategies
2. Locate accurate health information for personal use.

SOCIAL STUDIES CONTENT STANDARD:

10. Describe changes in social and economic condition in the U.S. during the twentieth and twenty-first centuries.

Examples: social—family values, peer pressures, educational opportunities
Describe the impact of print and electronic media and the Internet on the American way of life.

FAMILY AND CONSUMER SCIENCE CONTENT STANDARDS:

TEEN DYNAMICS

5. Compare the stages of child development
6. Analyze ways to guide the behavior of children.
7. Analyze how nutrition, weight, exercise and rest influence teen health and wellness.

TEEN LIVING

9. Compare characteristics of healthy families.
26. Demonstrate the processes of making decisions and solving problems.
32. Demonstrate skills of a responsible babysitter.

Using REPRODUCTIVE HEALTH and THE BENEFITS OF MOTHER'S MILK

Reproductive Health and the Benefits of Mother's Milk is designed to enable students to understand that breastfeeding, or lactation, is the physiological conclusion to conception and birth.

Lesson 1 helps students recognize the connection between healthful behaviors and positive outcomes in pregnancy and lactation. Advantages to the mother, father, and infant are examined. Lesson 2 studies the anatomy of the breast. These lessons will help students realize that lactation is a psychological completion of the reproductive cycle. Lesson 3 relates to the babysitting experience and examines procedures used in breast or bottlefeeding. The conclusion from this set of lessons would be that mother's milk is designed to meet a baby's needs better than formula or cow's milk.

Resources for REPRODUCTIVE HEALTH and BENEFITS OF MOTHER'S MILK

Books:

An Easy Guide to Breastfeeding. US HHS, Office of Women's Health. (available for African American also) (800-994 9662, www.4woman.gov)

BREASTFEEDING: Your guide to a healthy, happy baby. Third Edition. Amy Spangler (770-913-9332, www.daddymommyandme.com)

So That's What They're For! Breastfeeding Basics. La Leche League, 2004 (847-519-9585; www.lalecheleague.org).

CD-ROM

Healthy You, Healthy Baby. March of Dimes, Atlanta, GA. 800-367-6630, www.marchofdimes.com

Pamphlets:

Breastfeeding Makes a Difference. La Leche League, 2004 (see above contact information).

The Importance of Breastfeeding. La Leche League, 2004

Working Together to Promote Breastfeeding. Medela, Inc. (888-644-4528; www.medela.com)

Before You Start:

This unit is designed to help students develop an appreciation for the reproductive cycle which includes lactation. Another integral part is to provide useful information to students regarding babysitting practices. It is generally around this age that students begin to show responsibility by watching and caring for other people's children.

Sometimes babysitters of this age are nervous about feeding infants. If the child who is babysitting has never experienced having a younger brother or sister, they may be very insecure regarding feeding - especially breastfeeding. Through this unit, one can understand that breastfeeding is natural and optimal (in most cases) for a baby.

Lesson 1 BREASTS: A NATURAL PART OF REPRODUCTION

Concept: There is a correlation between healthful behaviors and positive outcomes in pregnancy and lactation.

Vocabulary Words

lactation: process of producing milk, breastfeeding.

mammary Gland: glands responsible for producing milk in mammals.

aerola: darkened circular area surrounding nipple.

nipple: elevation in the center of the areola which contains milk ducts, sensory nerve endings, and sweat glands.

ducts: carry milk from mammary glands to the milk reservoirs.

Advance Preparation

- Collect and photocopy diagrams of the male and female reproductive organs including breasts.
- Obtain

ACTIVITIES

- Review diagrams of male and female reproductive organs. Using a breast model (available through Childbirth Graphics), name breast parts.
- Use *That's What They're For* as a reference to develop discussion topics, information sheets or presentation for students to complete the following:
 - (a) List at least three advantages to mother's milk (human breastmilk is made for human babies, it changes to meet growing infant needs, breastfed babies develop fewer allergies and get less constipation or diarrhea, antibodies protect infants from infection).
 - (b) List some advantages to mother (helps her uterus return to normal size, special bonding for mother and baby, helps mother lose weight, convenient and costs less than formula, helps mother relax and feel good about herself).
 - (c) List some advantages to father (assurance that infant is receiving the best nutrition, healthier baby, healthier partner, costs less than formula).

Evaluation

Have students list three advantages of mother's milk in writing. Lead a class discussion on the advantages of mother's milk.

