

Florida Nutrition Training Guide

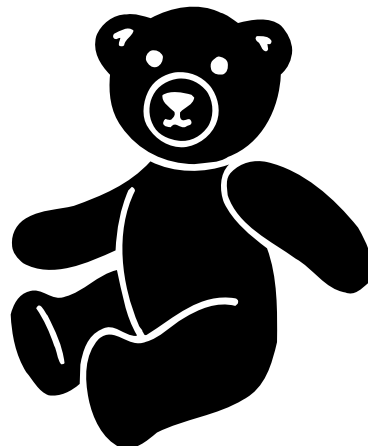
Nutrition Education Series

Workbook

for the

Infant Nutrition Module

Revised June 2004



Staff Member: _____

Local Agency: _____

Supervising Nutritionist: _____

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Introduction to the Workbook for the Staff Member

After completing each assigned set of *Self-Check* questions in your *Workbook*, you should **immediately** correct your responses by using the *Answer Key to the Self-Check Questions* that follows the *Self-Check* questions.

If you do not know the answer to one of the questions, go back to the text to find the correct answer.

When you have finished reading/studying the *Module* and have completed and corrected your own *Self-Check* responses, go to the *Practical Activity* in this *Workbook* and complete the assignments there. Be sure to read the *Instructions for Doing the Practical Activity*, which can be found on page 13 and on page 16 (Part II instructions).

When you complete the *Practical Activity*, turn in your completed *Workbook* to your Supervising Nutritionist who will, in turn, correct/evaluate your completed *Practical Activity*. Also, he/she will do a quick review of your *Self-Check* answers for completeness.

Record all your answers directly in this Workbook.

Self-Check Questions

for the Infant Nutrition Module

- 1) List two reasons why solid foods should not be fed to infants before 4 to 6 months of age.
 - a) _____

 - b) _____

- 2) Which of the following are reasons why breastfeeding is best for infants? Circle the letter(s) of the correct answer(s).
 - a) Human milk is species-specific (that is, human milk is particularly suited to the nutritional and immunological needs of human infants).
 - b) Exclusive breastfeeding helps protect the infant against many infections and diseases.
 - c) Exclusive breastfeeding for the first 6 months of life reduces the chances of, and delays the onset of, allergic disease in infants.

- 3) Place a “T” (for True) or an “F” (for False) in the space to the left of each of the following statements:
 - _____ a) Breastfed infants have a lower incidence of Sudden Infant Death Syndrome (SIDS).
 - _____ b) Human milk is always the same and never changes.
 - _____ c) One of the United States *Healthy People 2010* goals is to have at least 75% of mothers breastfeeding in the early postpartum period.

Stop now and check your answers against the Answer Key before proceeding to the next section. The Answer Key to the Self-Check Questions for the Infant Nutrition Module begins on page 9 of this Workbook.

*The **line** that divides each group of Self-Check questions indicates that you should **STOP NOW** to check your answers before you move ahead to the next section of the module.*

- 4) Cow's milk-based formula and soy-based formula are packaged in three different forms: concentrated liquid, powdered, and ready-to-feed. Briefly describe how to mix or dilute each one:

Concentrated liquid: _____

Powdered: _____

Ready-to-feed: _____

- 5) Explain why it is very important to follow the directions carefully when diluting (mixing) concentrated liquid or powdered infant formula with water.

Complete the sentences to make accurate statements in questions 6 and 7:

- 6) Cleanliness during formula preparation and proper refrigeration of prepared formula are necessary in order to prevent _____

- 7) Prepared formula should be stored in a refrigerator for no more than _____ hours or as specified on the formula can.

-
- 8) Circle the type of milk that should be fed an infant during the first year of life **if the infant is not being breastfed**:

Iron-fortified infant formula (artificial baby milk)

Sweetened condensed milk

Fresh whole, reduced fat, lowfat, or fat free milk

Goat's milk

- 9) Place a "T" (for True) or an "F" (for False) in the space to the left of each of the following statements:

_____ a) "Feeding on cue" will spoil an infant.

_____ b) To prevent overfeeding in bottle-fed infants, a caregiver should look for signs of fullness, such as a decrease in sucking and lack of interest in the feeding.

_____ c) Infants differ in the age at which they are ready to sleep one long stretch at night without feedings.

_____ d) Fresh, dry, and evaporated cow's milk (whole, reduced fat, lowfat, or fat free) are *good* sources of iron.

10) Name 3 liquids that are appropriate to put in an infant's bottle.

- a) _____
- b) _____
- c) _____

11) Name 3 foods or liquids that should not be put in an infant's bottle.

