

Name: _____ Class: _____ Date: _____

5.1: Tracing Atoms and Energy in Animals

Some things you may already know. One thing you already know is that *atoms last forever* in living systems. So all the atoms in an animal must have come from somewhere. Animals need *water, air, and food* to live and grow. So those are the sources that the atoms and the energy in animals must come from.

You may not know what kinds of atoms animals are made of. Chemists can take an animal and analyze what kinds of atoms (what elements) it is made of. The first column of the table below shows what they find. Where does each kind of atom in an animal come from?

<i>Kinds of atoms in animals</i>	<i>Where atoms come from</i>		<i>Your reasons for your ideas</i>
Carbon atoms make up about 19% of the mass of animals.	Animals' bodies get some carbon atoms from water .	True False	
	Animals' bodies get some carbon atoms from air .	True False	
	Animals' bodies get some carbon atoms from food .	True False	
Oxygen atoms make up about 65% of the mass of animals.	Animals' bodies get some oxygen atoms from water .	True False	
	Animals' bodies get some oxygen atoms from air .	True False	
	Animals' bodies get some oxygen atoms from food .	True False	
Hydrogen atoms make up about 10% of the mass of animals.	Animals' bodies get some hydrogen atoms from water .	True False	
	Animals' bodies get some hydrogen atoms from air .	True False	
	Animals' bodies get some hydrogen atoms from food .	True False	
All other elements (mostly nitrogen, potassium, calcium, magnesium, and phosphorous) make up about 6% of the mass of animals.	Animals' bodies get some other atoms from water .	True False	
	Animals' bodies get some other atoms from air .	True False	
	Animals' bodies get some other atoms from food .	True False	

You already know is that *energy lasts forever* in living systems. The energy in animals must come from somewhere. Use the table below to show where the chemical energy comes from.

<i>Kinds of energy in animals</i>	<i>Where energy comes from</i>		<i>Your reasons for your ideas</i>
Where does the <i>chemical energy</i> in an animal come from?	Animals' bodies get some energy from water .	True False	
	Animals' bodies get some energy from air .	True False	
	Animals' bodies get some energy from food .	True False	