Lesson 2 ANATOMY OF THE BREAST

Concept: Lactation is the physiologic completion of the reproductive cycle in humans.

Vocabulary Words

reproduction: the process by which animals and plants reproduce new individuals.

offspring: refers to the babies of humans and animals.

adult: a fully grown organism

parent: a mother or father

Advance Preparation:

- Order resource materials listed in this unit.
- Photocopy diagrams of breasts.
- Order a breast model (optional).
- Make arrangements to invite a nursing mom to visit class.

ACTIVITIES:

- Use the Anatomy of the Breast lesson from Lactation Education As Part of Human Growth and Development. Use various teaching methods to explain the function of breasts.
- Invite a nursing mom to visit the class. Have students prepare a variety of questions to ask the mom.
- Assign library work for students to complete a short research project studying whether infants are usually breastfed or bottlefed in countries around the world.

Lesson 3 YOU'RE IN CHARGE

Concept: Lactation is the optimal form of nutrition for human babies.

Advance Preparation:

Arrange to visit the library and learn how to use the Reader's Guide to Periodical Literature.

ACTIVITIES:

1. Have students sit in a circle and brainstorm various responsibilities a teenage babysitter might need to do: change diapers, prepare a meal, read to children, keep the children safe, etc.

Ask students if they have ever had to give a young infant a bottle. Was it formula, mother's milk, or cow's milk? (Cow's milk should not be given to infants under six months.) What did the mother's milk look like? How did the mother get her milk in the bottle? Did you ever watch a mother or father prepare formula? What procedures are done to bottlefeed an infant versus breastfeeding an infant?

2. Give the assignment for students (this activity may be completed by small groups of students and then share as a large group) to design an information sheet that parents could fill out prior to leaving their child(ren) with a baby sitter. It should contain questions regarding phone numbers, who to call in case of emergency, eating and sleeping habits, when and if a diaper change might be necessary, bedtime routines, special directions regarding food for baby, etc.

Evaluation

Have students go to the library and use the Reader's Guide to Periodical Literature to study advertisements that could impact whether a mother decides to breastfeed or not. Collect ads that would have positive impact and other that would have negative impact. Have each student write a summary to include the following:

Name of magazine

Date

Type of advertisement

Describe the impact, negative or positive and how it could affect a mother's decision

Lead a class discussion on ways to counter the negative impact.

Print the following page of information and assignments:

ASSIGNMENT SHEET

Steps of Breastfeeding:

- Mother should wash hands before feeding as a finger may need to be used to break the baby's grasp on the breast.
- Put baby to breast and feed.

Steps of Bottlefeeding:

- Mix powder with boiled water poured from can.
- Use prepackaged plastic inserts for bottles or Use sterilized bottles for young infant. Boil bottles, nipples for 10 minutes.
- Heat to correct temperature.
- Hold baby with head above his/her stomach.
- Refrigerate any mixed formula as germs will grow at room temperature.

In writing, describe:

- Which method is most convenient?
- Which method is least expensive?
- Which method is most nutritious?
- What conclusions might you draw regarding breastfeeding versus bottlefeeding?

Using the comparison of Human Milk, Cow's Milk and Infant Formula provided, calculate:

Nutrient	Human Milk	Whole Cows' Milk	Infant Formula
% of Calories from Protein	6	21	9
% of Calories from Fat	56	50	50
% of Calories as Carbohydrates	38	29	41
Sodium (mg/liter)	161	506	230

a. If there are ___ g. of protein in 1 cup of cow's milk, how many grams of protein are in the same amount of human milk? Infant formula?

b. If there are ___ g. of fat in 1 cup of cow's milk, how many grams of fat are in human milk? Infant formula?

