Introduction (10-15 minutes)
Ask students how many of them have seen a newborn? Have students share how the newborn looked. What characteristics can babies inherit from their parents? What is the average weight and average length of a newborn (7 lbs. and 20")? Next, students will investigate embryo and fetal development. Have students set up a table on paper like what appears on the white board (see next page).
Activity 1 (20-25 minutes)
Distribute pages from the Fetal Development Tear Pad. Every small group of students receives one packet of “The First Nine Months” handouts (4¼” by 5½”) developed for this lesson. Each group member is responsible for independently completing one or two handouts by sketching and describing the stage of development on the handout. Resources available include models, transparencies #6-11 from kit, student handouts #5-10 from kit, and human physiology/parenting resources in classroom.

<table>
<thead>
<tr>
<th>Weight</th>
<th>Object of Similar Weight</th>
<th>Stage of Development (Days &amp; Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.81 oz.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12½ oz.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2½ lbs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5½ lbs.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Length</th>
<th>Object of Similar Length</th>
<th>Stage of Development (Days &amp; Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>¾”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10½”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15¼”</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Students complete the chart by measuring and weighing objects in the classroom to fill in the middle column of the table (the third column will be filled in during Activity 2). Have students work with a partner.

Activity 2 (10-15 minutes)
Small groups reconvene and verify all handouts are complete. Individuals share their sketches and descriptions with group members. Make a special note of traits that can be inherited. As a group, complete the third column of the table from the lesson introduction.

Conclusion (10-15 minutes)
Each group arranges their handouts to form a timeline from a 20-day embryo to a full-term baby. Attach to poster board or on the wall and add a title. Be ready to share with the class three of the most noticeable physical changes that occur during prenatal development. Discuss why this knowledge of prenatal development would be important to prospective parents. What traits can be inherited from parents? Are there environmental factors that could impact the first nine months of development? If yes, site examples. This sets the stage for the next lesson that focuses on the effect of heredity and environment on human growth and development.
Introduction (10-15 minutes)
List on white board: zygote, embryo, placenta, fetus, and newborn. Pose the question, “What do we know about each term?” Divide the class in half. One group will collect information about each term and the second group will complete matching activity (print out “Intro Matching Activity” handout at eNasco.com/page/lesson18). Share the available resources to do the Intro Matching Activity - Life/form® Human Reproduction and Development Kit (transparencies and student handouts) and Fetal Development Tear Pad. When the class reconvenes as a large group, students share their findings. (Answers for Intro Matching Activity: 1-D, 2-F, 3-A, 4-E, 5-B, 6-G, 7-C)

Materials List:
- Life/form® Human Reproduction and Development Kit (WA25812H)
- Fetal Development Tear Pad (WA28966H)
- “The Miracle of Life” Student Handouts (go to eNasco.com/page/lesson18 and print)
- White Board
- Dry-Erase Markers
- Laptop
- Internet
- LCD Projector
- Assorted Human Physiology/Parenting Resources

Optional Activity (60 minutes)
View The Miracle of Life DVD that takes you on an incredible voyage through the human body as new life begins.
Conclusion (5 minutes)

Have each student exchange their narrative (including labeled sketches) with a classmate. Prior to the next class, read partner's narrative and use the “Narrative Peer Review” (go to eNasco.com/page/lesson18 and print) as an overview of information to include.

Lesson Extension:
Plan a service project to benefit a community-based organization that supports healthy prenatal growth. Submit as an FCCLA Community Service Program or STAR Events: Advocacy or Leadership.

Activity 1 (40-45 minutes)

In this activity, students will discover more differences between an embryo and a fetus. They will visualize the process of growth from fertilization through birth and write a narrative of this growth and development as if they were the embryo/fetus (describing all the changes as they occur). The narrative will include five different time frames (e.g., 13-weeks) and the: physical changes, growth, sensitivities (e.g., sound), body functions (e.g., breathing), and patterns that emerge (e.g., sleep periods). Include at least two sketches and label. Refer to handout “Narrative Peer Review” (go to eNasco.com/page/lesson18 and print) as an overview of information to include.

