BIOLOGY II
CARDIOVASCULAR SYSTEM
ACTIVITY #2

NAME_____

DATE_____HOUR_____

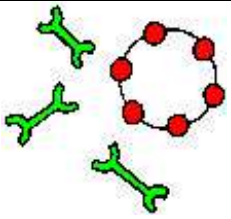
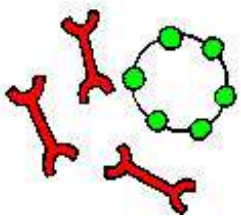
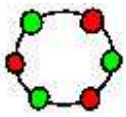
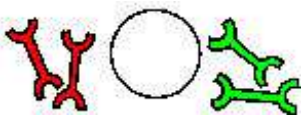
BLOOD TYPING

OBJECTIVE:

5. Explain how blood is typed and why it is important to type blood. (pp. 340 – 343)

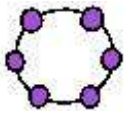
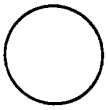
I^A = allele for antigen A
I^B = allele for antigen B
i = allele for no antigen

ABO BLOOD GROUPS

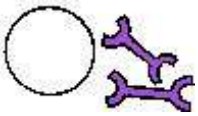
BLOOD TYPE	GENETICS	BLOOD
A	I^AI^A or I^Ai	 Antigen A Anti-B antibodies
B	I^BI^B or I^Bi	 Antigen B Anti-A antibodies
AB	I^AI^B	 Antigen A Antigen B No antibodies
O	ii	 No antigens Anti-A antibodies Anti-B antibodies

R = allele for Rh antigen
r = allele for no antigen

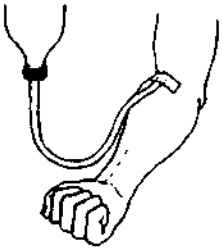
Rh Factor

BLOOD TYPE	GENETICS	BLOOD
Rh+	RR or Rr	 Rh antigen
Rh-	rr	 no antigen

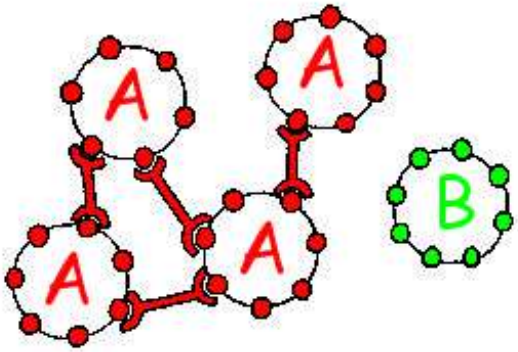
RH-NEGATIVE BLOOD AFTER EXPOSURE TO RH-POSITIVE

BLOOD TYPE	GENETICS	BLOOD
Rh-	rr	 No Rh antigen Anti-Rh antibodies

IMPORTANCE OF TYPING BLOOD

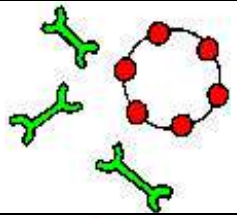
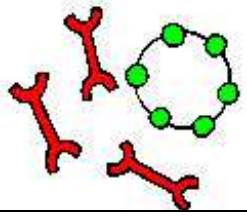
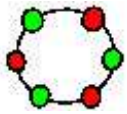
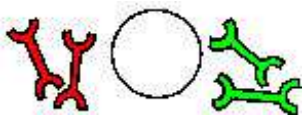


Type A blood given to
Type B patient



Anti-A antibodies from
patient attack antigen A
RBCs in transfusion
Result: clumping
Blocked blood vessels
Could result in death

TYPING BLOOD

BLOOD TYPE	BLOOD	IN ANTI-A SERUM	IN ANTI-B SERUM
A		Clumping	No clumping
B		No clumping	Clumping
AB		Clumping	Clumping
O		No clumping	No clumping

BLOOD TRANSFUSIONS

GENERAL RULE:

Match antigen of donor with antibodies of recipient

BLOOD TYPE	CAN GIVE BLOOD TO:	CAN RECEIVE BLOOD FROM:
A	A, AB	A, O
B	B, AB	B, O
AB	AB	AB, A, B, O
O	O, A, B, AB	O