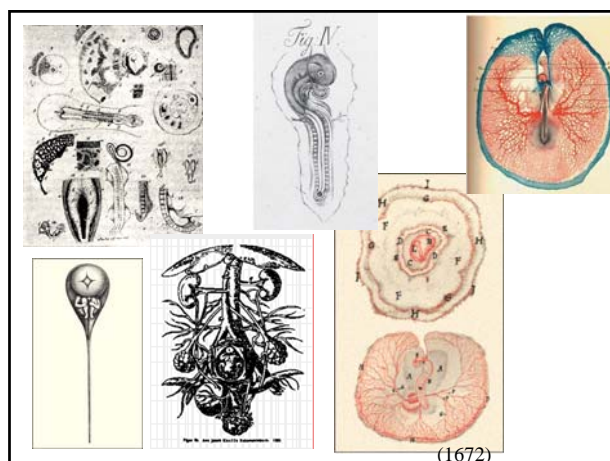
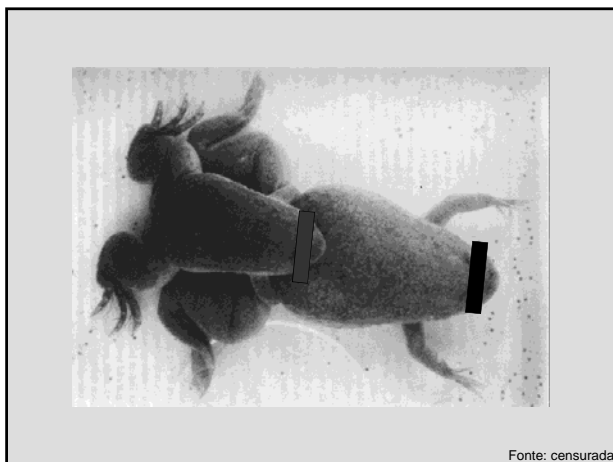
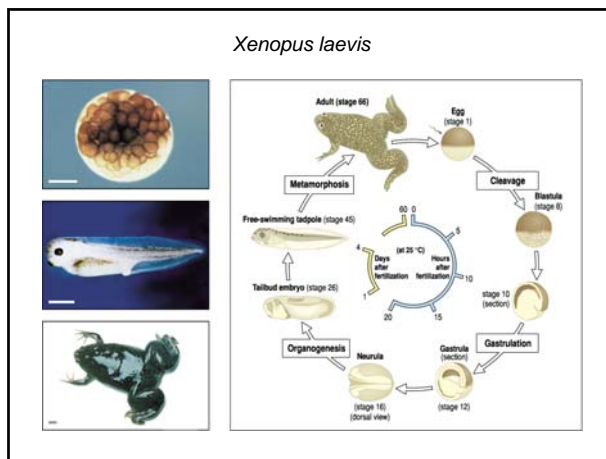
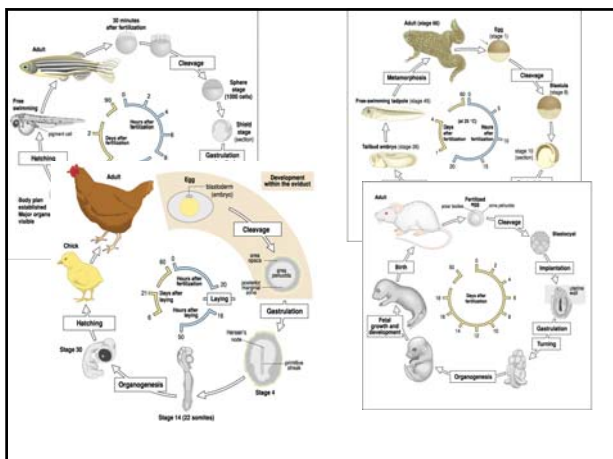


1. De onde **os seres** vêm?
PARA ONDE vão?
2. O que estas células **PODEM** ser?
3. **QUANDO** elas decidem o que vão ser?
4. **COMO** ocorre esta decisão?

