





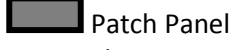
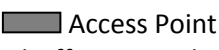
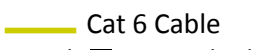



# Network Project

Unity Elementary School

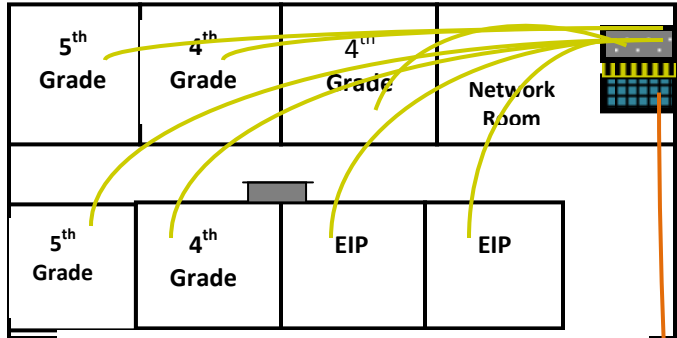
Suze Neal

2010

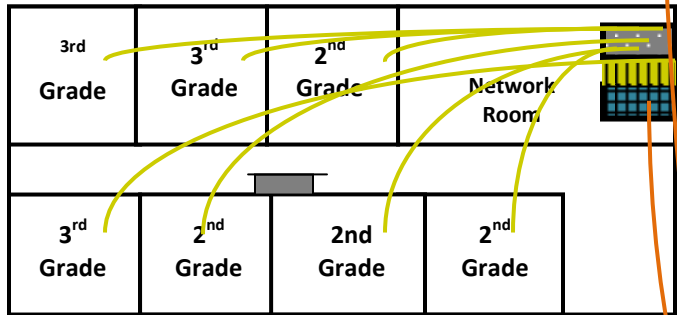
**KEY:**

-  Servers
-  Router
-  Switch
-  Cat 6
-  Patch Panel
-  Access Point
-  Cat 6 Cable
-  Fiber to Central Office
-  Fiber Cord
-  Networked Printers

