CONCEPT: SUMMARY OF MAGNETISM PROBLEMS

• Remember: Electric Charges and Magnets both (a) PRODUCE A FIELD and (b) FEEL A FORCE:

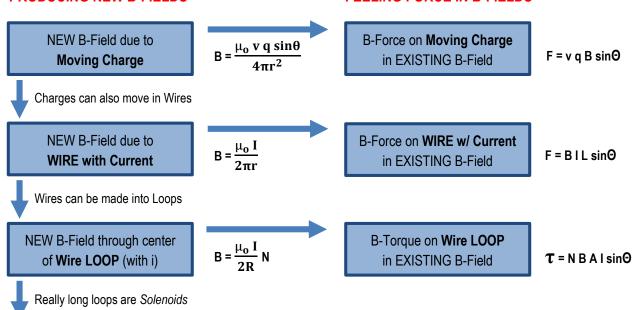
- Most Magnetism problems have to do with calculating the magnitude of:
 - (1) A(n) _____ Magnetic Field being PRODUCED;
 - (2) A Force FELT due to a(n) _____ Magnetic Field.
- We will calculate Fields PRODUCED BY and Forces FELT BY Electric → (i) ______, (ii) ______
 - What about Magnets? No calculations, only directions!
 - → KEY Difference: Magnets <u>ALWAYS</u> Produce Fields AND Feel Forces.
 - Electric CHARGES produce Fields AND feel Forces ONLY IF they are
 - Electric WIRES produce Fields AND feel Forces **ONLY IF** they have ______.

PRODUCING NEW B-FIELDS

NEW B-Field inside

Solenoids (LONG loops)

FEELING FORCE IN B-FIELDS



 $B = \frac{\mu_0 I}{I} N$