
Infant Nutrition Module Answer Key



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Part 1: Overview of Infant Nutrition During the First Year

1. *Check the correct answer.* When healthy babies are able to follow their own feeding schedules (eating when they're hungry and stopping when they're full), they usually...

 - eat too much and gain extra weight.
 - don't eat enough and lose weight.
 - adjust their intake to the right amount of calories and grow normally.
2. *Check the correct answer.* Compared to adults, babies need _____ in the diet.

 - more fat
 - less fat
 - about the same amount of fat
3. *Fill in the blanks.*

Since parents are keeping babies out of the sun these days, many babies don't produce enough **vitamin** **D** , a nutrient that babies need for strong bone formation.
4. Mark each of the following statements **TRUE** or **FALSE**.

FALSE Most infants are born with iron stores that last the entire first year of life.

TRUE Breastmilk contains less iron than iron-fortified formula, but the iron in breastmilk is very well-absorbed.
5. *Check the correct answer.* Developmental readiness refers to:

 - the point at which a fetus becomes fully developed and is ready for birth.
 - the point at which a baby has acquired new skills and is ready to try new foods, textures and feeding methods.
 - the point at which a breastfed baby is ready to wean from the breast.

6. Mark each of the following statements **TRUE** or **FALSE**.
- TRUE** A newborn baby can't chew, but he does have a natural suck/swallow reflex for sucking breastmilk or formula.
- FALSE** All infants develop at the same rate and are ready to start solid foods at the same age.
- FALSE** A newborn's gastrointestinal tract is fully mature and functional at birth.
7. *Check the correct answer.* In a positive parent-child feeding relationship, the parents should...
- _____ set up a strict feeding schedule.
- _____ offer foods and textures that are beyond the infant's feeding skills.
- watch and respond to the baby's hunger and fullness cues.
- _____ none of the above.

Part 2: Feeding the Newborn

1. *Choose* the correct newborn reflex that matches each description. Use each term only once.
- Tongue-thrust reflex
 - Gag reflex
 - Suck/swallow reflex
 - Rooting reflex

Rooting reflex If an object touches the mouth, lips, cheek, or chin, the baby turns his head toward the object and opens his mouth, looking for a nipple.

Gag reflex When an object, such as a spoon or a piece of solid food, is placed way back in the mouth, the infant gags and propels the object forward on the tongue.

Suck/swallow reflex After the baby opens his mouth and touches the nipple, he begins sucking movements. As liquid moves into the mouth, the tongue moves it back for swallowing.

Tongue-thrust reflex When something touches the infant's lips, the tongue extends out of the mouth.

2. *List three hunger cues.*

Possible answers include:

- rooting reflex
- hand-to-mouth activity (sucking on a fist)
- small fussing sounds
- facial grimaces where the infant looks like he's about to cry
- crying (however, crying is usually a *late* sign of hunger. It's best for caregivers to respond to the early signs of hunger rather than waiting until the baby is upset and crying.)

3. *List three fullness cues. Possible answers include:*

- decreased sucking
- coming off the breast or nipple
- turning away from the nipple, or pushing the bottle away
- showing more interest in other things going on in the room

4. *Check the correct answer. Sleepy infants...*

_____ are generally non-demanding.

_____ tend to fall asleep shortly after the feeding starts.

_____ can become dehydrated and underfed if parents rely too much on hunger and fullness cues.

all of the above.

5. *Check the correct answer. The only sure way to know if an infant is getting enough breastmilk or formula is to check...*

_____ the number of daily nursing sessions.

_____ the amount of formula that the baby takes in each day.

the baby's growth.

