



The Cat in the Hat

A bigram language model

LLMs
Unplugged

A bigram language model derived from *The Cat in the Hat* by Dr Seuss

© 1970 Ben Swift

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First Edition

Text frequency counts from the text *The Cat in the Hat* by Dr Seuss, available from https://en.wikipedia.org/wiki/The_Cat_in_the_Hat.

Credits: designed and built by Ben Swift for the Cybernetic Studio. Typeset in Libertinus using Typst. Create your own n-gram model booklet using the online tools at <https://www.llmsunplugged.org/tools>. The source code (v1.4.7) for the tool used to create this model is available under an MIT Licence from <https://github.com/ANUcybernetics/llms-unplugged>.

Model statistics

- **Total tokens:** 1962
- **Unique tokens (vocabulary):** 240
- **Unique previous-words contexts:** 240
- **Entropy:** 2.83 bits/token — how unpredictable each dice roll is
- **Perplexity:** 7.1 — effective number of choices per dice roll

Disclaimer: this reference contains a statistical language model derived from text corpus analysis. The patterns within represent probabilistic relationships between words in that text. Any new texts generated by sampling from this language model are statistical in nature and may not always reflect proper grammar, factual accuracy, or appropriate content.

How to use this book

This book contains a bigram language model for generating text using only one or more d10 (ten-sided) dice and a pen and paper to write down the generated text, according to the following algorithm.

Algorithm

To generate new text using the bigram model in this book:

1. **choose a starting word**—pick any bold word from the book (note that punctuation e.g. $\square$ count as words in this model) and write it down
2. **look up the word's entry** (i.e. use this book like a dictionary) to find all possible *next* words according to the model
3. **roll your d10s** (if required): check for diamonds next to the word—this shows how many d10s to roll (e.g., **the ♦♦** means roll 3 d10s). If there are no diamonds, there's only one possible next word—skip to step 5. Read the dice from left to right as a single number (e.g., rolling 2, 1 and 7 means your roll is 217)
4. **find your next word**: scan through the next-word options until you find the first number $\geq$ your roll, or just use the single word if no dice were rolled (write it down)
5. repeat from step 2 using this word as your new word, continuing this loop until you reach a natural stopping point (like $\square$) or reach your desired text length

Example 1: single d10

Your current word is “**cat**” and its entry shows:

cat 4|sat 7|ran 10|slept

- one diamond (♦) means roll 1 d10
- roll your dice: roll a 6
- find the next word: first number ≥ 6 is 7|ran, so next word is “ran”
- write it down, look it up and continue the process

Example 2: multiple d10s

Your current word is “**the**” and its entry shows:

the ♦♦ 33|cat 66|dog 99|end

- two diamonds (♦♦) means roll 2 d10s
- roll your dice: roll 5 and 8 $\rightarrow$ combine them to get 58
- find the next word: first number ≥ 58 is 66|dog, so next word is “dog”
- write it down, look it up and continue the process

! ♦♦♦ 146|and 258|said
336|I 405|then 456|look
500|they 534|Oh 568|put
594|But 620|have 646|now
672|sit 698|so 715|bump
732|he 749|Make 766|no
784|not 801|those 818|Thump
835|we 853|what 870|you
878|at 887|do 896|down
904|fast 913|her 921|how
930|if 939|it 947|on 956|tell
965|the 973|too 982|Who
990|with 999|your

, ♦♦ 17|said 29|and 37|I
43|no 48|the 53|we 57|wet
61|what 65|with 67|as 70|how
72|so 74|cold 75|did 76|do
77|fast 79|here 80|if 81|jumps
83|little 84|look 85|not
86|now 88|Oh 89|out 90|sank
91|she 93|that 94|then
95|Think 96|too 98|white
99|Why

. ♦♦♦ 124|**.** 240|I
325|and 379|then 434|you
480|he 527|they 565|But
604|Oh 635|so 666|that
697|we 720|it 743|now
767|what 790|your 805|a
821|have 836|look 852|no
867|these 883|this 898|with
906|do 914|in 922|my 929|not
937|our 945|she 953|should
960|take 968|there 976|Thing
984|two 991|Why 999|Yes