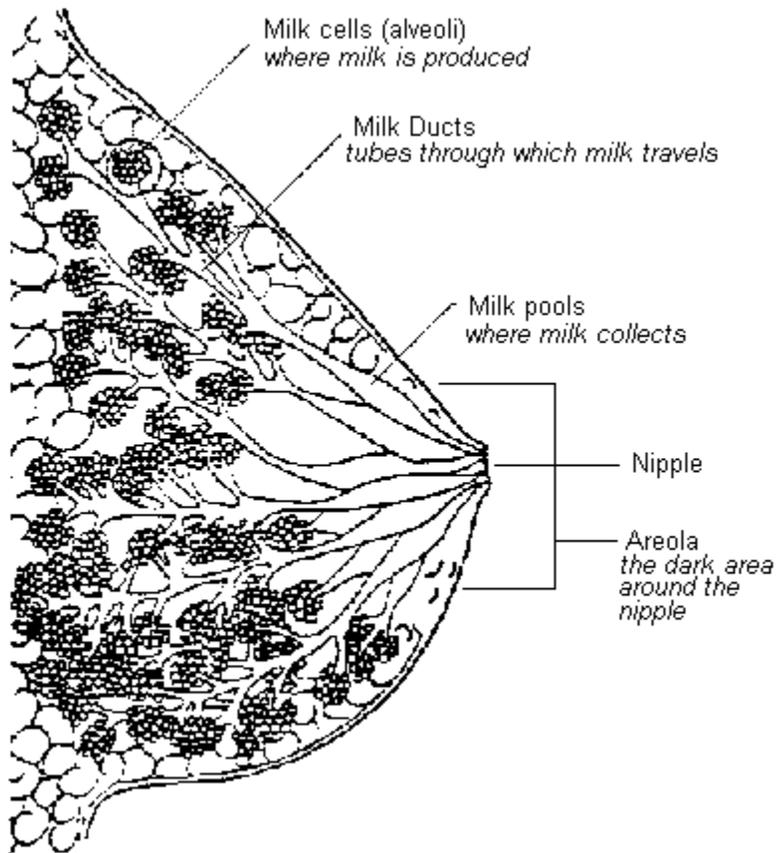
c. If there are ___ g. of carbohydrates in 1 cup of cow's milk, how many grams of carbohydrates are there in human milk? Infant formula?

d. There is 161 mg/liter of sodium in human milk. What percentage does cow's milk have? Infant formula?

e. Normally lower fat foods are desirable for humans. Why would human milk be more desirable for infants?

f. Whole cow's milk is much higher in protein than formula or human milk. Why is that undesirable?

ANATOMY OF FEMALE BREAST



Alabama Department of Public Health
Mother's Milk Education Package for Grades K-12
Level: 9-12
Adapted from New York Department of Health

MOTHER'S MILK IS BEST

LEARNING OBJECTIVE FOR LEVELS 9-12

Students will describe why mother's milk is the optimal form of nutrition for humans.

SCIENCE CONTENT STANDARDS:

BIOLOGY CORE

5. Identify cells, tissues, organs, organ systems, organisms, populations, communities and ecosystems as levels of organization in the biosphere.
6. Describe the roles of mitotic and meiotic divisions during reproduction, growth and repair of cells.
11. Classify animals according to type of skeletal structure, method of fertilization and reproduction, body symmetry, body coverings and locomotion.

HUMAN ANATOMY AND PHYSIOLOGY CORE

12. Identify structures and functions of the reproductive system.

HEALTH CONTENT STANDARDS:

4. Analyze cultural influences on health behaviors, including social norms, laws and regulation, family traditions and stereotypes.
5. Differentiate between positive and negative health messages portrayed in the media.
9. Explain the impact of personal health behaviors on parenting and child development, including attending to financial responsibilities associated with pregnancy, childbirth and childrearing.

SOCIAL STUDIES CONTENT STANDARDS:

ELEVENTH GRADE HISTORY

7. Describe consequences of World War II on the lives of American citizens

TWELVETH GRADE ECONOMICS

1. Explain the role of scarcity in answering the basic economic questions of what, how, how much and for whom to produce.
2. Compare the development and characteristics of the world's traditional, command, and market economics.

Example: Comparing costs and benefits of economic growth.

FAMILY AND CONSUMER SCIENCE CONTENT STANDARDS:

FAMILY DYNAMICS

1. Compare the stages of the life span
2. Analyze issues that influence family life across the life span.
3. Utilize the decision-making process to meet the needs and wants of the family across the life span.
10. Evaluate how the demands in the home, workplace and community impact the family.
11. Analyze food habits of family members across the life span.
28. Determine how parents meet a child's physical, mental, emotional and social needs.

PARENT AND CHILD DEVELOPMENT

1. Analyze roles and responsibilities of parenting across the life span.
6. Determine the care necessary for expectant mother and unborn child.

