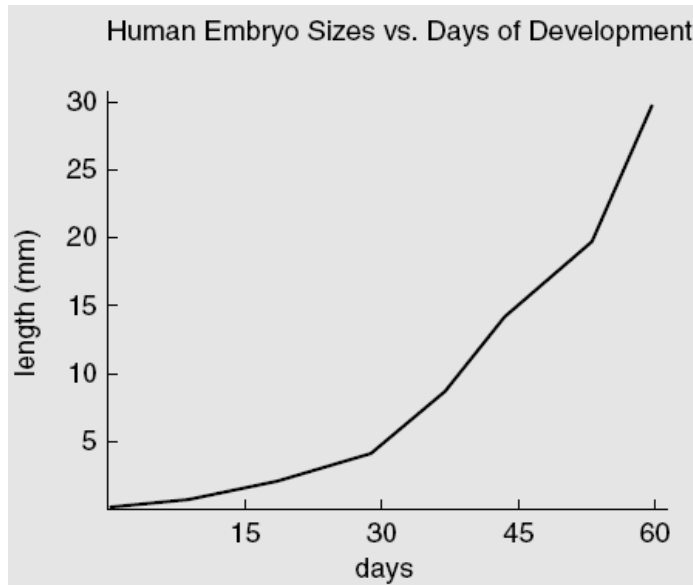


CHAPTER 15	Launch Lab: Visualizing Early Human Development Answer Key	BLM 15.0.1A
ANSWER KEY		

Answer to Procedure Question

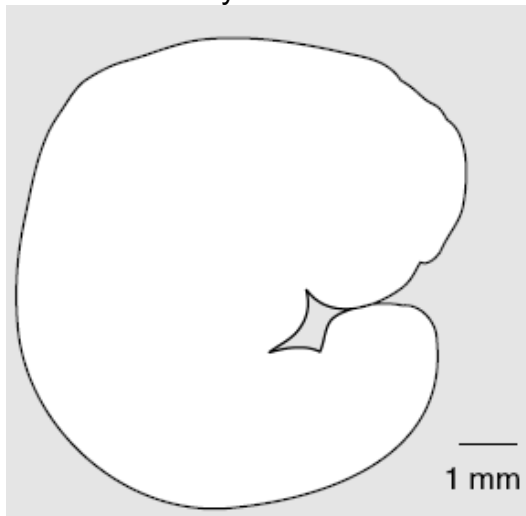
1.



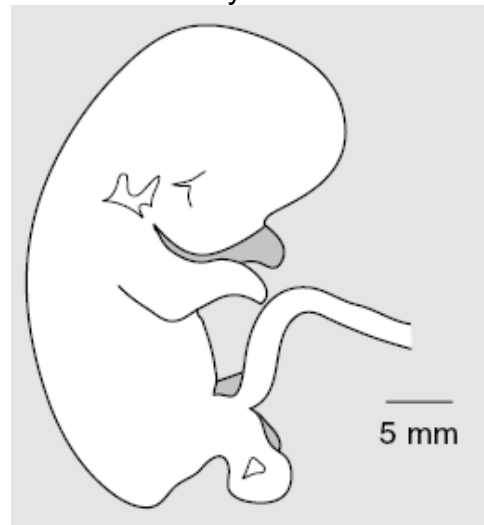
Answers to Analysis Questions

1. The least amount of change in size is occurring from days 1-7 (none).
2. Change in length during the first four weeks is significantly less than the second four weeks. The first four weeks shows an increase in length by 3 mm; the second four weeks shows an increase in length of 27 mm.
3. Your sketches should show a progression, with more human features emerging in the second sketch.

Sketch of embryo at 4 weeks



Sketch of embryo at 8 weeks



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ANSWER KEY		

Changes that are occurring during the first four weeks are: rapid cell division (mitosis), implantation, cell differentiation begins.

Changes that occur during the second four weeks are: tissues form, organs begin to form, head and limbs form.

4. You could list any five of the following changes:

Month	Significant Developmental Events
3	<ul style="list-style-type: none"> • Eyes are well developed, but eyelids are still fused. • Nose develops bridge. • Fetus swallows amniotic fluid and produces urine. • Sexes can be distinguished visually. • Limbs are well-formed, with nails on fingers and toes. • External ears are present. • Fetus moves but too weakly for mother to feel it.
4	<ul style="list-style-type: none"> • Face looks more distinctly human. • Body is larger in proportion to head. • Skin is bright pink. • Scalp has hair. • Joints are forming. • Lips exhibit sucking movements. • Heartbeat can be heard with a stethoscope.
5	<ul style="list-style-type: none"> • Body covered with fine hair (lanugo). • Skin has oily secretion to protect it from amniotic fluid. • Fetus is now bent forward into “fetal position” because it is beginning to outgrow the amniotic sac. • Mother can feel fetal movements. • Skin is bright pink.
6	<ul style="list-style-type: none"> • Eyes are open. • Eyelashes form. • Skin is wrinkled, pink, and translucent.
7	<ul style="list-style-type: none"> • Skin is wrinkled and red. • Fetus turns to an upside-down position. • Bone marrow is now the only site for red blood cell formation. • Testes descend into scrotum. • Fetus can usually survive if born prematurely.
8	<ul style="list-style-type: none"> • Fatty tissue deposition gives fetus a more plump, “babyish” appearance, with lighter, less wrinkled skin. • Twins are usually born now.
9	<ul style="list-style-type: none"> • More fat deposition occurs. • Lanugo is shed. • Nails extend to or beyond fingertips. • Birth is imminent.

CHAPTER 15	Launch Lab: Visualizing Early Human Development (cont'd)	BLM 15.0.1
HANDOUT		

5. a) Substances that are harmful to the developing baby include alcohol, cigarette smoke, some antibiotics, drugs, and environmental toxins.
- b) The developing fetus will be most sensitive to harmful substances during the first eight weeks of pregnancy because that is when all the organs, along with the central nervous system and blood cells and major blood vessels, begin to form.