- a) _____
- b) _____
- c) _____

12) Place a "T" (for True) or an "F" (for False) in the space to the left of each of the following statements:

- _____ a) Early childhood caries or baby bottle tooth decay is caused by an infant using a bottle—filled with sweetened drinks, juice, or infant formula—as a pacifier.
 - _____ b) Feeding honey to an infant under one year of age can cause botulism.
 - _____ c) "Bottle propping" is a good way to feed an infant because it frees up the parent/caregiver to do other things.
 - _____ d) ONLY bottle-fed infants need to be burped during feedings.
-

13) Fill in the blanks to complete the sentence accurately.

An infant's nutritional needs can be *entirely* met by exclusive _____ from birth to 6 months of age, or by feeding the infant _____ from birth to between 4 and 6 months of age.

14) Which of the following statements are indicators of a 4- to 6-month-old infant's readiness to start the introduction of solid foods? (Circle the letters.)

- a) Ability to sleep through the night.
- b) Ability of the tongue and swallowing mechanism to deal with non-liquids.
- c) Ability of the infant to sit with good head and neck support.
- d) Ability of the infant to crawl.
- e) Ability to indicate a desire for food by opening the mouth and leaning toward the spoon.

15) Circle the foods that would be most appropriate for an infant between 6 and 8 months of age:

- | | | |
|------------------------------|---------------|----------------|
| Iron-fortified infant cereal | Pureed fruits | Pureed chicken |
| Banana/apple dessert | Whole eggs | Apple juice |
| Pureed vegetables | Fruit drinks | Shellfish |

16) Fill in the blanks to complete the sentences accurately.

- Infants who begin eating a variety of solid foods, and especially high-protein solid foods, should be fed about _____ to _____ ounces of water each day.
 - Infants with medical conditions such as vomiting, diarrhea, fever, diabetes, etc. may have an increased need for water. Refer infants with these medical conditions to the infant's _____ for evaluation and recommendation of fluid intake.
-

For question 17, circle the choice that accurately completes the statement:

17) Solid foods should be fed from a _____.

- spoon
- infant feeder
- bottle

For question 18, fill in the blank with the correct time period.

18) Each new food should be introduced one at a time, with about _____ (length of time) in between each new item.

For question 19, circle the letters of the *two* correct choices that accurately complete the following statement:

19) Home-prepared foods for infants:

- can be the same foods that are prepared for the rest of the family with salt, sugar, and seasonings, and fat added and with the same texture and consistency.
- can be stored in a freezer indefinitely.
- are generally less expensive.
- can be reheated over and over.
- must be prepared and stored with care to prevent contamination of the food.

For question 20, fill in the blank with the correct word.

- 20) When selecting commercially prepared baby foods to feed the baby, it is best to choose the _____-ingredient fruit, vegetable, or meat products that are available, rather than the baby food mixtures or baby foods with added ingredients.
- 21) Circle those foods that should never be given to infants or young children because they might cause choking:

Raisins	Whole hot dogs	Apple juice
Soft, ripe bananas	Popcorn	Whole grapes

Circle each phrase which correctly completes the statement:

- 22) Finger foods should be offered:
- a) when the infant starts to walk alone.
 - b) when the infant sleeps through the night.
 - c) when the infant can chew with up and down movements.
 - d) when the infant can move his/her tongue from side to side.
 - e) around 8 months of age.
- 23) Place a check mark next to the following choices of finger foods that are appropriate for an older infant (10–12 months).
- _____ a) small pieces of soft, peeled fruit
 - _____ b) grapes
 - _____ c) toast pieces
 - _____ d) crackers
 - _____ e) popcorn
 - _____ f) peanut butter on soft bread

24) Place a “T” (for True) or an “F” (for False) in the space to the left of each of the following statements:

- _____ a) Many infants prefer to feed themselves with their hands and fingers rather than with utensils.
 - _____ b) Infants who are learning to feed themselves should be served large portions of food.
 - _____ c) All infants should be able to feed themselves by 9 months of age.
 - _____ d) Infants 8 to 12 months of age should be eating many types of solid foods with a variety of textures and colors.
 - _____ e) Lifelong eating habits are formed in childhood.
-

25) Place a check mark in the blank next to all the statements that are true.

- _____ a) Weaning from the breast or bottle should take approximately 1 to 2 days.
 - _____ b) Weaning begins when an infant can sit up without support and is eating solid foods.
 - _____ c) Weaning from the bottle should *begin after* 12 months of age.
 - _____ d) Weaning from the breast or bottle is a gradual process.
 - _____ e) Bottles are inappropriate after 14 months of age.
 - _____ f) Infants need help holding the cup for the early weeks of cup feeding.
 - _____ g) Many infants continue breastfeeding after their first birthday and well into their second year of life.
-

26) Fill in the blanks to complete the sentences accurately.