? ♦♦ 23|Oh 38|and 46|I
53|now 61|should 69|tell
76|Well 84|what 91|Why
99|would

a ♦♦ 9|shame 15|box 20|cup
26|game 32|little 38|lot 44|tip
47|ball 50|big 52|book 55|bow
58|bump 61|cake 64|dish
67|fish 70|fox 73|good
76|hook 79|house 82|look
84|pat 87|PLOP 90|pot
93|rake 96|red 99|sad

about ♦ 3|**.** 6|it 9|with

after my

all ♦♦ 26|**.** 46|**!** 59|the
66|I 73|if 79|kinds 86|my
92|that 99|we

always pick

and ♦♦ 22|the 36|I
44|Thing 50|a 56|so 62|then
66|he 70|Sally 73|look 76|our
79|we 82|you 83|**.** 85|all

86|big 88|down 89|kicks
90|red 92|she 93|some
95|they 96|this 98|too 99|with

another good

any fun

are ♦ 2|good 4|not 5|pink
7|tame 9|two

as ♦ 4|I 6|fast 7|a 8|he
9|you

asked you

at ♦♦ 35|me 64|all 85|this
92|last 99|that

away ♦ 5|**.** 8|**!** 9|with

back in

bad ♦ 5|**.** 9|tricks

ball ♦ 5|**.** 9|**!**

be ♦ 6|here 8|about 9|in

bed **!**

bent our

bet ♦ 5|**.** 9|**.**

big ♦ 2|and 4|bumps 5|mess
7|red 9|thumps

bit ♦ 6|**!** 9|**.**

bite you

book one

books ♦ 6|**!** 9|**.**

bow **.**

box ♦ 3|**.** 5|**.** 6|are
8|came 9|with

bump ♦ 5|**!** 6|From
7|made 8|on 9|their

bumps **,**

But ♦ 3|that 5|our 6|I 7|we
8|you 9|your

cake ♦ 2|**!** 5|**.** 7|**.** 9|on

call ♦ 3|them 6|this 9|up

came ♦ 5|down 6|back
8|in 9|Thing

can ♦♦ 40|hold 53|get
66|have 73|**.** 79|do 86|fan
92|hop 99|not

cat ♦♦ 38|**.** 76|in 80|**!**
84|**.** 88|go 91|said 95|went
99|with

cold ♦ 6|**.** 9|to

come ♦ 5|**.** 9|here

could ♦ 2|**.** 5|do 7|play
9|see

cup ♦ 5|and 7|**.** 9|on

day ♦ 7|**.** 9|**?**

dear ♦ 5|**!** 9|**.**

deep ♦ 5|and 9|in

did ♦♦ 59|not 79|you 89|**!**
99|nothing

dish ♦ 5|**!** 9|**.**

do ♦♦ 28|not 44|you 55|**!**
67|**?** 75|**.** 79|as 83|I 87|if
91|something 95|to 99|was

dots that

down ♦♦ 27|**!** 45|the
63|with 72|**.** 81|**.** 90|my
99|on

fall ♦ 6|**!** 9|**.**

fan ♦ 2|**!** 5|**.** 7|as 9|with

fast ♦ 5|as 7|**!** 9|**.**

fear ♦ 3|**!** 6|**.** 8|**.** 9|of

fell ♦ 5|into 9|on

find ♦ 5|this 9|us

fish ♦♦ 25|**.** 45|in 59|said
69|**!** 74|**.** 79|as 84|came
89|on 94|shook 99|to

fly kites

For the

fox **.**

From up

fun ♦ 1|**.** 2|**.** 3|**?** 4|at
5|But 6|in 7|on 8|that 9|to

funny **!**

game ♦ 5|that 6|**.** 8|**.**
9|fun

games we

gave them

get ♦ 2|out 5|rid 7|them
9|those

give you

go ♦ 4|**!** 7|away 9|out

gone ♦ 5|away 9|with

good ♦ 2|fun 4|game 5|**.**
6|games 7|things 8|trick
9|tricks

got up

gown ♦ 3|**!** 6|**.** 9|with

had ♦ 5|to 7|something
9|them

hall **.**

hand **!**

hands ♦ 6|with 9|**.**

has gone

hat ♦♦ 50|**.** 71|**!** 78|**.**
85|came 92|to 99|you

have ♦♦ 38|no 53|fun
69|Lots 84|to 91|any 99|come

he ♦♦ 17|said 33|should
44|fell 50|came 55|gave
61|got 66|has 72|lit 77|picked
83|put 88|ran 94|shut 99|was

head ♦ 5|**!** 9|of

hear ♦ 5|**!** 9|**?**

her ♦ 2|**.** 3|about 5|bed
6|gown 8|the 9|way

here ♦ 4|When 6|**.** 8|is
9|to

high as

him ♦ 3|**!** 6|pick 9|step

his ♦ 6|hat 9|head

hit **!**

hold ♦ 5|up 6|a 8|the
9|you

home **!**

hook **.**

hop ♦ 5|on 9|up

hops and

house ♦♦ 50[!] 59[.]