- 8. Assess postnatal care of the mother and infant.
- 10. Utilize strategies to balance work, family life and parenting responsibilities.
- 15. Analyze ways to protect children from disease and illness.
- 24. Demonstrate parenting practices that maximize human growth and development.
- 27. Compare types, causes and prevention of child abuse.
- 29. Compare agencies, services, resources and support systems available to meet the needs of parents and children.

CHILD DEVELOPMENT

- 1. Evaluate factors that influence growth and development of children.
- 4. Analyze common childhood diseases, symptoms and methods of prevention and care.
- 6. Plan nutritious meals and snacks to enhance child growth and development.
- 29. Compare agencies, services, resources and support systems available to meet the needs of parents and children.

HUMAN DYNAMICS

- 1. Compare the basic needs of human beings.
- 2. Analyze conditions that influence growth and development.
- 15. Contrast the challenges and rewards of intergenerational living.
- 18. Analyze community resources and services available for meeting the needs of individuals across the life span.

FAMILY WELLNESS

- 3. Develop an individual health plan that includes all dimensions of health and wellness.
- 6. Assess ways significant events impact the physical, emotional and, mental health of individuals and families.
- 8. Assess ways an individual's and family's health behaviors influence family life, parenting and child development.
- 9. Assess positive health actions for parenting and child development.
- 10. Demonstrate individual and family health practices that reduce health risks and enhance health and wellness from a personal health assessment.
- 26. Describe ways individual health behaviors may affect the body's biological systems.
- 29. Examine health practices to be considered before, during and after pregnancy.
- 38. Evaluate the positive and negative health messages portrayed by the media.
- 39. Assess the validity of health information, products and services used by individuals and families in making health care decisions.
- 44. Demonstrate how individuals and families can be advocates for good health practices in homes, schools and communities.
- 45. Develop a wellness initiative that impacts individuals or families
- 47. Demonstrate ways to provide community service through health-related advocacy projects.

FOOD DYNAMICS

- 4. Evaluate the nutritional needs of individuals and families across the life span.
- 5. Design strategies to meet the health, fitness and nutrition requirement of individuals and families.

Using MOTHER'S MILK IS BEST

Mother's Milk is Best examines cultural attitudes relating to breastfeeding locally, nationally, and on a worldwide basis. Breastfeeding is the "norm" in many countries yet it continually needs to be promoted. There are many factors that can cause a woman to give up on breastfeeding or to avoid the experience altogether.

Lesson 1 examines disadvantages and advantages of breastfeeding in developing countries. Students are also required to examine personal attitudes as well as those within their own families.

Lesson 2 recognizes that there are many factors that lead a person to choose breastfeeding versus formula feeding. Social factors can enhance or inhibit one's decision to breastfeed, as can the nutritional, health, economic, and political implications of breastfeeding. Women going into the workforce during WWII caused a significant increase in the use of mother's milk substitutes.

Lesson 3 looks at breastfeeding basics such as how do you hold the baby, how do you know you are producing enough milk, how do you eat properly, etc. This final unit promotes a real understanding of the "how-to's" of breastfeeding.

Before You Start:

This unit is a culmination of all the previous lessons on mother's milk. It will be helpful if you review the previous lessons to determine if you want to include some activities from earlier lessons. This unit is very specific in order to help students truly feel knowledgeable and skillful. Included in these lessons are ways to reach out to the community at large to further promote breastfeeding and to break down some of the barriers that may exist which negatively influence a woman's choice regarding breastfeeding. Through this community involvement, students can develop positive attitudes related to breastfeeding and influence others to be accepting of breastfeeding. Hopefully, mothers and mothers-to-be will be influenced to choose breastfeeding, to continue to do so for an increased duration, and to effectively bring about change to increase sensitivity towards the promotion of breastfeeding at home, school, or in the workplace.

Resources for Mother's Milk is Best

Books

Breastfeeding: Your guide to a health, happy baby. Third Edition. Amy Spangler. (770-913-9332; www.daddymommyandme.com)

Reclaiming Breastfeeding for the United States. Edited by Karin Caldwell and Cindy-Turner Maffei, La Leche League (847-519-9585; www.lalecheleague.org)

Selling Out Mothers and Babies. Marsha Walker, RN, LLL (see above contact info.)