Aristóteles (384-322 A.C)

(The Embryological Origins of the Gene Theory, Scott Gilbert)





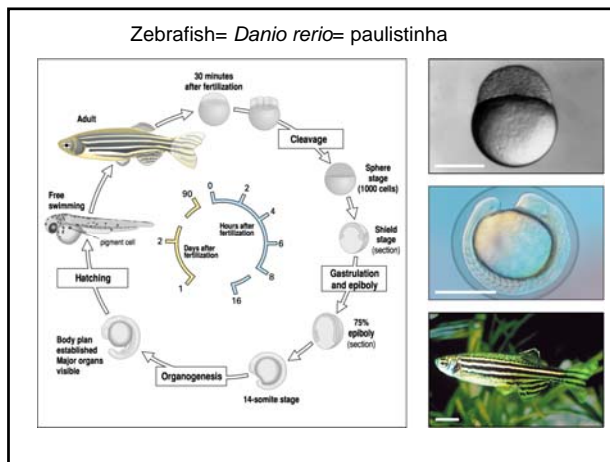
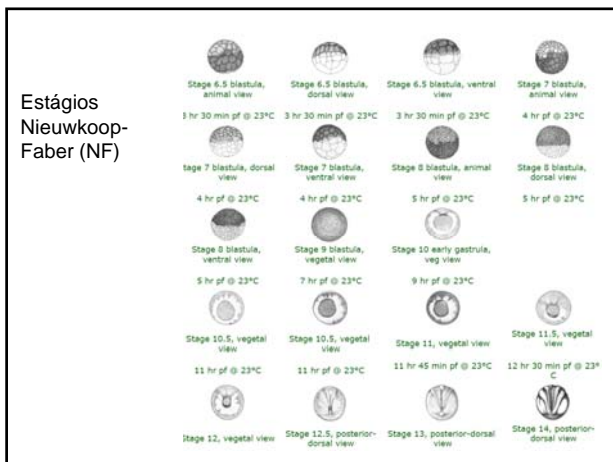
CLIVAGEM EM VERTEBRADOS

Holoblástico Radial (ANFÍBIOS)

Meroblástico Discoidal (RÉPTEIS, PEIXES, AVES)

Holoblástico Rotacional (MAMÍFEROS)





Zebrafish Development Late Gastrulation to Prehatching

Vade Mecum 2 Tyler e Kozlowski

From: Kimmel et al. Stages of embryonic development of the zebrafish
Dev. Dyn. 203:253-310, 1995

**Epibolia
Somitos**

Gallus gallus

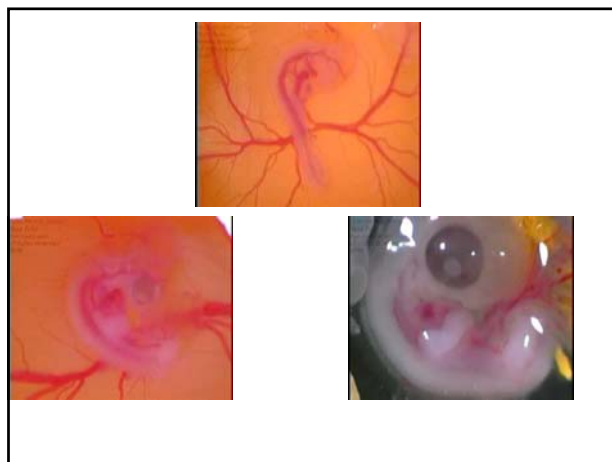
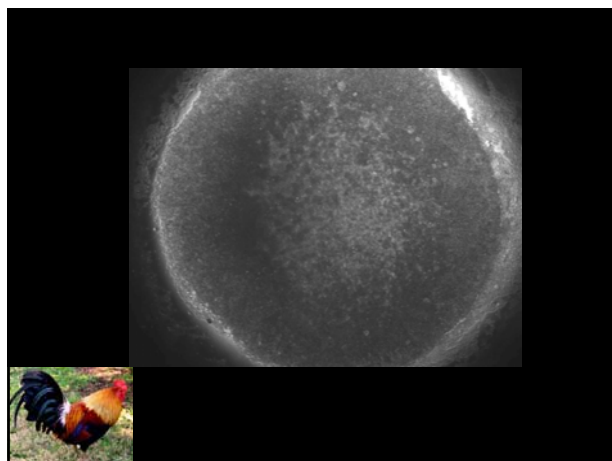
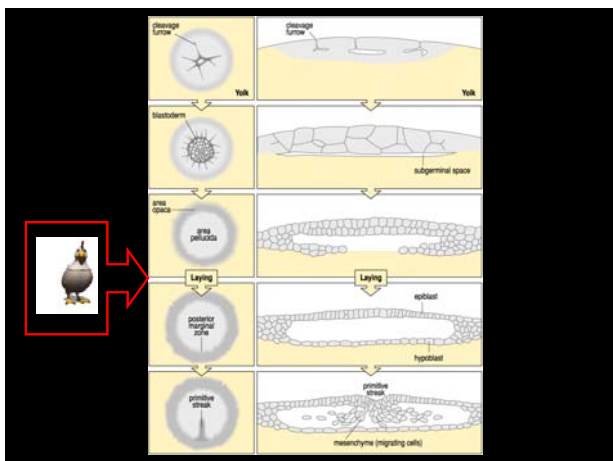
CLIVAGEM EM VERTEBRADOS

