

SCIENCE 1.9
WORKSHEET FIVE

ANSWERS
INHERITANCE

1. Genotype is the genes an organism possesses.
2. Phenotype is the physical appearance of an organism.
3. Siblings (brothers and sisters) can have many similar genes which have come from their parents. However, during meiosis only one allele from each parent is given this is the beginning of the differences that can arise. Then later due to crossing over, which can happen during meiosis, some of the chromosomes from the mother and father are mixed. This gives rise to the differences in appearance and the different phenotypes.

4.

(a)

	T	t
T	TT	Tt
t	Tt	tt

- (b) Tt.
- (c) Tongue rollers 3: Non tongue rollers 1

5. (a) Tom **Tt** and Jill **tt**.
(b) Tom must be Tt, heterozygous so that he can produce a non-tongue roller.
(c) Sam **Tt** Mary **Tt** John **Tt**.
(d) Mary must be Tt Heterozygous in order to produce a child who is a non-tongue roller.

6. Punnett square- **a table in which all combinations of gametes are displayed.**

Pure breeding - an individual containing two identical forms of the same recessive genes (alleles).

Inheritance – **the passing on of characteristics from generation to the next.**