

Discussion points

- Immunizations
- Windows of opportunity
- Overhead batting

2 Months

Weekly Plan 2 (Bi-weekly Plan 2)

Parent educator resources

- *Preventable Diseases*
- *Critical Periods: Windows of Opportunity*

Parent handouts

- *Your Child or Your Baby, 1½ to 3½ Months: Intellectual Development*, p. D-81/D-91
- *Your Child or Your Baby, 1½ to 3½ Months: Motor Development*, p. D-85/D-95
- *Windows of Opportunity*
- *Immunizations Are Important!*

Video

 *Born to Learn™* Neuroscience Video: Segment #6, *Windows of Opportunity*

Materials

- The baby's own blanket
- A piece of yarn, ribbon, or elastic that will stretch across a crib
- Several of the baby's small toys or household items

Process


I. Rapport-building

II. **Observation.** Throughout the visit, consider the *whole child* as you share specific observations related to each domain of development.

III. **Discussion.** Incorporate throughout the visit.


A. **Review your previous visit using the Personal Visit Record.** Ask parents what they noticed as they practiced the parent follow-up activity(s).

B. **Parent comments and concerns.** Invite parents to share, now and throughout the visit.

 C. **Developmental characteristics.** Use the handouts, *Your Child or Your Baby, Intellectual Development* and *Motor Development*. Ask which of these characteristics parents may be observing already. Record observations on the form, *Milestones: 1½ to 3½ Months* after the visit.

 D. **Immunizations.** Use the handout, *Immunizations Are Important!* (Refer to the resource, *Preventable Diseases*.)

1. Discuss the importance of following the health care provider's immunization schedule.
2. Ask parents to tell you when the baby gets her shots. Note them in the home visit record.
3. Emphasize the importance of keeping careful records of immunizations. Ask the parents their plans for keeping track of their child's immunizations.

 E. **Windows of opportunity.** Use the handout, *Windows of Opportunity*. (Refer to the resource, *Critical Periods: Windows of Opportunity*.)

1. There are periods of time in the development of the baby's brain when specific types of learning take place.
2. During these periods, the development of connections (synapses) between neurons is most sensitive to stimulation from the environment.
3. Once the sensitive period for an ability has passed, it is harder to change the structure of the brain to accommodate new learning. Synapses have become permanent and space in the brain has been taken up by synapses serving other abilities.

4. These important periods of brain growth are called “windows of opportunity” because parents have great opportunities to help their baby’s brain develop during these times.
 5. With parents, view and discuss video segment #6, *Windows of Opportunity*.
- F. **Overhead batting.** To be able to bat at objects while lying on his back, a child has to coordinate motor, intellectual, and visual skills. It is a step toward being able to reach for and grasp objects.
1. **Motor:** The baby is overcoming newborn reflexes and gaining control over the movement of his arms.
 2. **Intellectual:** The baby is realizing that objects exist apart from his body. His curiosity leads him to try and reach interesting objects.
 3. **Visual:** The baby’s eyes are beginning to work together to give a sharp image of an entire object and he can see farther. This age is the beginning of a window of opportunity for the development of vision. The baby’s eyes should move together to focus on an object, so that vision centers in the brain can integrate images from both eyes.

IV. **Parent-child activity:** Bat Mobile

- A. **Rationale.** Tell the parents why this activity is important.
1. Batting play helps babies:
 - a. gain control over their arms.
 - b. feed their curiosity.
 - c. practice moving both eyes together.
 - d. begin to coordinate eyes and hands together for play.
- B. **Parent-child interaction**
1. **Bat Mobile**
 - a. Tie the yarn, ribbon, or elastic between the legs of a swing or chair, or across a crib, so that the baby can be placed underneath.
 - b. Help the parents find objects around the house that will interest the baby and can be hung from the yarn.
 - c. Use more yarn to tie the objects to the first piece at a height that the baby can reach while lying on his back.
 - d. Show the baby how to raise his arm to bat the objects. Emphasize that it may take a while for the baby to learn how to do this. At first it will happen accidentally.
 2. **Book sharing**
 - a. Ask if the parents have been propping a book so that the baby can see it.
 - b. Emphasize that the parents can read aloud material such as newspapers or magazines of interest to them to the baby.
 3. **Parent follow-up activity.** Ask the parents to do the following during the time between visits:
 - a. Allow the baby to play under his bat mobile several times a day.
 4. **Optional/extended activity.** Use this activity if time remains in the visit.
 - a. Move the baby so that his feet will hit the batting mobile when he kicks.
 - b. With parents, watch to see if he accidentally hits a hanging item.
 - c. Explain that after weeks of play, the baby will learn that her feet can cause the items to move. Then he will purposefully repeat these actions.
- C. **Shared observation.** Help the parents observe their child’s play and consider these questions:
1. Did the baby accidentally hit a hanging object with a hand?
 2. Did he seem to notice if he made an object move?
 3. Did he seem able to focus on the object with both eyes?

V. **Summary**

- A. **Key observations.** Restate one or two key observations about the child’s development.
- B. **Parents’ strength.** Point out a strength of the parents.

