

the Higgs Boson and Beyond

Particle word search

See how many particle names from the Standard Model and beyond you can find from each of the groups below.

Words may be written forwards or backwards, and may be horizontal, vertical or diagonal.

Standard Model

ELECTRON
HIGGS
KAON
NEUTRINO
NEUTRON
PION
PHOTON
PROTON

Beyond the Standard Model

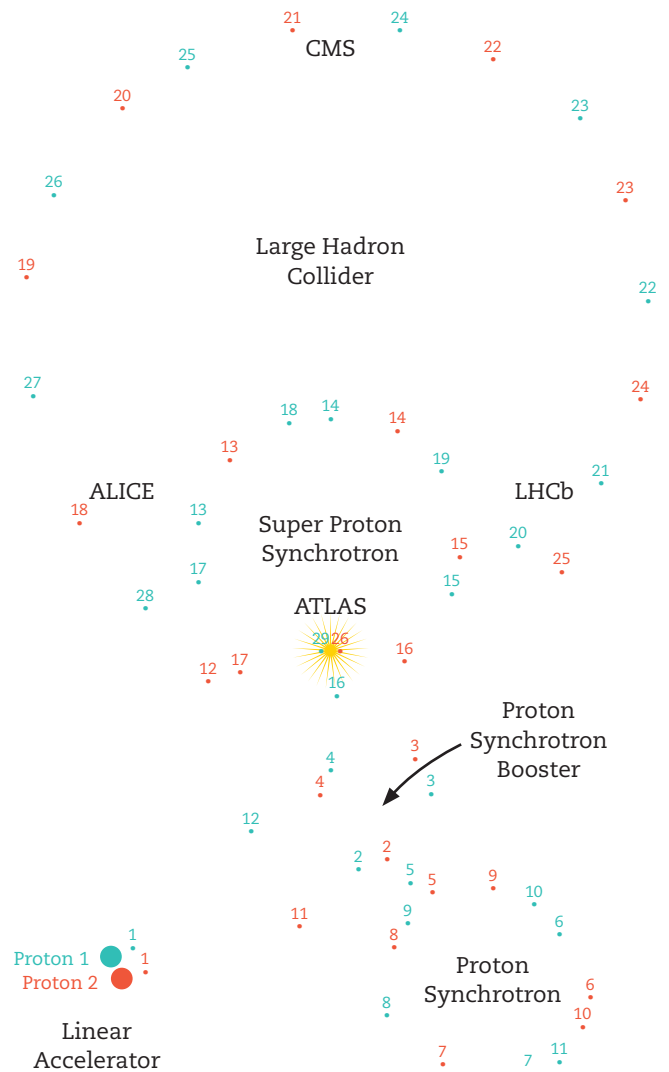
GLUINO
GRAVITINO
GRAVITON
HIGGSINO
PHOTINO
SMUON
STAU
ZPRIME

U N I T N O T O P O N R E D
A P R O N E N V R H V I N U
T I I N T I O N O T O R P C
S P C I R T Z O T W S T A K
P I E T P O P U O I G G O N
U N U I R N R N U N I S E N
D E I V I W I N Z E G E S O
N I A A M S M U D G E L O U
R E G R G A E L I K E E M M
A T U G T F X H I G O C E S
E M I T I E G R A V I T O N
L H E N R C O F F E E R I A
G L U I N O W O N I T O H P
E G G T K T N O A K A N O E

Join the dots

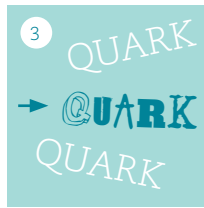
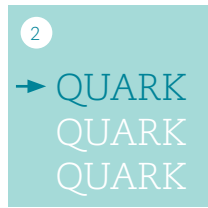
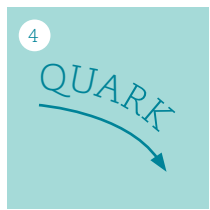
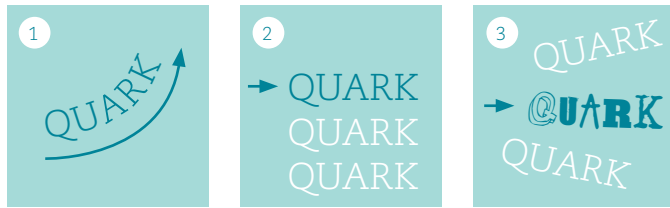
Join the dots with two different colours, to trace the journey of two protons through the CERN accelerator complex.