_____ the number of wet diapers per day.

6. *Circle the correct answer.* Newborns often lose / gain a little weight in the first few days of life, but most return to their birth weight by 2 weeks / 2 months of age. After a baby returns to his birth weight, he should gain about 4 to 8 ounces a week. Infants usually double their birth weight by 4 to 6 months / 10 months of age.
7. *Check the correct answer.* Feeding solids to an infant who isn't developmentally ready...
- increases the risk that the baby will choke.
 helps the baby sleep through the night.
 will cause the baby to drink more breastmilk or formula.
 all of the above.
8. *Check the correct answer.* Under normal circumstances, healthy infants get all the water they need from...
- breastmilk and/or properly-diluted formula.
 juice.
 plain water.
 all of the above.
9. *For each statement, indicate either (a) or (b).*
- (a) water intoxication
 (b) dehydration
- (a) Routinely adding extra water to "stretch" formula can cause this.
- (b) Symptoms include: fewer wet diapers, dark yellow urine, dry mouth, no tears when crying, sunken eyes, restlessness, irritability, or lethargy.
- (a) Symptoms include: difficulty breathing, seizures and convulsions.
- (b) Without medical attention, severe diarrhea and vomiting can lead to this.
- (b) Routinely adding too little water when mixing formula can cause this.
- (a) Force-feeding large amounts of water in hot weather can cause this.

Part 3: Breastmilk and Formula Basics

1. *List three advantages of breastmilk compared to infant formula.*

Possible answers include:

- Breastmilk is easier to digest than formula.
- Breastmilk contains natural substances that help protect babies from infections and food allergies.
- The nutrient composition of breastmilk is designed especially for babies, and it constantly changes to meet the specific needs of the growing infant.
- Breastmilk costs nothing.
- Breastmilk requires no mixing.
- Breastmilk is always the right temperature.
- Recent research suggests that breastfeeding may lower the risk of various disorders, including Sudden Infant Death Syndrome, type 1 and type 2 diabetes, lymphoma, leukemia, Hodgkin's disease, obesity, high blood cholesterol, and asthma.
- Breastfeeding has also been linked to slightly better performance on cognitive development tests.

2. *Fill in the blanks.*

WIC recommends sanitizing bottles and nipples, and boiling the water for mixing formula for at least the first three months of life.

3. *Fill in the blanks.*

To sanitize bottles and bottle parts, WIC recommends washing them by hand and then putting them in boiling water for five minute(s).

4. *List* the basic steps for:

a) sanitizing water, and b) preparing 26 ounces of formula using concentrated-liquid formula.

a) To sanitize water:

- Run cold water for 1 to 2 minutes before collecting the water in a clean pot or kettle.
- Bring the water to a rolling boil and boil for 1 minute.
- Turn off the heat and cool the water with the lid on, either on the stove or in the refrigerator.

b) To prepare 26 ounces of formula using concentrated-liquid formula:

- Check the formula label for the expiration date and proper dilution instructions.
- Wash hands thoroughly with soap and warm water. Then use hot, soapy water to wash a pitcher, its lid, and any other utensils. Rinse with boiling water.
- Shake the can, and rinse off the top. Open with a clean can opener.
- Mix the 13 ounce can of concentrated formula with a 13 ounce can of boiled and cooled water in the clean pitcher. Stir to mix thoroughly and pour into sanitized bottles.

5. *Check* all the bottle-feeding recommendations that are correct.

Save any breastmilk or formula left in the bottle after a feeding and use within the next seven days.

If you're "on the go," keep bottles of formula or breastmilk cold using an insulated bag and ice pack or thick cloth.

If an infant hasn't learned to use a cup, it's okay to offer juice, fruit drinks, sodas and other sweetened liquids in a bottle.

Never use a microwave to heat infant formula or expressed breastmilk because the liquid can get hot enough to cause serious burns.

6. *List two reasons why cow's milk is not appropriate for infants.*

Possible answers include:

- Cow's milk and other milks are poor sources of iron and other nutrients that a baby needs. Even though they contain protein, calories, and, in many cases, calcium, they don't have the same balance of essential nutrients that breastmilk and formula provide.
- Cow's milk has a higher level of protein and minerals, which can put stress on a young infant's kidneys.
- A baby's immature digestive system might not be able to break down the protein in cow's milk, which could result in an allergic reaction or gastrointestinal bleeding.

