

Green Autosome	A. no chin spike B. nose spike C. three head flaps D. no visible ear hole E. [see * below]	a. chin spike b. no nose spike c. four head flaps d. visible ear hole
Red Autosome	F. long neck G. no back hump H. no back spikes I. long tail J. flat feet	f. short neck g. back hump h. back spikes i. short tail j. arched feet
Orange Autosome	K. red eyes L. spots on neck M. [see † below] N. no fangs O. spots on back	k. yellow eyes l. no spots on neck n. fangs o. no spots on back
Yellow Autosome	P. no spots on thigh Q. green body R. small comb on head [see ⚡ below] S. [See ☞ below] T. [See ► below]	p. spots on thigh q. purple body r. large comb on head [see ⚡ below]
Sex Chromosomes	U. regular thigh V. four toes W. no chest plate	u. pointed thigh v. three toes w. chest plate
X Chromosome Only	X. no. tail spike Z. long arms + non-fire breather	x. tail spike z. short arms - fire breather
Y chromosome only	Y. male sex	

Codominant traits

* E. eye pointed at each end e. round eye Ee. eye round at front only
☞ S. Red spots s. yellow spots Ss. orange spots

Sex-influenced traits

† M. wings m. no wings [dominant in presence of male hormone]
► T. no elbow spike t. elbow spike [dominant in presence of male hormone]

Sex-limited traits

⚡ R or r Only males have the comb on the head.

1. What is Mendel's Law of Segregation?

HOMOLOGOUS ALLELE PAIRS SEPARATE when GAMETES FORM

2. How does dropping the sticks and transcribing only 1 side of the stick model this law?

shows that ea. parent only PASSES 1 of 2 ALLELES

3. What is Mendel's Principle of Independent Assortment?

ALLELE PAIR FOR DIFFERENT GENES SEPARATE individually when GAMETES FORM

4. How does dropping the green, orange and red sticks illustrate this principle?

shows traits on diff. chromosomes not always linked.

5. The gene for fangs is recessive, yet most of the dragons have fangs. How can a recessive trait be so common?

b/c allele (rec.) is very common in gene pool

5. What is a "sex-linked trait"?

on X or Y chromosome

6. Which traits are sex-linked? Refer to "Decoding the Dragon Genome."

- thigh shape
- # of toes
- chest plate
- tail spike
- arm length
- fire-breathing

7 a. What traits are *more likely* to be found in males? [Consider sex-linked, sex-influenced and sex-limited traits.]

linked:

tail spike
short arms
fire-breather

influenced:

- no wings
- elbow spike

limited:

comb

8 a. What traits are more likely to be found in females?

linked:

no tail spike
Long arms
non-fire breather

influenced:

wings
no elbow spike