- a) The four most important nutrients for healthy teeth are:
_____, _____, _____, and _____.
- b) Infants put to bed with a bottle of infant formula, milk, juice, or sweetened liquids can develop serious tooth decay called _____.
- c) Baby bottle tooth decay is very rare in _____ infants since the mechanics of suckling and positioning of the breast in the mouth during _____ are different from bottle feeding.

27) Circle the items that are good sources of iron for the infant:

- | | |
|-------------------------------|------------------------------|
| Iron-fortified infant formula | Iron-fortified infant cereal |
| Human milk (breastmilk) | Pureed meats |
| Fresh cow's milk | Mashed, cooked dry beans |
| Mashed or pureed fruits | Tea |

For statements 28 and 29, fill in the blank(s) to accurately complete the statement.

- 28) Absorption of iron by the body can be increased by feeding a vitamin _____-enriched food at the same time that the iron-rich food is fed.
- 29) Infants who are breastfed but do not receive supplemental vitamin ____ or adequate sunlight exposure are at increased risk of developing vitamin ____ deficiency or rickets.
- 30) Parents of infants at risk of becoming overweight should be encouraged to change any inappropriate feeding or caregiving practices. List 3 suggestions for counseling these parents:
- a) _____
- b) _____
- c) _____

31) Place a "T" (for True) or an "F" (for False) in the space to the left of each of the following statements:

- _____ a) Confining infants to strollers, play pens, car and infant seats for hours at a time may lead to childhood obesity.
- _____ b) Adopting a physically active lifestyle is not important during the infant's first year of life.
- _____ c) An infant's physical activity should promote the development of movement skills.

↘ *After checking your answers for Questions 26-31, you should next go to the "Practical Activity for the Performance Objectives" for the Infant Nutrition Module, which is contained in this Workbook. Complete the "Practical Activity" according to the instructions provided throughout the "Practical Activity" section.*

Answer Key to the Self-Check Questions

for the Infant Nutrition Module

- 1) Any 2 of the following responses are correct:
 - a) Infants have no nutritional need for solid foods before 4 to 6 months of age. (Exclusively breastfed infants have no nutritional need for solid foods before 6 months of age.)
 - b) Infants are not developmentally ready to eat solid foods before this age.
 - c) Feeding solids too early may increase the risk of allergic reactions.
- 2) All 3 reasons (**a**, **b**, and **c**) are correct and should be circled.
- 3)
 - a) T
 - b) F Human milk is a dynamic, living substance. Its composition changes during a feeding, over a 24-hour period of time, and over the months of breastfeeding to meet the individual needs of the infant.
 - c) T

-
- 4) *concentrated liquid*: requires dilution with water in a one-to-one ratio; that is, every 1 ounce of concentrated liquid formula is mixed with 1 ounce of water.
powdered: is usually mixed with water in a ratio of 1 level scoop formula to 2 ounces of water. The scoop is provided inside the formula can and the formula label directions contain the exact dilution requirements.
ready-to-feed: requires no mixing and no diluting with water.
 - 5) Improper dilution of infant formula can result in very serious health problems for the infant; that is, formula mixed with too little water might be too concentrated for a baby to digest easily; formula mixed with too much water might not supply the calories and nutrients needed for recommended growth. Water intoxication can also occur if an infant is fed excessive amounts of water.
 - 6) gastrointestinal problems caused by bacteria
 - 7) 24
-

- 8) Iron-fortified infant formula (artificial baby milk)
- 9) a) F “Feeding on cue” will not spoil the infant.
b) T
c) T
d) F Fresh, dry, or evaporated cow’s milk; sweetened condensed milk; and goat’s milk are *poor* sources of iron.
-

- 10) a) human milk (breastmilk that has been “expressed” or removed from the breast by hand techniques or by use of a breast pump)
b) infant formula (artificial baby milk)
c) water
- 11) Any three of the following should not be put in an infant’s bottle: cereals; pureed foods; juices; any liquid that contains added sweeteners including honey, syrup, sugar, and “gelatin water.”
- 12) a) T
b) T
c) F An infant should always be held while he/she is being fed with a bottle. “Bottle propping” can cause choking, fluid getting into the baby’s lungs, and middle ear infections. Also, it deprives the baby of important cuddling and human contact.
d) F Breastfed *and* bottle-fed babies need to be burped during and after feedings.
-