So That's What They're For! Breastfeeding Basics. Janet Tamaro, Second Edition, LLLC (see contact info above)

CD-ROM

Healthy You, Healthy Baby, March of Dimes, Atlanta, GA, 800-367-6630.
www.marchofdimes.com

Pamphlets

"*Breastfeeding Makes a Difference*", LLLI

"*Breastfeeding & Sexuality*", LLLI

Lesson 1 AROUNDTHEWORLD

Concept: Breastmilk is the optimal food for infants.

Advance Preparation

- Call a local WIC agency for some statistics on breastfeeding.
- Choose countries for a mini-research assignment.

- Photocopy "My Attitudes About Breastfeeding".
- Provide reference copies of *Reclaiming Breastfeeding for the United States*, and *Selling Out Mothers and Babies* from La Leche League.
- Research the effect of WWII on women's decision not to breastfeed.

ACTIVITIES

- Have each student go home and ask if (s) he was breastfed or formula fed. Find out if parents were breast or formula fed. Make a graph with results. Was breastfeeding more popular among the students (when they were infants) or the adults (when they were infants)?
- Contact a local WIC agency to ask if they have share statistics on breastfeeding among other cultures? Other countries? Is breastfeeding on the rise or decline? Have the numbers of mothers choosing breastfeeding increased or decreased over the years?
- List some advantages of breastfeeding in developing countries:
 1. always the right temperature; does not need to be heated
 2. sanitation is sometimes poor; breastmilk does not need to be mixed with water
 3. it can help space pregnancies cutting down on over-population (not 100 percent reliable contraception especially when other foods are given to baby)
 4. breastfed babies are less likely to get diarrhea or respiratory illness
 5. breastmilk (even among malnourished mothers) is more likely to help a baby achieve normal weight for age
- List some possible dangers that formula feeding may create in developing countries.
 1. There is a lack of cleanliness and clean water. Infection may be given to baby from unclean bottles as well as from germs in the water that is mixed with powdered formula.
 2. Many mothers in poor countries cannot read so they may not follow instructions correctly on quantity of powder to use to prepare formula milk.
 3. In addition to not being able to read, poverty may influence a mother to use less formula (powder) in order to save money. The nutritional value of the formula is weakened if exact proportions are not used.
 4. Cost may be a large deterrent to formula feeding. Mother's milk is free.
 5. Refrigeration is a problem in developing countries. Once formula is mixed, there may not be adequate refrigeration to store it properly.
- Cultural beliefs affect peoples' decisions regarding breastfeeding. Assign various countries to students to study the attitude of breastfeeding in countries around the world.
- Pass out the student worksheet, "My Attitudes About Breastfeeding". Allow time for students to read statements and respond. Discussion should follow. (It will probably be a lively debate. Allow for individual differences and help students find ways to accept differences.)

Evaluation

Have students can write an essay supporting breastfeeding. Include barriers to successful breastfeeding.

Lesson 2 SO MANY DECISIONS

Concept: Choosing to breastfeed is a decision that has social, economic, nutritional, and health implications.

Advance Preparation

- Call a WIC nutritionist to determine an average amount of formula consumption per day for a 1-3 month old infant.
- Borrow a breast pump (hand or electrical) to demonstrate its use on a breast model from Medela.
- Find formula company websites to obtain free patient education materials.
- Make arrangements for industrial arts/technology department to print a local directory of agencies that help promote/support breastfeeding.
- Photocopy community project list.