69[?] 79|all 89|and 99|For

how ♦ 2[.] 5|do 7|I 9|that

I ♦♦ 18|can 32|will 44|do
52|know 59|said 64|call
69|did 74|like 77|bet 81|saw
82[.] 84|always 86|could
87|had 89|hop 91|let 92|sat
94|say 96|stand 97|went
99|wish

if ♦ 2|I 5|mother 7|you
9|your

in ♦♦ 74|the 81|a 88|this
92|and 95|on 99|with

into a

is ♦♦ 41|not 50|no 54|a
59|fun 63|funny 68|good
72|near 77|on 81|out 86|so
90|that 95|wet 99|what

it ♦♦ 15|is 30|was 38[!]
46[.] 53[.] 61[?] 69|a
76|came 84|deep 91|to 99|up

jump [!]**jumps** and**kicks** and**kind** of**kinds** of**kite** ♦ 5|bump 9|we**kites** ♦ 3[.] 6|in 9|on

know ♦ 3|what 5[!]
7|some 8|how 9|it

last [!]**let** ♦ 5|down 9|you

like ♦♦ 35|it 57|to 64[.]
71|our 78|that 85|the 92|these
99|this

lit [.]**little** ♦ 5|bit 8|toy 9|fish

look ♦♦ 56|at 87[!] 93[.]
99|what

looked [!]**lot** ♦ 5[!] 9|of**Lots** of**made** us**Make** ♦ 5|that 9|them**man** [!]**mat** [!]

me ♦ 3[!] 6|down 8|now
9[.]

mess ♦ 3[!] 6[.] 9|is**milk** ♦ 3[.] 6|and 9|on**mind** at

mother ♦♦ 41|is 58|will
66[!] 74|asked 83|came
91|could 99|was

mother's new

my ♦ 4|net 6|hat
7|playthings 8|tail 9|tricks

near [!]**net** ♦ 5[.] 7[.] 9|I

new ♦ 2[.] 5|gown 7|rake
9|tricks

no ♦♦ 37[!] 68|fear 80[.]
87[.] 93|fun 99|way

not ♦♦ 14|be 29|like 41|all
48[.] 56|know 63|one
68|wish 70[!] 72|a 75|bad
77|bite 80|fly 82|go 85|in
87|let 89|mind 92|pick
94|shine 97|sunny 99|want

nothing at

now ♦♦ 36[!] 63|look
81[.] 90[.] 99|you

of ♦♦ 19|good 31|his 43|the
56|this 62|bad 68|her 74|look
80|my 87|one 93|something
99|Thing

Oh ♦♦ 84[.] 99|dear

on ♦♦ 47|the 64|a 70|her
76|his 82|my 87|there 93|this
99|top

one ♦♦ 30|and 53|little
69[!] 84|kite 91|hand 99|one

our ♦♦ 46|fish 69|mother
76|game 84|house 91|new
99|toy

out ♦ 3[!] 7|of 8[.] 9|and**pack** up**pat** [.]**pick** ♦ 7|up 9|it**picked** up**pink** [.]

play ♦ 5[.] 6[!] 8[.]
9|ball

playthings and**PLOP** [!]**pot** ♦ 7[.] 9[!]**put** ♦ 5|them 9|me**rake** ♦ 3[!] 6[.] 9[.]

ran ♦ 2|about 4|down 5|out
7|to 9|up

red ♦ 3[.] 6|fan 9|wood**rid** of**run** down**sad** kind

said ♦♦ 63|the 86[.] 94|to
96[.] 99|our

Sally ♦ 8|and 9[.]**sank** ♦ 5|it 9|our**sat** ♦ 5|in 9|there

saw ♦ 3|him 4|all 5|her
6|mother's 7|one 8|them
9|those

say ♦ 5[.] 7[!] 9[?]**see** ♦ 5|something 9|this**shake** hands**shame** [!]

