BULL TERRIER COAT COLOUR PREDICTION TOOL
Record the colours below of the male and female mates and their parents and grandparents:


Look at the extent of white on the $\widehat{\delta}$ and $q$. Tick the correct boxes. Circle the $\widehat{\sigma}$ and $q$ intersection in TABLE 1. Transfer the fractions into each box in the first column of the Probability Calculator.


Coloured \& White = body predominantly coloured (not white); strong white collar, front and underbody
Solid Coloured = body all coloured with or without limited white markings on the muzzle, chest and feet

| $\downarrow{ }^{\text {¢ }}$, TABLE $1 \quad ¢ \rightarrow$ | White | Coloured \& White | Solid Coloured |
| :---: | :---: | :---: | :---: |
| White | White $=1 / 1$ <br> Coloured \& White $=0$ <br> Solid Coloured $=0$ | $\begin{aligned} & \text { White }=1 / 2 \\ & \text { Coloured \& White }=1 / 2 \\ & \text { Solid Coloured }=0 \end{aligned}$ | White = 0 <br> Coloured \& White $=1 / 1$ <br> Solid Coloured = 0 |
| Coloured \& White | $\begin{aligned} & \text { White }=1 / 2 \\ & \text { Coloured \& White }=1 / 2 \\ & \text { Solid Coloured }=0 \end{aligned}$ | $\begin{aligned} & \text { White }=1 / 4 \\ & \text { Coloured \& White }=1 / 2 \\ & \text { Solid Coloured }=1 / 4 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { White }=0 \\ & \text { Coloured \& White = } 1 / 2 \\ & \text { Solid Coloured }=1 / 2 \\ & \hline \end{aligned}$ |
| Solid Coloured | $\begin{aligned} & \text { White }=0 \\ & \text { Coloured \& White }=1 / 1 \\ & \text { Solid Coloured }=0 \\ & \hline \end{aligned}$ | White = 0 <br> Coloured \& White $=1 / 2$ <br> Solid Coloured $=1 / 2$ | $\begin{array}{\|l\|} \hline \text { White }=0 \\ \text { Coloured \& White }=0 \\ \text { Solid Coloured }=1 / 1 \\ \hline \end{array}$ |

Look at the base coat colour on the $\widehat{\sigma}$ and $\varphi$. Tick the correct boxes. Circle the $\widehat{\sigma}$ and $q$ intersection in TABLE 2. Transfer the fractions into each box in the second column of the Probability Calculator.

True Red = Red or Brindle coloured; no parents or grandparents that are Black \& Tan/Tricolour or Black Brindle

Red carrying Black on Red = Red or Brindle coloured; with a parent or grandparent that is Black \& Tan/Tricolour or Black Brindle

Black on Red = Black \& Tan/Tricolour or Black Brindle coloured

| $\downarrow{ }^{\text {® }}$ TABLE $2 \quad ¢ \rightarrow$ | True Red | Red carrying Black on Red | Black on Red |
| :---: | :---: | :---: | :---: |
| True Red | $\begin{aligned} & \text { Red }=1 / 1 \\ & \text { Black on Red }=0 \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { Red }=1 / 1 \\ \text { Black on Red }=0 \\ \hline \end{array}$ | $\begin{aligned} & \text { Red }=1 / 1 \\ & \text { Black on Red }=0 \end{aligned}$ |
| Red carrying Black on Red | $\begin{aligned} & \text { Red }=1 / 1 \\ & \text { Black on Red }=0 \end{aligned}$ | $\begin{array}{\|l} \hline \text { Red }=3 / 4 \\ \text { Black on Red }=1 / 4 \end{array}$ | $\begin{aligned} & \text { Red }=1 / 2 \\ & \text { Black on Red }=1 / 2 \end{aligned}$ |
| Black on Red | $\begin{aligned} & \text { Red }=1 / 1 \\ & \text { Black on Red }=0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Red }=1 / 2 \\ & \text { Black on Red }=1 / 2 \end{aligned}$ | $\begin{aligned} & \text { Red }=0 \\ & \text { Black on Red }=1 / 1 \end{aligned}$ |

Look at the patterning on the red base coat parts on the $\widehat{\sigma}$ and $\phi$. Tick the correct boxes. Circle the intersection in TABLE 3. Transfer the fractions into each box in the third column of the Probability Calculator below.

True Brindle $=$ Brindle or Black Brindle coloured; with both Brindle parents and grandparents


Brindle carrying No Brindle Pattern = Brindle or Black Brindle coloured; but has a non-Brindle parent or grandparent
No Brindle Pattern = Red or Black \& Tan/Tricolour coloured

| $\downarrow{ }_{o}$ TABLE 3 $\quad \rightarrow \rightarrow$ | True Brindle | Brindle carrying No <br> Brindle Pattern | No Brindle Pattern |
| :--- | :--- | :--- | :--- |
| True Brindle | Brindle $=1 / 1$ | Brindle $=1 / 1$ |  |
| NO Brindle $=0$ | NO Brindle $=0$ | Brindle $=1 / 1$ |  |
| NO Brindle $=0$ |  |  |  |
| Brindle carrying | Brindle $=1 / 1$ | Brindle $=3 / 4$ | Brindle $=1 / 2$ |
| No Brindle Pattern | NO Brindle $=0$ | NO Brindle $=1 / 4$ | NO Brindle $=1 / 2$ |
| No Brindle Pattern | Brindle $=1 / 1$ <br> NO Brindle $=0$ | Brindle $=1 / 2$ |  |
| NO Brindle $=1 / 2$ | Brindle $=0$ |  |  |
| NO Brindle $=1 / 1$ |  |  |  |

## PROBABILITY CALCULATOR

Multiply the three fractions in the boxes across each row to produce the colour probabilities for the litter.

| TABLE 1 fractions | TABLE 2 fractions | TABLE 3 fractions | COLOUR PROBABILITIES |
| :---: | :---: | :---: | :---: |
| White | X $1 / 1$ | X 1/1 | $=\square$ White |
| Coloured \& White | $X_{\text {Red }}$ | Brindle | $=\square$ Brindle \& White |
| Coloured \& White | $X_{\text {Red }}$ | NO Brindle | $=\square$ Red \& White |
| Coloured \& White | X Black on Red | X Brindle | $=\square$ Black Brindle \& White |
| Coloured \& White | $X_{\text {Black on Red }}$ | NO Brindle | $=\square$ Tricolour |
| Solid Coloured | $X_{\text {Red }}$ | $X_{\text {Brindle }}$ | $=\square$ Brindle Solid |
| Solid Coloured | $X_{\text {Red }}$ | NO Brindle | $=\square$ Red Solid |
| Solid Coloured | Black on Red | Brindle | $=\square$ Black Brindle Solid |
| Solid Coloured | X Black on Red | NO Brindle | $=\square$ Black \& Tan Solid |

REMEMBER: The actual proportions of the different colours presented in the final column of the
Probability Calculator table will only be evident with very large numbers of puppies as a single litter of puppies is too small statistically to reflect this. The table can however still show the possible colours that can result from a mating and give an indication of the probability of each colour occurring © Tracey Butchart 2009