Holoblástico Radial (ANFÍBIOS)

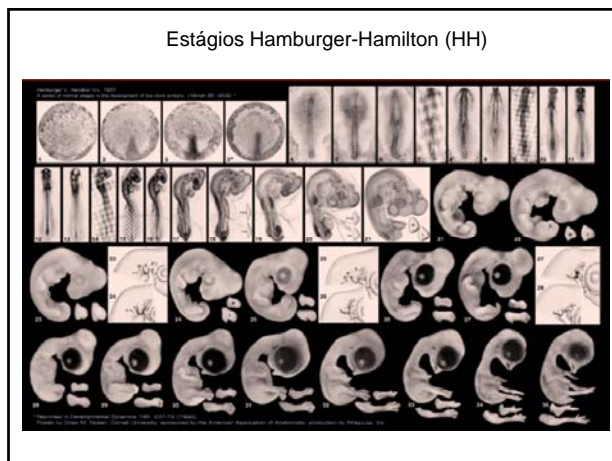
Meroblástico Discoidal (RÉPTEIS, PEIXES, AVES)

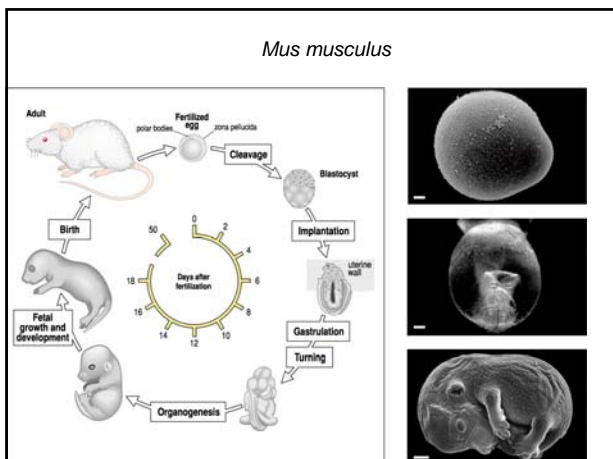
Holoblástico Rotacional (MAMÍFEROS)

