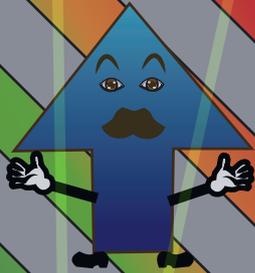


## Anti-Proton (30 Points)

### Anti-Up Quark

Electric Charge:  $-2/3$   
Spin:  $1/2$   
Mass: 2.2 MeV  
Mean Lifetime: Stable

Colour Charge: Yes  
Baryon Number:  $-1/3$   
1st generation (1 point)



### Anti-Up Quark

Electric Charge:  $-2/3$   
Spin:  $1/2$   
Mass: 2.2 MeV  
Mean Lifetime: Stable

Colour Charge: Yes  
Baryon Number:  $-1/3$   
1st generation (1 point)



### Anti-Down Quark

Electric Charge:  $+1/3$   
Spin:  $1/2$   
Mass: 4.7 MeV  
Mean Lifetime: Stable

Colour Charge: Yes  
Baryon Number:  $-1/3$   
1st generation (1 point)

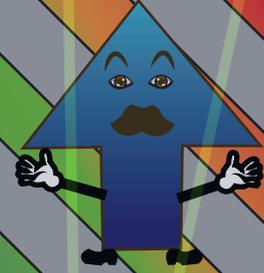


## Anti-Neutron (30 Points)

### Anti-Up Quark

Electric Charge:  $-2/3$   
Spin:  $1/2$   
Mass: 2.2 MeV  
Mean Lifetime: Stable

Colour Charge: Yes  
Baryon Number:  $-1/3$   
1st generation (1 point)



### Anti-Down Quark

Electric Charge:  $+1/3$   
Spin:  $1/2$   
Mass: 4.7 MeV  
Mean Lifetime: Stable

Colour Charge: Yes  
Baryon Number:  $-1/3$   
1st generation (1 point)



### Anti-Down Quark

Electric Charge:  $+1/3$   
Spin:  $1/2$   
Mass: 4.7 MeV  
Mean Lifetime: Stable

Colour Charge: Yes  
Baryon Number:  $-1/3$   
1st generation (1 point)



**Electric Charge:  $-1$**   
**Spin:  $1/2$**   
**Mass: 938.27 MeV**  
**Mean Lifetime:  $>10^{29}$  years**

The existence of the anti-proton was predicted by Paul Dirac in his Nobel Prize Lecture in 1932.

It was experimentally confirmed in 1955 at the Bevatron accelerator in California.

**Electric Charge: 0**  
**Spin:  $1/2$**   
**Mass: 939.565 MeV**  
**Mean Lifetime: 878 s**

Anti-neutrons were discovered in 1956 by Bruce Cork at the Bevatron.

The anti-neutron has the same properties as the neutron but it is not the same particle.

# Particle Builder

Target Card

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