Part 4: Starting Solids

1. *Check the correct answer.* Feeding solids too early increases a baby's risk of

_____choking.

_____allergic reactions.

_____a reduced intake of breastmilk or formula.

all of the above.

2. Fill in the blanks with the correct ages.

a) Currently, the WIC Program recommends introducing solid foods to healthy, full-term infants between four and six months of age.

- b) There's a growing trend among pediatric experts to recommend waiting until six months of age before introducing solid foods.
3. *List* three signs of developmental readiness that show a baby is ready to try solid foods.

Possible answers include:

- sit up, with help;
 - show good head and neck support;
 - show a desire for food by opening the mouth and leaning toward the spoon;
 - pull in the upper or lower lip as a spoon is removed from the mouth (the baby removes food from a spoon with a sucking action);
 - move food from the front to the back of the tongue to swallow;
 - keep most of the food in the mouth rather than pushing it back out onto the chin;
 - swallow the food without gagging, coughing, or choking; and show that he's full by leaning back and turning away, pushing the food out of the mouth, sealing lips together, or pushing the spoon away.
4. *List* two reasons why iron-fortified infant rice cereal is a good food for babies.

Possible answers include:

- it provides iron
 - it's easily digested
 - parents can adjust the consistency to match a baby's oral-motor skills.
 - compared to other grains, rice is not likely to cause an allergic reaction.
5. *Choose the correct answer.* For the first test feeding with the baby's first solid food, it's best to:
- _____ use several foods all mixed together.
- _____ put the food in a syringe-type infant feeder.

- make sure the food has a smooth texture and a thin consistency.
 none of the above.

6. Mark each of the following statements **TRUE** or **FALSE**.

TRUE Heredity can play a role in the occurrence of food allergies in infants.

FALSE Caregivers should wait one to two days between the introduction of each new food.

TRUE If a baby has an allergic reaction to a food, parents should talk to the baby's health care provider before offering the food again.

TRUE It's extremely rare for infants to be born with a lactose intolerance.

7. List three steps parents can take to help infants avoid allergic reactions to foods.

Possible answers include:

- breastfeed
- wait to begin solids (for families with a history of food allergy, physicians recommend waiting until the baby is at least 6 months of age before starting solids.)
- offer only one new food at a time
- watch closely for signs of a reaction
- wait five to seven days between each new food

Part 5: Making the Transition to Table Foods

1. *Fill in the blanks.*

When feeding new foods to their baby, parents should wait five to seven days between the introduction of each new food.

2. Mark each of the following statements **TRUE** or **FALSE**.

FALSE Caregivers must introduce vegetables before fruits or else the child will never like vegetables.

FALSE Parents should feed at least 6 tablespoons of a brand new food so that the baby can fully experience the new flavor and texture.

TRUE Parents should wait to offer a mixed food, like peas and carrots, until after the baby has tried all the foods or juices in the mixture.

FALSE It's best to force the baby to eat a food even if he doesn't like it.

3. *Circle* the five vegetables that should not be prepared at home for children under 6 months of age because they can possibly cause methemoglobinemia in young infants.

Peas

Beets

Sweet potatoes

Carrots

Summer squash

Green beans

Broccoli

Collard greens

Spinach

Okra

Turnips

4. *List* three foods that infants shouldn't eat until after the age of 12 months.

- honey
- cow's milk
- egg whites

5. Briefly *explain* why parents shouldn't give honey or products containing honey to an infant less than 1 year of age.

Honey may contain *Clostridium botulinum* spores, bacterial spores which can cause a serious foodborne illness called **infant botulism**. If a baby eats honey containing these spores, the spores can grow and make a toxin that causes severe illness and even death.

6. *List* six foods that are common choking hazards for infants.

