Network by Analogy

Supposing that students are ordering goods sending to their school via Royal Mail,

- the school as a LAN,
- the department as each application process,
- each postman as a router,
- the college admin as a switch,
- each student as a host with MAC Address ...

Layer	...	is equivalent to ...	Note
	World	WAN	
	School	LAN	
App	School address lookup	**D**omain **N**ame **S**ystem	`<(.edu)name, IP addr>`
Transport	Department	Process port number	`<port No. , IP>`
	Type of delivery	Fast UDP [dst port] Secure TCP [src,dst <port & IP>]	[Demultiplex]
	Adjust sending rate	Flow Control Congestion Control	avoid student overflow avoid postman overflow
Network	Postman	Router	
	School IP	LAN IP (unique)	NAT IP (unique) v4: 32 ; v6: 128 bits `<IP>`
	Apartment	Subnet of IP	**111.111**.0.0/16
	Student uid	Host IP	IP Dynamic Config v4: DHCP ; v6: SLAAC
	Porter	**A**ddress **R**esolution **P**rotocol	`<IP addr, MAC addr>`
Link	Admin	Switch	
	Student's name	Host MAC Address	48 bits `<MAC>`
Physical	Delivery van	Copper, Glass, Fiber optic	
	Student	Host	sender / receiver host