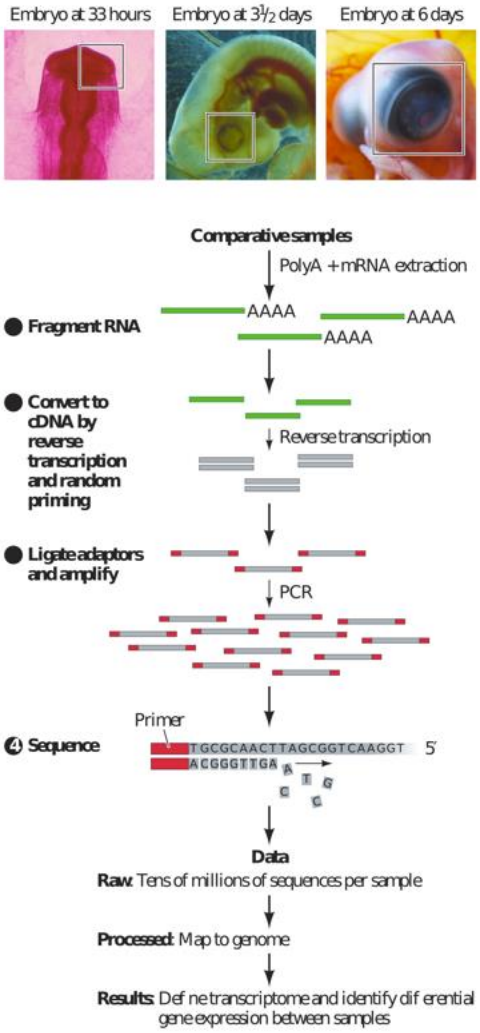
<Further Development 3.23>

Deep Sequencing: RNA-Seq



Deep sequencing: RNA-Seq. (Top) Researchers begin with specific sorts of tissues, often comparing different conditions, such as embryos of different ages (chick embryos, as shown here), isolated tissues (such as the eye; boxed regions) or even single cells, and samples from different genotypes or experimental manipulations. (1) RNA is isolated to obtain only those genes that are actively expressed. (2) These transcripts are then fragmented into smaller stretches and used to create cDNA with reverse transcriptase. (3) Specialized adaptors are ligated to the cDNA ends to enable PCR amplification and immobilization for (4) subsequent sequencing. (After J. H. Malone and B. Oliver. 2011. *BMC Biol* 9: 34.)