Possible answers include:

- grapes
- raisins
- raw vegetables like carrots
- bites of hard fruit like apples
- whole beans
- round slices of hot dogs
- marshmallows
- candy
- gum
- nuts
- popcorn, snack chips, pretzels
- peanut butter
- crunchy or chewy granola bars

7. *Describe* how to prepare carrots for an 11-month old to reduce the risk of choking.

Cook carrots until they are soft then cut them into thin slices, strips, or small ¼-inch cubes.

8. Mark each of the following statements **TRUE** or **FALSE**.

FALSE Baby foods with sauces and gravies are recommended over plain foods since they taste so good.

TRUE Parents should avoid baby food cobblers, puddings, and custards, since they have added sugar and fillers.

TRUE Before opening a jar of baby food, parents should be sure the dome on the lid is pulled down, which shows a proper seal.

TRUE Once a baby can eat diced foods, parents can cut up the regular homemade foods instead of buying the “advanced” baby foods.

9. A mother asks you about making the following foods for her 9-month-old baby at home: black beans and sweet potato. For both foods, write down any important tips or information you would offer to the mother.

Possible answers include:

- black beans – It’s best to use dried beans since canned beans have extra salt. Prepare beans without seasonings, salt or fat. Cook until they’re soft enough to easily puree or mash. If using canned beans, drain the liquid from the can and thoroughly rinse the beans with clean water before pureeing or mashing.
- sweet potato – Wash sweet potato, then cook (bake, steam, microwave, or boil). After cooking, scoop the cooked vegetable out of the skin. Mash with a fork, or put in a blender or food grinder. For more liquid, use breastmilk, formula, or the cooking water.

Part 6: Fluids, Cups, and Weaning (6 to 12 months)

1. *Explain* why caregivers shouldn’t give too much extra water to an infant.

Large amounts of water can take the place of nutrients from other foods and can even lead to water intoxication.

2. *Circle* the correct word or phrase.

Most babies are ready to drink from a cup around 3 months / 6 months / 12 months of age. It's best to start with 1 to 2 ounces / 4 to 6 ounces of water, breastmilk, or formula.

3. *Fill in the blank*.

If parents choose to give juice to an older infant, they should limit juice to 4 ounces a day.

4. *Explain* the main concern about using “spill-proof” cups.

The main problem is related to overuse of “no-spill” cups, which means children carry the cups around, sipping on large amounts of juice, milk or other sugary liquids all day long. Overuse of “spill-proof” cups can lead to serious problems like tooth decay and excess calories.

5. Tanya has an 11-month old daughter. She tells you that the baby drinks about a cup of juice each day. After asking more questions you learn that Tanya fills a large spill-proof cup with about 10 ounces of apple juice every morning, and offers the cup to the baby throughout day (with meals, in the car, at the park, the clinic, the store, etc.). What suggestions/information would you offer to this mother?

Possible answer might include the following:

Even though the juice provides vitamin C, it also contributes a lot of sugar, which can cause problems like diarrhea and excess weight gain. Also, since the baby is drinking the juice throughout the entire day, the sugar is constantly coating the baby's teeth, which could easily lead to cavities.

Tanya should try to:

- limit the baby's juice to a total of 4 ounces per day;
- serve juice only at meal or snack time, not while they're “on the go;”

- wean the baby from the habit of drinking juice from the cup all day long. To do this, Tanya can put a few ounces of water in the cup when they're on the go, especially for outdoor activities (still, limit water to a total of 4 to 8 ounces a day). Also, if the cup has become a "security" item, Tanya may want to give the baby a special blanket, book, or toy to take the place of the cup.

6. Mark each of the following statements **TRUE** or **FALSE**.

TRUE One of the first steps toward weaning a baby off the bottle is teaching the baby to drink from a cup.

FALSE Parents should replace all bottle feedings with cups, all on the same day. This forces the baby to learn to use a cup.

TRUE WIC recommends that parents completely wean healthy babies from the bottle by 12 to 14 months of age.

TRUE Usually, the best approach for weaning from the breast is to gradually omit nursing sessions one at a time, rather than stopping abruptly.

