**Comparing a Growing Tree and a Growing Child**

Consider what you have learned about **cellular respiration**, **photosynthesis** and **biosynthesis**. Think about the Key Questions for Matter and Energy for Systems. Use that information to compare the pathways that carbon atoms take through a growing tree and a growing child.

**Word Bank:** Biosynthesis

Carbon Dioxide

C-C bond

Cellular Respiration

C-H bond

Chemical energy

Circulatory system

digestion

Fat

Glucose

input

Light Energy

Monomer

output

Oxygen

Photosynthesis

Polymer

product

Protein

reactant

roots

stomata

transpiration

Water

|  |  |
| --- | --- |
| **Draw and label arrows to show where carbon atoms enter and exit the tree and the pathway through the tree that they take to reach its growing root.** | **Draw and label arrows to show where the carbon atoms enter and exit the child and the pathway through the child that they take to reach a growing leg muscle.** |
| **Draw arrows connecting the Plant model to the Animal model** |

**Word bank:** These terms have been used as we studied matter and energy in living things. Select terms that are best suited for completing your task. You can add terms you believe are necessary that are not present.

Biosynthesis

Carbon Dioxide

C-C bond

Cellular Respiration

C-H bond

Chemical energy

circulate or circulation

digestion

Fat

Glucose

input

Light Energy

Monomer (small macromolecule)

output

Oxygen

Photosynthesis

Polymer (large macromolecule)

product

Protein

reactant

roots

stomata

transpiration

Water