- 13) breastfeeding; iron-fortified infant formula (artificial baby milk)
- 14) **b, c, and e** should be circled. The developmental readiness of infants to begin eating solid foods has nothing to do with the infant’s ability to sleep through the night or crawl.
- 15) The following foods should be circled:
Iron-fortified infant cereal
Pureed fruits
Pureed vegetables
Pureed chicken
Apple juice
- 16) a) 4 to 8
b) health care provider

-
- 17) a) spoon
- 18) one week
- 19) **c** and **e** accurately complete the statement. Infants should *not* have salt, sweeteners, seasonings, or fat added to their food. Depending on the age of the infant, the texture and consistency of the food must be changed. Home prepared foods can be stored in a freezer for 1 month. Any thawed, heated food that is not eaten should be thrown away.
- 20) single
- 21) The following foods should be circled because they can cause choking in infants: **raisins, whole hot dogs, popcorn, and whole grapes.**

-
- 22) **c, d,** and **e** should be circled. The age an infant begins eating finger foods has nothing to do directly with the ability to walk alone or sleep through the night.
- 23) The following should be checked: **a, c,** and **d.** Note: To avoid the possibility of choking on crumbs, it is best for infants to eat biscuits, small pieces of toast, or crackers **only while in an upright position.**
- 24) a) T
- b) F Infants should be served small portions of food.
- c) F Infants develop at independent rates and there is no specific age at which infants should be able to feed themselves.
- d) T
- e) T

-
- 25) Statements **b, d, e, f,** and **g** are true and should be checked. Statement **a** is false: weaning is a *gradual* process. Statement **c** is false: weaning should be nearly *completed* by about 12 months of age.
-

- 26) a) protein, calcium, phosphorus, fluoride
b) early childhood caries or baby bottle tooth decay
c) breastfed, breastfeeding
- 27) The following good sources of iron should be circled: iron-fortified infant formula; human milk (breastmilk); iron-fortified infant cereal (for infants 4 to 6 months or older); pureed meats (for infants 6 months or older); and mashed, cooked dry beans (for infants 8 months or older).
- 28) C
- 29) D, D
- 30) See page 71 of the Infant Nutrition Module for possible answers.
- 31) a) T
b) F Adopting a physically active lifestyle is important during the infant's first year of life.
c) T

You are now ready to:

✎ **GO TO** the “*Practical Activity for the Performance Objective,*” which immediately follows this Answer Key in your Workbook. Complete the Practical Activity according to the instructions which are presented in the Practical Activity.

Practical Activity for the Performance Objectives

for the Infant Nutrition Module

This *Practical Activity* directly relates to the Performance Objectives that you read at the beginning of this module. Please read the Performance Objectives once again to familiarize yourself with what you will be doing in the following *Practical Activity*.

Instructions for Doing the Practical Activity

- This is an “open-book” activity. Use any information from the *Module* to help you complete this *Practical Activity*.
- **Record your answers directly in this Workbook.**
- You will **not** be “grading” your *Practical Activity* responses; your completed *Practical Activity* will be evaluated by the Supervising Nutritionist who will use an *Answer Key* that has been provided with his/her *Evaluation Materials*. If you answer at least 85% of the questions and assignments of the *Practical Activity* **correctly and completely**, this is considered acceptable completion of the *Practical Activity*. If you receive an “unacceptable” rating, then you will be asked to repeat the appropriate sections of the *Practical Activity* until they are done “acceptably.”

Note: There are two parts (I and II) to this *Practical Activity*. In addition to the bulleted instructions above, each part includes its own specific instructions.

Materials Needed for this Practical Activity:

- this *Workbook*
- pencil/pen
- Infant Nutrition Module for reference

Read each case study in Part I (beginning on page 14) carefully and then answer questions **a** and **b** for each case study as accurately and thoroughly as possible. Use an extra sheet of paper to answer the questions, if necessary. Remember that you can refer to the *Module*, as needed. When you have answered both questions for each case study, move on to Part II of this *Practical Activity*. (You will be asked to turn in all completed assignments when you finish this *Practical Activity*.)

Part I—Case Studies

Case Study 1

Linda V. is a 9-month-old baby girl and her hematocrit is **slightly above** the WIC nutrition risk criteria for a low hemocrit level. Her mother says that she stopped breastfeeding Linda last month and has been giving her reduced fat milk. She reports that yesterday Linda ate the following:

- 28 ounces of reduced fat milk
- $\frac{1}{4}$ cup of oatmeal
- $\frac{1}{2}$ jar of applesauce
- 1 jar of vegetable and chicken mixed dinner
- 1 jar of peach cobbler
- 4 saltine crackers

- a.** List, in order of priority, at least 2 *nutrition issues* that you might discuss with Linda's mother.