C. **Parent follow-up.** Remind parents to continue with the follow-up to the activity(s). Tell parents that you'll be eager to hear about their experiences with the follow-up activity(s) at your next visit. Review the following items with the parents before you leave:

1. Resources/referrals
2. Group meetings/community events
3. Next visit

SAMPLE



CRITICAL PERIODS: WINDOWS OF OPPORTUNITY

Babies are born with millions and millions of connections (known as synapses) between neurons, but the nervous system is still quite immature. Between birth and adulthood many connections will strengthen, and others will disappear. Scientists now believe that there are two broad stages of the formation of synapses between brain cells. The early period occurs before birth, when experience is not yet required. During this early prenatal period, hundreds of millions of neurons are dividing from stem cells. These neurons then establish connections to set up brain circuits to control many unlearned, newborn behaviors and reflexes like breathing, heart rate, body temperature, blood pressure and reflexes. After birth, synapses begin to reorganize to strengthen some connections and eliminate others. This phase of development is very much dependent on experience.

Importance of stimulation in brain development

The later period of the reorganizing of connections between brain cells is very much controlled by the environment a baby experiences. Pathways that are used are integrated into the brain's permanent wiring. Connections that are not used appropriately are eliminated. It is essential that babies experience the world around them. Children reared in conditions of great deprivation and neglect have brains that show abnormalities that persist long after the deprivation is corrected.

Critical periods in brain development

Once the connections are stabilized between brain cells, there are limits to the brain's ability to rewire. There are time limits—critical periods—when environmental stimulation and practicing skills are most important. During these time periods, the brain is very active in making and breaking connections for particular abilities. These critical periods are “windows of opportunity.” Nature flings these windows open at different times, some starting around birth, others

later, and then either “closes,” or at least “lowers” them as a child grows. While the windows are open, lack of appropriate stimulation or negative experiences can have great long-term impact. Brain development proceeds in waves. The timing of the “windows” is different for each skill a child develops.

Vision

In research with cats and monkeys, studies have shown that the two eyes compete for space in the cerebral cortex. If one eye has less visual experience than the other, for example by patching one eye, the closed eye loses out to the open eye. This means that if one eye is closed while the animal is between the ages of 3 and 12 weeks, the eye loses its synaptic connections and becomes blind. If the eye is unpatched before 12 weeks, the brain can recover from the deprivation. In a matter of days, new synapses form and the blind eye can see. If scientists waited too long, however, the loss of vision was irreversible.

Babies can see at birth, but not in detail, and lack depth perception, hand-eye coord-

Windows of Opportunity

You have a golden opportunity to help your child's brain develop. Connections between brain cells are not formed haphazardly. They are promoted by your child's physical development, by her observation of what goes on around her, and by her active involvement with her world.

Window of opportunity defined

Vision, hearing, language, movement, problem solving—each of the areas in your child's brain responsible for different abilities has a sensitive period for development. During these prime times, your child's brain is most ready to make connections for learning new skills. These critical periods are called "windows of opportunity" because, during these times, parents have the opportunity to work with nature to help their baby develop the abilities she is acquiring.

How to tell when the window is open

Most prime times for learning begin very early, certainly during the first 3 years of life. By observing your baby, you can often tell what windows of opportunity are open at a given time.

For instance, your newborn stares intently into your face. She seems to concentrate on focusing her eyes a few feet away. Brightly contrasting patterns capture her attention. So,

you can tell that the first few months are a prime time for your baby's brain to develop vision.

Consider your curious, active toddler. His body is always on the go and moving. He develops very inventive ways to get objects he desires. You see that the windows of opportunity are open for motor development and for such thinking skills as problem-solving. Connections for these abilities are forming at a fast rate.

My child's growing abilities:



When the window closes

While learning takes place most easily during these prime times, the brain will continue to use the same process of forming connections to learn and refine most abilities later in your child's life. It may be more difficult and take more effort, but new connections can usually be made.

Take full advantage of an open window

Your loving relationship with your child makes it easy to take advantage of the windows of opportunity for brain development whenever they occur. When you observe your baby's interests and give her your attention, you can be sure you are making the most of the opportunities for learning that nature provides.

You are your child's first and most influential teacher. Enjoy the opportunity!

SAMPLE

YOUR CHILD'S SOCIAL-EMOTIONAL DEVELOPMENT



Look for your child to:

Smile deliberately.

Become familiar with close family members.

Show excitement when seeing or hearing caregivers.

Use crying as a way to alert you to her needs.

Use sucking to calm herself.

Ways you can help

Eye contact and smiling are very important. Maintain eye contact with your baby while you feed or socialize with her. Always smile back when she smiles at you.

Let your child feel secure in your love by cuddling, singing, rocking, and speaking softly to her.

Offer her a lot of affection and attention while she is alert.

Immediately respond to your baby when she cries. As she becomes confident that her needs will be met, she will cry less.

Soothe and relax your baby when she is uncomfortable by gently massaging and stroking her back, shoulders, arms, and legs.

Allow her to suck to satisfy her emotional and sucking needs.

Look for your child to:

Imitate some facial expressions.

Ways you can help

Watch as your baby imitates your facial expressions. Imitate her in a reciprocal way to encourage a give-and-take exchange.

YOUR CHILD'S BRAIN

- Makes connections for feeling secure when your child's needs are met.
- Produces feelings of trust when you keep taking good care of your child.

SAMM