1)

$$\frac{95 \cdot 94 \cdot 93 \cdot 92}{100 \cdot 99 \cdot 98 \cdot 97} = \boxed{0.8119}$$

2)

Agree on Right $= p^2$

$2\times$ disagree & hunter chooses right path : $\cancel{2}\frac{1}{2}p(1-p)$

$$p^2 + p - p^2 = \boxed{p}$$

Same Probability as just letting 1 dog choose

Hanson Tang

3)

4 blocks = 4! combination

4 math books = 4! combination

3 chem books = 3!

2 phy books = 2!

1 bio book = 1

Total = $4! \cdot 4! \cdot 3! \cdot 2! \cdot 1 = \boxed{6912 \text{ arrangements}}$

4) $_{10}C_2 \cdot {}_8C_2$

$$\frac{10!}{8!2!} \cdot \frac{8!}{2!6!} \rightarrow \frac{10 \cdot 9 \cdot \overset{2}{8} \cdot 7}{4} = \boxed{1260 \text{ committee possibilities}}$$

5.1) $_8C_4 = \frac{8!}{4!4!} = \boxed{70 \text{ ways}}$

5.2) $2^4 = 16$