7. *List two tips for helping an infant give up the bedtime bottle.*

Possible answers include:

- Interest the infant in something other than the bottle. Read a book, offer a stuffed toy or blanket, and give lots of affection and attention at bedtime.
- Offer a small snack or beverage from a cup near bedtime. Be sure to clean teeth before bedtime.
- If an infant or child is in the habit of going to bed with a bottle, put a small amount of water in the bottle instead of formula or milk until the child is weaned completely from the bedtime bottle.

Part 7: Conditions Related to the Digestive System

1. *Check the correct answer.* Constipation in infants is correctly defined as...

having a bowel movement only once every four days.
 infrequent, hard, and dry stools that are difficult to pass.
 a common reaction to iron-fortified formula.
 all of the above.

2. *List two possible causes of constipation in infants.*

Possible answers include:

- not getting enough fluids
- a poor diet
- getting formula that's too concentrated
- certain medical conditions like cerebral palsy and Down syndrome can increase the occurrence of constipation.

3. *Check the correct answer.* Recommendations for treating constipation in infants include:

feeding a normal, age-appropriate diet.
 using over-the-counter medications.
 switching to a low-iron formula.
 none of the above.

4. *Check the correct answer.* Diarrhea is an increase in the:

frequency of stools.
 volume of stools.
 water content of stools.
 all of the above.

5. *List* three signs of dehydration.

Possible answers include:

- fewer wet diapers
- dark yellow urine
- dry mouth
- no tears when crying
- sunken eyes
- restlessness
- irritability
- lethargy

6. *Fill in the blanks.*

One of the goals in treating diarrhea is to prevent dehydration by having the infant take small sips of a special solution called an oral electrolyte solution.

7. *Describe* the difference between vomiting and spitting up.

Answer: Vomiting is forceful and usually causes some discomfort and distress in the baby. Spitting up, on the other hand, tends to be fairly passive and causes very little distress.

8. *Fill in the blanks.*

GER, or gastroesophageal reflux is a condition in which the contents of the stomach flow back up into the esophagus.

9. *Mark* each of the following statements **TRUE** or **FALSE**.

FALSE Only a small number of babies have fussy periods on a daily basis.

TRUE A baby with colic is otherwise healthy and gaining weight.

TRUE Colic occurs in both breastfed and formula-fed babies.

FALSE Scientists have discovered a virus that is responsible for colic.

10. *List two suggestions for parents to help soothe a colicky baby.*

Possible answers include:

- Hold the baby or carry the baby in a sling or strap-on carrier.
- Swaddle the infant by wrapping the baby snugly in a blanket.
- Gently massage the baby.
- Give the baby a warm bath.
- Lay the baby across the knees, tummy-down, while rubbing the baby's back.
- Use rhythmic motions and sounds that imitate the environment inside the womb.
- Running a vacuum cleaner in the next room is a popular technique.

Part 8: Other Infant Health Issues

1. *Fill in the blanks.*

Jaundice occurs when bilirubin builds up in the baby's blood, giving the baby's skin a yellow appearance. One reason jaundice happens in newborns is that the baby's liver often isn't mature enough to effectively remove bilirubin from the blood.

2. Mark each of the following statements **TRUE** or **FALSE**.

FALSE Jaundice is very rare.

TRUE Bilirubin levels are usually the highest between 3 to 5 days of age.

FALSE All cases of jaundice require treatment with special lights or a blood transfusion.

TRUE Early breastfeeding problems can result in the baby having fewer stools, which can lead to elevated bilirubin levels.

3. Mark each of the following statements **TRUE** or **FALSE**.

FALSE Bottled water is the main source of fluoride for children and adults in the United States.

TRUE If the water supply doesn't have enough fluoride, the AAP recommends fluoride supplementation for infants starting at age 6 months.

TRUE Tooth decay can occur as soon as the first teeth erupt.

FALSE Early childhood caries usually occur on the back teeth, making it hard for parents to check for early signs of tooth decay.