AP- Área Pelúcida
AO- Área Opaca



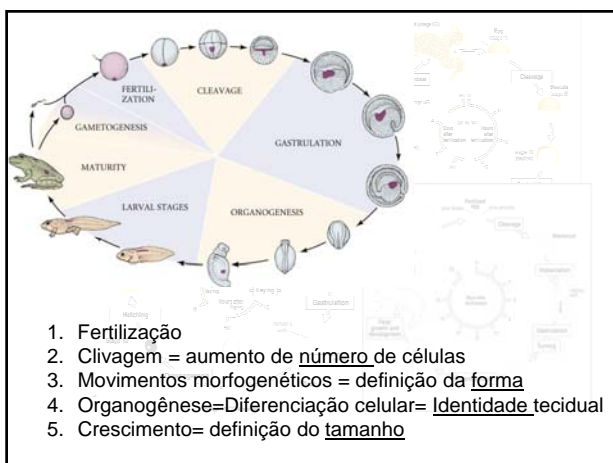
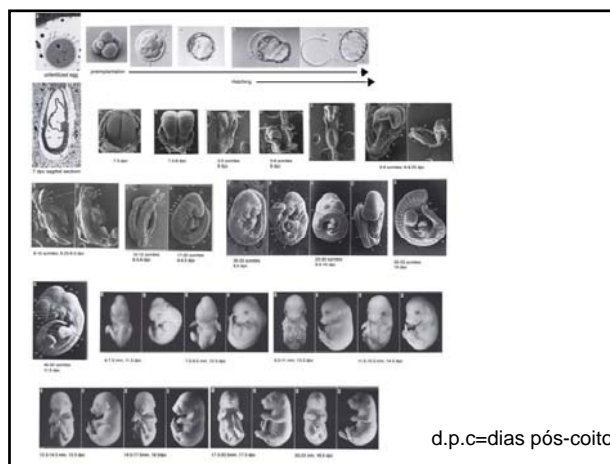
Peek inside an egg shell and watch an embryo develop into a chick