she ♦ 3|say 6|will 8|do
9|said

shine [.]**ship** ♦ 5[.] 7[!] 9|and

shook ♦ 3|their 6|up
9|with

should ♦♦ 72|not 99|we**show** ♦ 5|you 7|them 9|to**shut** ♦ 5|up 9|with**sit** ♦ 7[!] 9|there

so ♦♦ 19[.] 37|we 50[.]
62|so 68|all 74|big 80|deep
87|do 93|tall 99|tame

some ♦ 2|fun 5|good
7|milk 9|new

something ♦ 4|to 5[!]
7|new 9|went

stand on**step** in**stop** [.]**string** of**strings** [.]**sun** ♦ 5|did 9|is**sunny** [.]**tail** I**take** ♦ 5|a 9|them**tall** [.]**tame** ♦ 5[!] 9[.]**tell** ♦ 5|her 7|me 9|that

that ♦♦ 36|is 48|I 55|cat
63|they 67[!] 71[.] 75[?]
79|are 83|bump 87|cold
91|day 95|went 99|were

the ♦♦ 24|cat 37|fish 47|hat
53|things 58|house 62|pot
65|ball 68|cake 70|box 72|cup
75|fan 77|hall 79|hook
81|milk 83|sun 85|wall
86|books 87|day 88|dish
89|dots 90|gown 91|head
92|mat 93|rake 94|ship
95|string 96|strings 97|top
98|toy 99|way

their ♦ 5|kites 9|two

them ♦♦ 18|away 36|out
45[!] 54|a 63|go 72|I 81|run
90|Thing 99|to

then ♦♦ 30|he 45|we 54[.]
64|I 74|our 84|Sally 89[!]
94|something 99|those

there ♦ 2[.] 3|is 5|like
6|on 8|that 9|with

these ♦ 5|things 7|books
9|two

they ♦♦ 19|ran 37|should
56|will 68|like 74|are 80|have
87|play 93|said 99|want

Thing ♦♦ 50|one 99|two

things ♦♦ 11|□ 22|that
33|they 39|□ 44|and 50|are
55|bump 61|fall 66|had 72|I
77|in 83|ran 88|should 94|will
99|yet

Think of

this ♦♦ 19|house 31|is
43|mess 50|! 56|□ 62|?
68|big 74|box 80|game
87|trick 93|way 99|wet

those ♦ 6|things 9|two

Thump !

thumps and

tip of

to ♦♦ 12|play 25|us 34|do
43|the 50|go 56|have 62|say
68|shake 74|you 77|be 80|fall
84|find 87|fly 90|get 93|know
96|sit 99|stop

too ♦ 5|wet 7|□ 9|cold

top ♦ 5|of 9|with

toy ♦ 7|ship 9|man

trick ♦ 5|□ 9|that

tricks ♦ 5|□ 7|□ 9|are

two ♦♦ 33|things 53|□
66|and 73|! 79|□ 86|?
92|books 99|hands

up ♦♦ 25|the 35|all 45|up
50|! 54|□ 59|and 64|high
69|on 74|our 79|there
84|these 89|those 94|two
99|with

us ♦ 2|□ 3|? 5|fast 6|jump
8|this 9|two

wall ♦ 5|! 9|in

want to

was ♦ 2|back 3|gone 5|out
6|shut 8|to 9|too

way ♦ 2|! 5|at 7|home
9|that

we ♦♦ 27|saw 38|can 50|sat
57|could 65|did 72|had

80|looked 88|tell 91|do
95|shook 99|two

Well □

went ♦ 2|after 5|away
7|bump 9|on

were down

wet ♦ 3|□ 5|day 8|to
9|and

what ♦♦ 21|a 42|to 57|will
71|would 78|did 85|should
92|the 99|you

When ♦ 6|your 9|our

white and

Who was

Why ♦ 6|□ 9|do

will ♦♦ 24|not 42|show
52|she 57|bump 61|come
66|find 71|give 75|have 80|hit
85|hold 90|like 94|pick 99|see

wish ♦ 5|to 7|□ 9|we

with ♦♦ 50|a 62|my 74|the
83|Thing 87|big 91|fear
95|hops 99|Sally

wood box

would ♦ 6|you 9|she

Yes □

yet !

you ♦♦ 15|do 23|will 29|□
35|another 41|did 47|have
52|hear 55|? 58|bent 61|can
64|fall 67|get 70|like 73|now
76|pack 79|sank 82|shook
84|should 87|sit 90|some
93|take 96|up 99|wish

your mother