ACTIVITIES

- Have students:
 1. collect pamphlets about breast- and bottle-feeding from doctors, childbirth-educators, WIC agencies, State Departments of Health, La Leche, Cooperative Extension, etc. Distribute pamphlets to students so they can read them. Ask them to list advantages and disadvantages of each. Which had more advantages? Did the advantages outweigh the disadvantages? If you were choosing to nurse a baby, which would you choose and why?
 2. Contact infant formula companies that produce pamphlets on infant nutrition. After reading them over, decide which one gave the most accurate information. Was there a hidden message in the pamphlet? Look at some parenting magazines. Is formula advertised? What message(s) is (are) given?
 3. Calculate the cost of using formula versus breastfeeding for one week, one month, four months, six months, and a year. Is the savings worth considering?
 - Divide students into groups of four or five. Have each group choose one item per group that one might need to purchase for a new baby. Have students:
 1. Do a consumer product comparison and select a particular model.
 2. Defend why a particular model was chosen. Products could include: cribs, strollers, breast pumps, car seat, infant carrier, changing table, etc
 - Bring a breast pump to demonstrate how it works using a breast model (available through Medela). Brainstorm advantages and disadvantages to using a breast pump to express milk. Examine some difficulties women experience if they are attempting to express milk and return to work (unclean facilities, no way to store milk at correct temperature, negative attitude of fellow employees, not enough break time, etc.). Have students answer:
 1. How could some of these difficulties be addressed to help the nursing mom continue breastfeeding while working?
 2. Should employers provide time for employees to continue breastfeeding?
- Have students develop a local directory of organizations that help promote breastfeeding. Use the graphic design classes or use a software program to print a brochure to distribute to obstetricians who can then pass them out to their parents.
- Role play the following scenarios:
 - (A) Maria, age 17, knows that breastmilk would be the best first food for her newborn son José. She wants to breastfeed but worries she will not have time with her busy schedule: school, work, and homework. What advice would you give Maria?
 - (B) Kris was prepared to breastfeed when her baby was born. What she was not prepared for was the lack of support from her mom. Mom felt it was better to formula feed a baby and was putting a lot of pressure on Kris to not breastfeed. What advice would you give Kris?
 - (C) Tom learned about how nutritious breastmilk is for babies. He really wants his wife Sandy to breastfeed their new baby when (s)he arrives. Sandy is planning

to go back to work within eight weeks and does not think it will be useful to breastfeed. What advice would you give Tom and Sandy?

- (D) Tina had a son four months ago. She has returned to work and plans to "pump" or express her milk on her breaks. She must go into the ladies room at work and she feels embarrassed that someone might walk in on her while she is expressing the milk. What advice would you give Tina?

Evaluation

Have students choose one of the following areas to participate in a community effort to promote breastfeeding.

- (a) Survey local pregnant teens regarding their feelings toward breastfeeding. Develop a strategy to help them become more comfortable and accepting of breastfeeding.
- (b) Survey the local hospital(s) education department as it relates to staff promoting breastfeeding and conducting breastfeeding training. Include areas of improvement to increase the number of nursing mothers.
- (c) Involve the student council and school administration in providing programs to meet the needs of pregnant teens. Suggest an atmosphere where a teen would be able to breastfeed her child while she continues her education.
- (d) Create a public service announcement regarding the benefits of breastfeeding.
- (e) Use the internet to study laws regarding breastfeeding. Write a letter to a state legislator that supports breastfeeding in public.

Lesson 3 BASICS OF BREASTFEEDING

Concept: It takes time and practice to experience success in breastfeeding.

Advance Preparation

- Order La Leche League resources and WIC educational materials.
- Develop a grading sheet for reports on aspects of breastfeeding.

Activities

Divide students into groups of 2 or 3. Assign a research paper on one topic for each group.

- Students may use library materials, publications distributed by hospitals, and other nutrition-related agencies. Possible topics include:
 - Positions for breastfeeding
 - Recommendations for frequency of feedings
 - Breastmilk: content and quantity
 - Expressing and storing breastmilk
 - Returning to work while continuing breastfeeding
 - Healthful practices for mother while nursing
 - Breastfeeding and contraception effectiveness
 - Weaning a baby
 - "let-down" reflex - what is it?

Evaluation

Using available resources, develop posters/pamphlets to be placed in the waiting rooms of obstetricians and family physicians.

My Attitudes About Breastfeeding

Directions: After reading each statement, circle the number that best agrees with your feelings about that statement.

1 = Strongly agree

3 = Undecided

5 = Disagree

- | | | |
|-----|-----------------------------------------------------------------------------------------------------|-------|
| 1. | Breastfeeding is the best food for a baby. | 1 3 5 |
| 2. | Breasts are meant for providing milk | 1 3 5 |
| 3. | Breasts should be kept covered even during breastfeeding. | 1 3 5 |
| 4. | Fathers can assist caring for a breastfeeding baby. | 1 3 5 |
| 5. | Workingwomen are able to breastfeed. | 1 3 5 |
| 6. | Employers should provide places for women to breastfeed or use breast pump. | 1 3 5 |
| 7. | Employers should encourage their workers to breastfeed. | 1 3 5 |
| 8. | Breastfeeding is disgusting. | 1 3 5 |
| 9. | The mother should have the primary responsibility to decide whether or not she wants to breastfeed. | 1 3 5 |
| 10. | The father can help his baby by supporting the mother's decision regarding breastfeeding. | 1 3 5 |