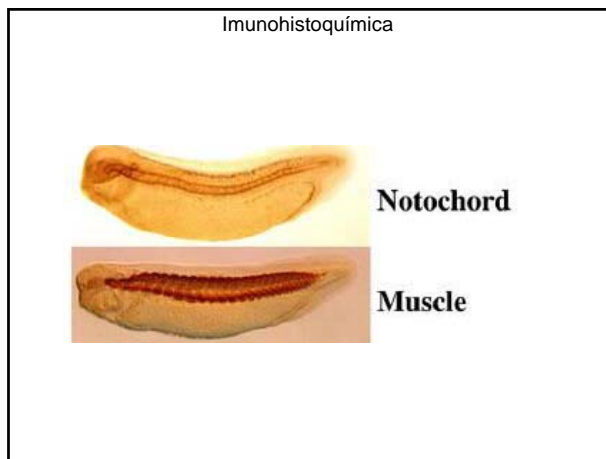
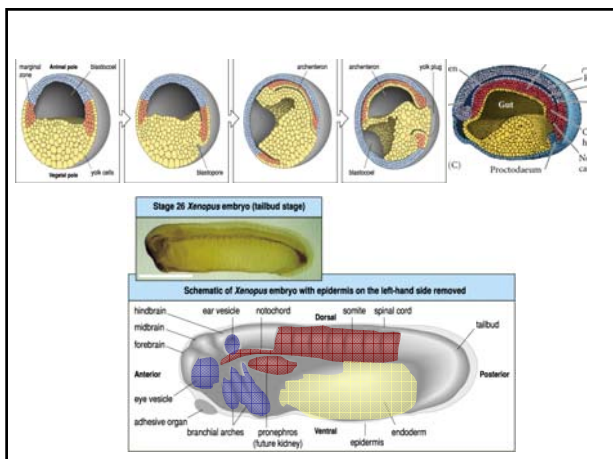
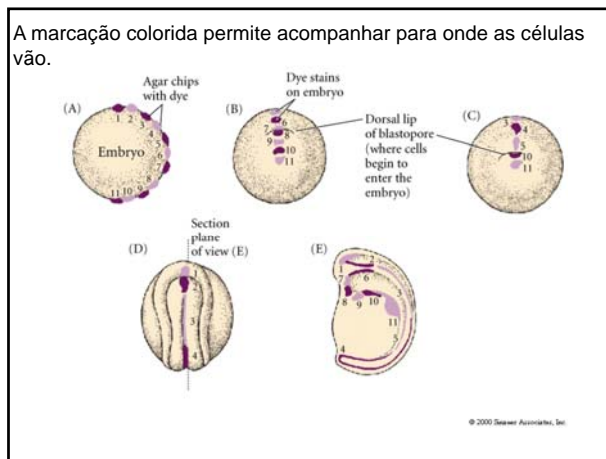
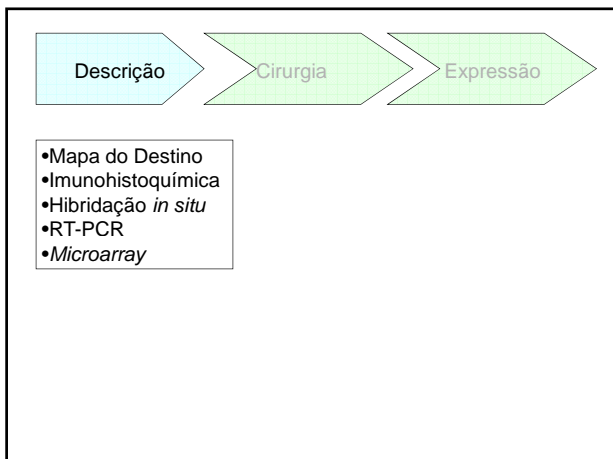
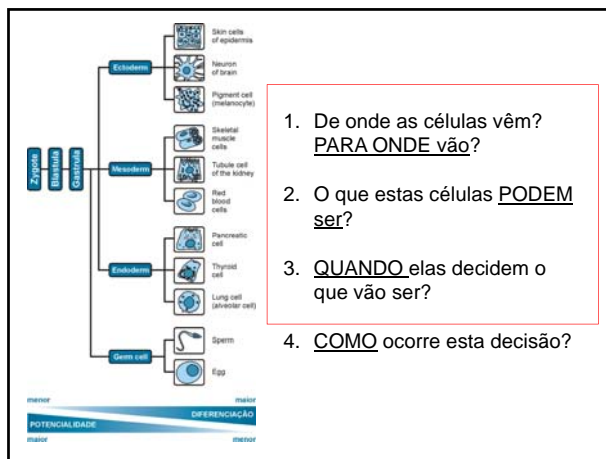
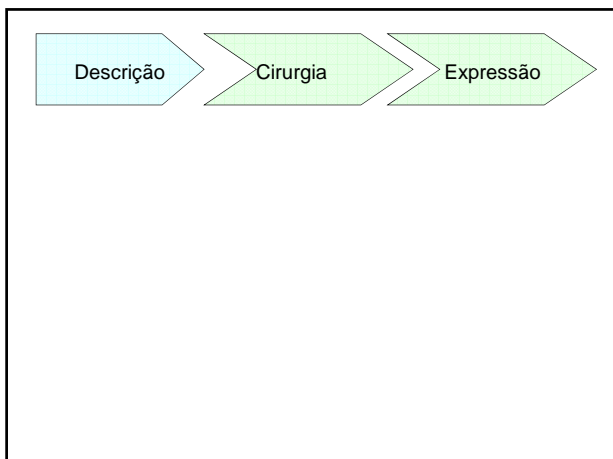
MOUSE DEVELOPMENT

