

### AFRICAN INSTITUTE FOR MATHEMATICAL SCIENCES

SCHOOLS ENRICHMENT CENTRE (AIMSSEC)

#### **AIMING HIGH**

# AT LEAST ONE

If Busi has 3 children what is the probability that at least one will be a girl?

Imagine tossing a coin three times.

What's the probability you will get a head on at least one of the tosses?

Suppose you drew this tree diagram.



# HELP

One method you could try starts with listing all the outcomes. Start your list as follows: The eldest child could be a boy or a girl – 2 outcomes B or G The second child could be a boy or girl – 4 outcomes BB, BG, GB or GG ...

Then trace each outcome along 3 successive sub-branches of the tree.

# NEXT

You could extend the question to 4 tosses (4 children in the family) or more.