Activity 2 (10 minutes)

Pose the following questions: Based on your narrative writing, when are crucial times during prenatal development? What information have you collected to support your responses? This lesson also will focus on community-based resources available to prospective parents that support healthy prenatal growth and development. For example, have students look at the March of Dimes website. Review the home page and helpful links using a laptop, the Internet, and an LCD projector. Once the student has completed their narrative, they will start the At-A-Glance activity handout (go to eNasco.com/page/lesson18 and print).
### Nasco FCS Lesson

**The Miracle of Life**

**Narrative Peer Review**

*Conduct the peer review with your partner in four stages.*

1. Individually read each other’s narrative and make initial comments in pencil on this form.
2. Formulate questions to ask your partner for further clarification.
3. Meet with your partner, discuss questions, and discuss means to improve their narrative.
4. Finalize ratings and comments on the form.

**Rating Scale:**
- S = satisfactory
- U = unsatisfactory
- N = needs more work/effort

**Time frame of development used in narrative.**
*(example: 13 weeks)*

<table>
<thead>
<tr>
<th>Developmental Characteristics (listed below)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Changes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth, Rate of Growth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitivities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e.g., sound)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body Functions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e.g., breathing)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patterns that Emerge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e.g., sleep periods)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Sketches Provide Detail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Written from Embryo/Fetus Perspective</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
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</tbody>
</table>

The author provided the most detail about…

The narrative confused the reader when…

By asking questions of my partner I was able to clarify…

I would recommend…

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## As I See It

<table>
<thead>
<tr>
<th>Sketch a 20-Day Embryo</th>
<th>Sketch a 26-Day Embryo</th>
<th>Sketch a 35-Day Embryo</th>
<th>Sketch a 63-Day Embryo</th>
</tr>
</thead>
</table>

### Did You Know?
- Describe a 20-day embryo using different facts.
- Describe a 26-day embryo using different facts.
- Describe a 35-day embryo using different facts.
- Describe a 63-day embryo using different facts.
The First Nine Months

How I See It

Sketch a 7-to 8-Week Fetus

Did You Know?

Describe a 7-to 8-week fetus using different facts.

Sketch a 13-Week Fetus

Describe a 13-week fetus using different facts.
How I See It

Sketch a 15-Week Fetus

Did You Know?

Describe a 15-week fetus using different facts.

Sketch a 5-Month Fetus

Did You Know?

Describe a 5-month fetus using different facts.
The First Nine Months

How I See It
Sketch a 7-Month Fetus

Did You Know?
Describe a 7-month fetus using different facts.

How I See It
Sketch a Full-Term Baby

Did You Know?
Describe a full-term baby using different facts.
Intro Matching Activity

Use resources available in the classroom to complete the matching activity below. Be prepared to share your findings with the class.

_____ 1. Fetus is 10½” from crown to heel and weighs nearly 12½ oz.
A. 7-8 weeks

_____ 2. Fetus measures 18½” long and weighs 5½ pounds.
B. 13 weeks

_____ 3. Elbows begin to form and bend.
C. 19 weeks

_____ 4. The head is in proportion with the body.
D. 5 months

_____ 5. The chin no longer rests on the chest.
E. 7 months

_____ 6. The body is composed of about 60-75% water and 15% fat.
F. 35-36 weeks

_____ 7. The scalp hair sprouts and teeth buds begin to form.
G. Full-term baby
**Community-Based Organizations & Agencies At-A-Glance**

Student will identify three organizations, agencies, and/or healthcare providers that support healthy development of the embryo/fetus during pregnancy. Provide website address for each one. Determine which organization/agency you want to investigate using the lower half of this page.

<table>
<thead>
<tr>
<th>Organization/Agency, etc.</th>
<th>Website Address</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

List the website you are investigating: _________________________

What is the mission/purpose of the organization/agency?

How does their work contribute to healthy prenatal development?

How do prospective parents connect with their services?

Describe current research and/or initiatives that are underway.  
(e.g., March of Dimes Folic Acid Study of U.S. Women of Childbearing Age)

How is the organization/agency funded?

Other pertinent information…