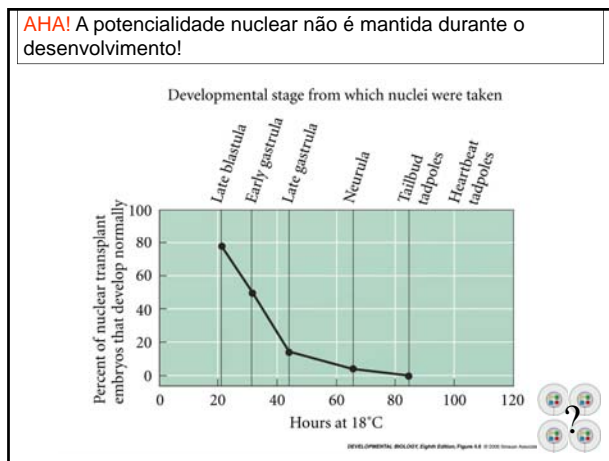
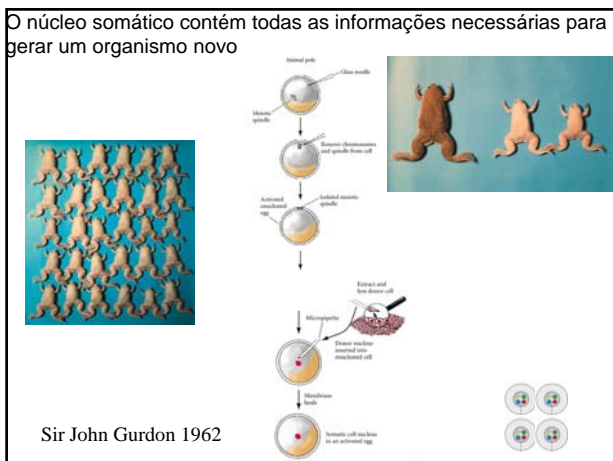
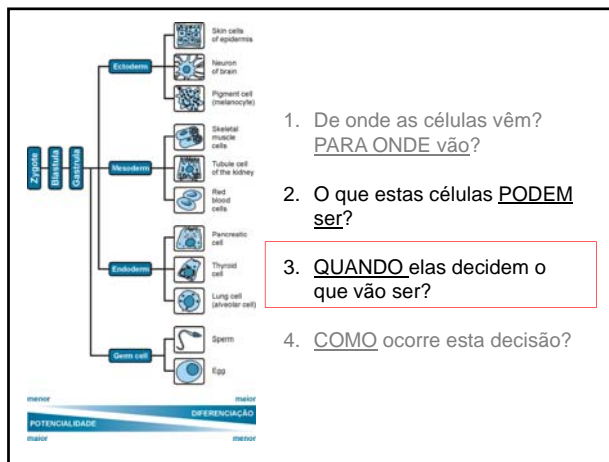
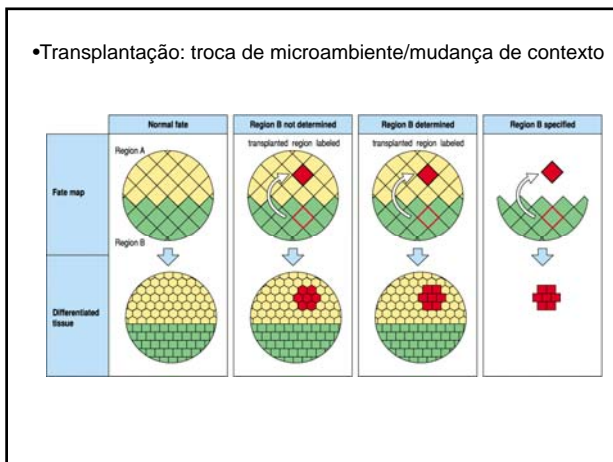
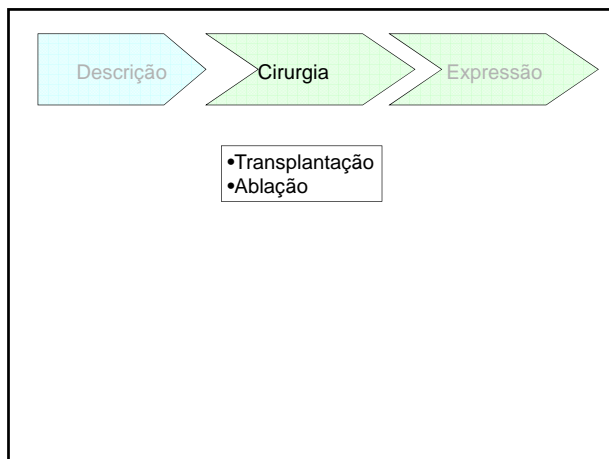
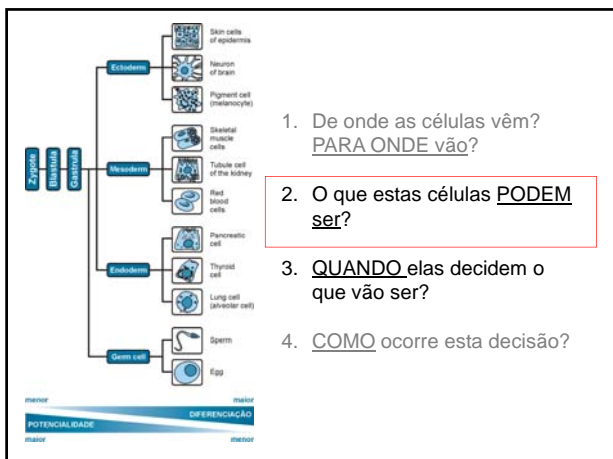
ANN SUTHERLAND
University of California
San Francisco