HINT: this will work best if you join the dots with a smooth curve rather than straight lines.



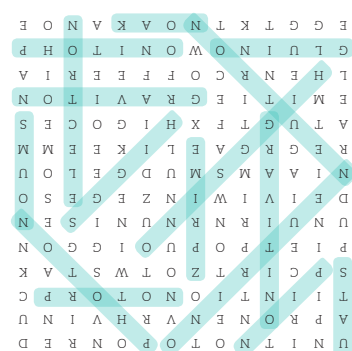
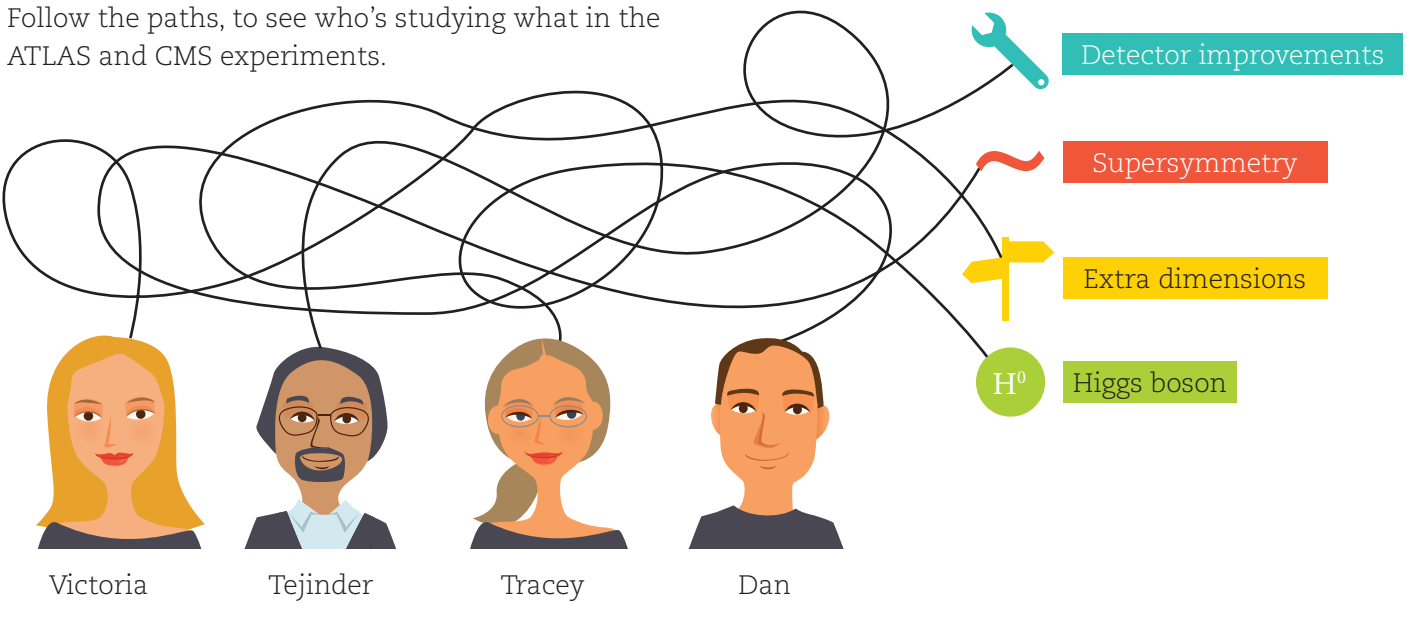
Quark rebuses

Quarks are some of the building blocks of nature. Can you name the six different types from the clues below?



Who studies what?

Follow the paths, to see who's studying what in the ATLAS and CMS experiments.



Trace a path to new particles

Starting from the highlighted letter, trace a single path through four terms relating to a search for new particles.

Travel left, right, up or down, and use all letters in the grid once only.

S	I	N	O	T	O	O	C
I	L	C	R	P	R	L	N
O	L	O	E	D	I	L	O
N	T	O	L	A	R	G	R
A	C	R	D	I	S	E	D
T	E	T	E	O	C	H	A
L	A	S	D	V	E	R	Y

Answers

Quark rebuses
1. up quark; 2. top quark; 3. strange quark; 4. down quark; 5. bottom quark; 6. charm quark

Trace a path to new particles

1. Large Hadron Collider; 2. Proton Collision; 3. ATLAS Detector; 4. Discovery

Who studies what?

Victoria > Higgs boson; Tejinder > Detector improvements; Tracey > Extra dimensions; Dan > Supersymmetry