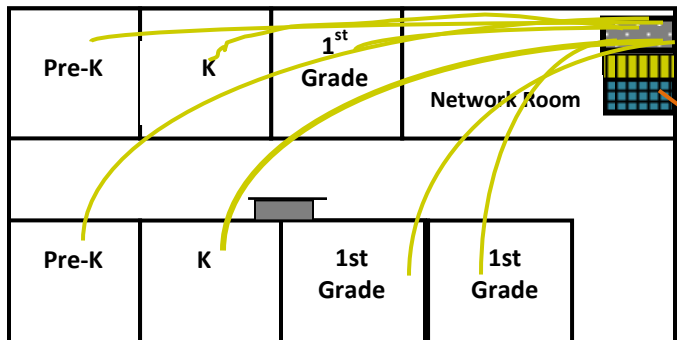
# Unity Elementary School



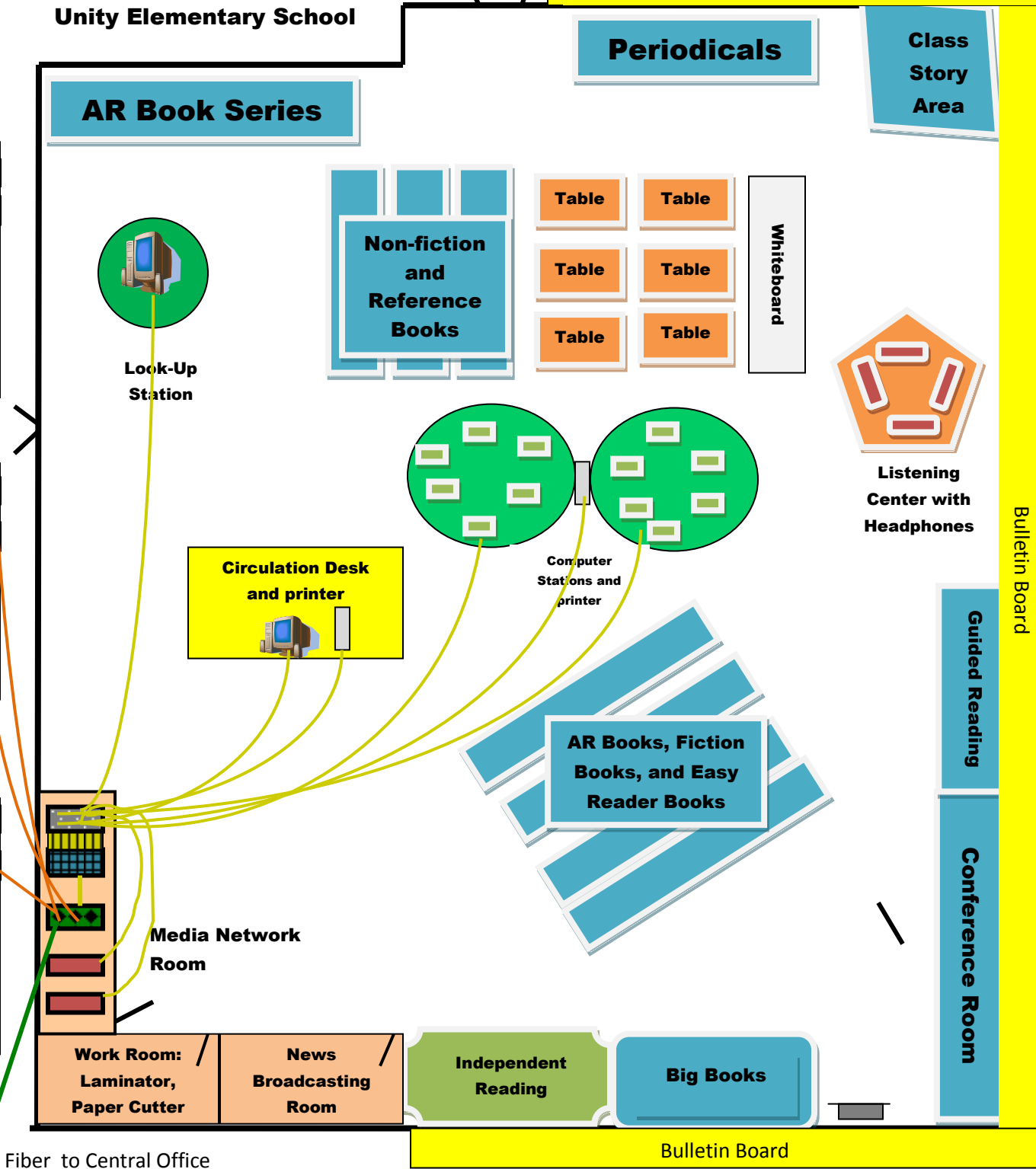
Cat 6 runs to each classroom computer



Cat 6 runs to each classroom computer



Cat 6 runs to each classroom computer



## Unity Elementary Network

Unity Elementary School Network has a Server/Client Ethernet/TCPIP (transfer control protocol/internet protocol) Network. Unity Elementary is located 11 miles from the Central Office and has a bandwidth of 34 mbps from the world which is provided to the county for free. From the Central Office, there is a router which branches off through a line and goes to each school (3 elementary schools, 2 middles, and 2 high schools) in the county.

At Unity, the line comes into the router then goes to the patch panel then connects to the switch. The switch goes to each computer through a copper cable. The copper cable feeds into the client machines (computers) that are in close proximity to the switch - 300 feet.

There are three wings of the school and there is an orange fiber cord that runs to each hall. There is a network closet on each of the three wings that contains a patch panel which connects to the switch. A copper wire (Cat 6) ties into the patch panel then hooks into the switch and runs to each classroom. Data is transferred from the teacher's computers to the teacher's lounge by a copper wire (Cat 6) and from the lounge to the media center by fiber cord. From the Media Center, the data is transferred to the Central Office by a fiber.

In the media center, I have 4 workstation clients (2 for students - 12 computers, one for the media specialist - circulation, and one for the look-up station) and 2 networked printers. The clients and printers have a dedicated copper line (Cat 6) that ties into the patch panel and then hooks to the switch in the Media Network Room. There are two servers in the Media Tech Room, one is used for MAP Running and the other server is used for Check-out, Alexandria, and the Look-Up Station. Both servers connect to the patch panel with the Cat 6 cable. The patch panel connects to the switch with the Cat 6, and the switch connects to the router with the Cat 6.

The network uses a star topology. Internally, the network currently runs at 100 mbps but is being upgraded to run at 1gbps. Windows Server (2003) is the operating system.

Unity is 100% wireless and has 11 access points throughout the school.

### **Other Important Information:**

Intermediate Distribution Frame: Patch Panel and Switch on all three wings.

Main Distribution Frame: Patch Panel, Switch, and Router in Media Center

Client Computers at Unity – 150 (1400 in the county)

Number of Servers at Unity – 2 (25 servers in the county)

Routers – 1 at Unity and 1 at the County Office