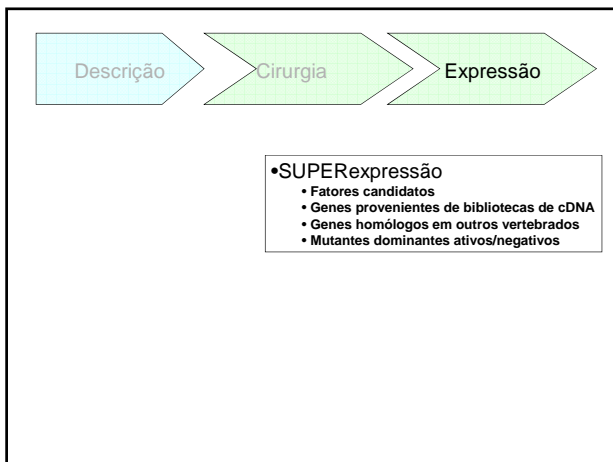
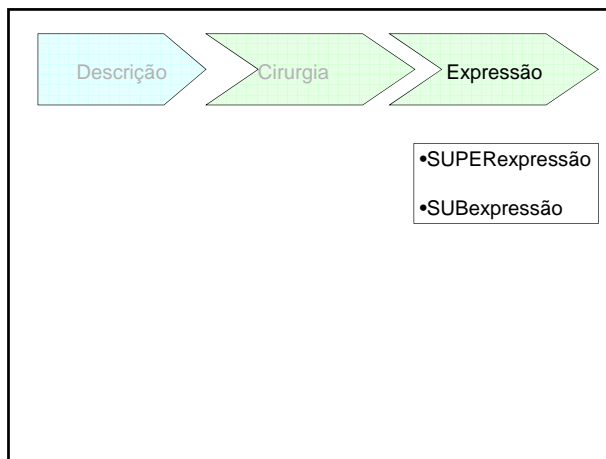
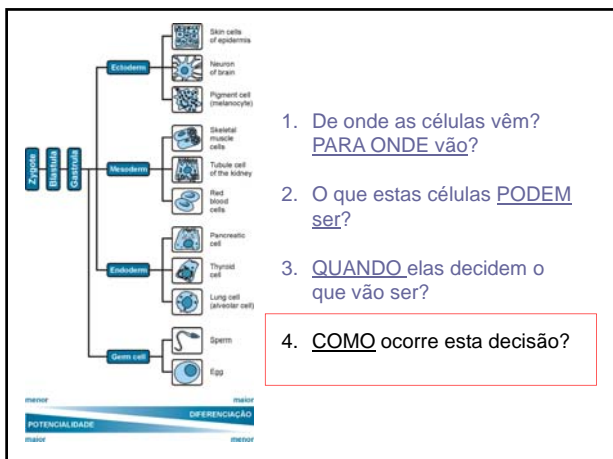


Entwicklungsmechanik
(*Mecanismos de Desenvolvimento*)

1. De onde as células vêm? PARA ONDE vão?
2. O que estas células PODEM ser?
3. QUANDO elas decidem o que vão ser?
4. COMO ocorre esta decisão?







uper Expressão Gênica!!!!

- Microinjeção de RNA
- Eletroporação
- Infecção
- Transgênese

