

There are several main differences between adult and fetal circulation. Information is in the HUMAN DEVELOPMENT chapter of the textbook. [pages 452-454]. Answer and learn the following

- 1) What is the job of the oval opening?

Move oxygenated blood from right atrium to left atrium

- 2) What is the job of the venous duct?

Merge umbilical vein with vena cava to deliver oxygenated blood to right atrium

- 3) What is the job of the arterial duct?

Connect pulmonary artery to aorta ... to divert [some] oxygenated blood away from lungs and towards body.

- 4) How do you tell the umbilical artery from the umbilical vein just by looking at a diagram?

There are two umbilical arteries ... wrapped around the umbilical vein. The arteries are thinner. There is just one umbilical vein ... it is thicker.

- 5) What differences are there between blood in umbilical artery vs. umbilical vein [direction of flow & composition of blood]

Umbilical artery is carrying blood away from fetus and out of fetus. It has deoxygenated blood with CO₂ and wastes in it. Umbilical vein is carrying blood into fetus. It has oxygenated blood carrying nutrients.

- 6) What is the job of the placenta?

To exchange oxygen and nutrients from mother's blood with carbon dioxide and wastes from fetal blood.

- 7) HOW does the placenta do its job [focus on structure]?

It is a place where mother's blood enters placenta and comes NEAR to fetus blood but then u-turns at her capillaries and leaves after dropping off oxygen and nutrients to fetal capillaries [and picking up CO₂ and wastes]. Fetus blood comes near mother's blood then u-turns at capillaries after picking up oxygen and nutrients and dropping off CO₂ and wastes. The blood of the mother and fetus are not supposed to touch each other ... just exchange materials.

- 8) Label the diagram [on back of this page]. There is an excellent diagram in your textbook to use.

- 9) In the diagram, colour vessels having oxygenated blood RED, deoxygenated blood BLUE, mixed blood PURPLE, and mixed blood with less oxygen BLUEY-PURPLE. [Use text diagram and/or internet pictures to help you].

FETAL CIRCULATION

Fetal Circulation