- b.** Briefly state 3 *recommendations* that you might give to Linda's mother.

Case Study 2

Maria G. has an infant boy who is 7 months old. Maria G. started feeding him infant cereal when he was 6 months (he was exclusively breastfed from birth to 6 months), and he now eats 3 to 4 tablespoons of prepared infant cereal daily. She feels that he is ready to have other solid foods and fruit juice, and she wants advice on how to introduce these.

- a.** Since infant cereal has been started, what recommendations would you make to Maria G. regarding adding other solid foods: Which ones and when? Include at least 4 appropriate feeding practices to consider for the baby when feeding solid foods.

- b.** What would you suggest regarding fruit juices?

Part II—Preparing Infant Formula (artificial baby milk)

Part II of this *Practical Activity* deals with demonstrating your ability to teach clients about preparing infant formula (powdered and concentrated liquid). It is critical to have a thorough understanding of these procedures since misinformation or carelessness in preparing formula could result in very serious health problems for the infant.

You will be required to successfully complete **ONLY ONE** of the following activities, Option A or Option B . You can decide which option you choose. Read all of Option A and all of Option B before deciding which one you want to complete.

Note that Option B is “hands-on.” In order to do Option B , you must use the actual materials (concentrated liquid formula, powdered formula, pan, bottle, nipple, etc.). Kitchen facilities must be available in order to do this activity.

Use your own paper for Part II. Refer to pages 20 through 26 of the Infant Nutrition Module to make sure that you include the essential information.

Remember, you only have to choose and perform *one* activity: either Option A *or* Option B . When you complete either Option A or B, arrange for an appointment with the supervising nutritionist so that you can perform your chosen activity for him/her.

Option A

Prepare an outline on how you would teach a class about preparing infant formula.

The outline must include:

- descriptions of what to do *before* preparing the formula
- how to prepare bottles of concentrated liquid formula and powdered formula
- how to achieve the proper feeding temperature of formula
- how to store the formula

The outline may be supplemented by any materials—flip charts, pamphlets, booklets or audiovisuals that you might have access to in your clinic.

Next, present the lesson that you developed to the supervising nutritionist. Do role playing, with yourself as the “teacher” and the supervising nutritionist as your client.

Option B

Option B is an actual demonstration, and kitchen facilities must be available for this activity. Demonstrate to the supervising nutritionist the correct procedures for preparing bottles of powdered formula and concentrated liquid formula, as described on pages 20 through 26 of the Infant Nutrition Module.

Regarding boiling the water or the utensils: the correct length of boiling and cooling time can be *described* (instead of demonstrated), due to time constraints, if necessary.

In preparing for the demonstration, any resource(s) may be used. It might be useful to practice the demonstration before presenting it to the supervising nutritionist. During the actual demonstration, you may refer to your module, if necessary; however, it is very important that you demonstrate a clear understanding of the procedures.

For Option B, you will need the materials and supplies listed below:

- dish soap
- water
- one can each of concentrated liquid and powdered formula
- can opener
- small pan with lid for boiling the water used in mixing formulas
- several baby bottles
- nipples, rings, caps
- bottle brush and nipple brush
- tongs
- large pan
- dishpan or sink
- cloth towel or paper towel

After completing/performing Option A or B, turn in your *Workbook*, as well as any written materials you developed for this *Practical Activity*, to the supervising nutritionist. He/she will evaluate your “Part I” responses by using the *Answer Key to the Practical Activity* for the Infant Nutrition Module, which is included in the *Evaluation Materials for the Supervising Nutritionist*. Your performance on Part II of the *Practical Activity* will be evaluated by the supervising nutritionist by means of a checklist that is also included in the *Evaluation Materials*. (The supervising nutritionist will also do a quick review of your Self-Check answers to ensure that they were completed and appropriately “graded” by you.)

When the supervising nutritionist is done with evaluating your *Practical Activity*, he/she will set up an appointment with you to discuss the results. At this time, the supervising nutritionist will also set up a time for you to take the *Posttest* for the Infant Nutrition Module. The supervising nutritionist will administer this test.

To prepare for the *Posttest*, you will want to review:

- the Knowledge Objectives at the front of the module—remember that the *Posttest* questions are directly related to the Knowledge Objectives.
- the Infant Nutrition Module
- your completed workbook of *Self-Check* answers and the *Practical Activity*

Remember that this *Posttest* is **not** an “open book” test.



**Florida Department of Health
Bureau of WIC and Nutrition Services**