FALSE Tooth decay cannot occur in breastfed infants.

4. *List three ways parents can help prevent early childhood caries in their infants.*

Possible answers include:

- Don't put the baby to sleep with a bottle or leave a bottle in a crib or playpen.
- Hold the baby during feedings instead of propping up the bottle.
- Use bottles only for formula, breastmilk or water. Offer juice only in a cup.
- Avoid at-will nighttime breastfeeding after the first teeth appear.
- Clean the baby's teeth with a very soft toothbrush and plain water.
- Check the baby's teeth for white spots along the gum line.
- Introduce the cup at around 6 months of age
- Wean the baby from the bottle by 12 to 14 months of age.
- Don't let older infants or toddlers carry around a bottle or a cup filled with infant formula, milk, juice, or sweetened liquid, or use it as a pacifier throughout the day.
- Don't give sweetened water, soda pop, iced tea, sports drinks, fruit drinks, or other sweetened drinks. Never dip pacifiers in sweetened liquid.
- Take the baby to see a dentist when he turns one-year old.

5. *Fill in the blanks:*

To prevent rickets, The AAP recommends that infants get a minimum of 200 IU of vitamin D per day, starting within the first 2 months of life. Vitamin D is added to infant formula, so infants who drink at least 17 ounces of infant formula a day get enough vitamin D. Breastfed infants need to get vitamin D from liquid vitamin drops.

6. *Check the correct answer.* Iron-deficiency anemia can cause:

- learning difficulties
- psychomotor problems
- a decrease in immune function
- all of the above

7. *List four possible sources of dietary iron for infants during the first year of life.*

Possible answers include:

- breastmilk
- iron-fortified infant formula
- meats
- iron-fortified infant cereal
- dried beans
- tofu
- various enriched or fortified bread and cereal products.

8. *Fill in the blanks.*

The main sources of lead exposure in the U.S. are **lead-based paint** and **contaminated dust** in older homes and buildings built before 1978. *List two other sources of lead.*

Possible answers include:

- contaminated soil outside of older buildings with exterior lead-based paint
- imported lead glazed pottery
- water from lead pipes or pipes with lead solder
- traditional home remedies like *azarcon*, *greta*, *pay-loo-ah*, and *litargirio*
- some women who experience pica during pregnancy give birth to infants with elevated lead levels in the blood

9. Briefly *state* two reasons why infants and young children are at a higher risk of lead poisoning compared to older children and adults.

- because a younger child's digestive system absorbs lead more easily, and
- typical infant and toddler behaviors expose them to more lead (i.e., putting hands and toys in the mouth, playing and crawling on the floor or the ground, and chewing on window sills or other surfaces).

10. *List* three things parents can do to reduce an infant's risk of lead poisoning.

Possible answers include:

- Wash toys and pacifiers often, using soap and water.
- Vacuum carpeted floors, wet mop floors, and wet wipe window parts.
- In older homes, create barriers to protect children from lead sources (for example, put tape over lead-painted window sills or door frames; plant grass in bare soil areas).
- Keep the baby away from peeling, chipping or flaking paint.
- Keep the baby from eating nonfood items.
- Keep the child away from bare soil areas near old buildings.
- Don't use glazed pottery to cook, serve, or store food unless you know that it's lead-free.
- Don't use hot tap water for food or drink. Run cold tap water for 1-2 minutes in the morning and fill a pitcher with the water. Use this water for drinking, cooking, and formula preparation.
- Don't use home remedies to treat a child's illness.
- Avoid imported canned goods which may be lead-soldered (cans in the United States are not soldered with lead).

11. Mark each of the following statements **TRUE** or **FALSE**.

FALSE Almost all big babies become obese children.

TRUE No matter how much a baby weighs, no one should ever put a baby on a weight loss diet.

FALSE There's nothing parents can do during the first year of a baby's life to help encourage a healthy weight in their infant. They need to wait until the baby is walking and eating table foods.