U

Unplugged

Name: _____ Date: _____

Internet

How the Internet Does What it Does

C O
D E

The Internet is a busy place. It may seem like everything happens instantly, but in reality, there is a lot of information traveling through virtual channels at all times of the day and night.

In this game, we'll deliver information through different types of Internet connections.

New Words!

IP Address

Say it with me: I-P-Add-ress

A number assigned to any item that is connected to the Internet

DNS (Domain Name Service)

Say it with me: D-N-S

The service that translates URLs to IP addresses

URL (Universal Resource Locator)

Say it with me: U-R-L

An easy-to-remember address for calling a web page (like www.code.org)

Internet

Say it with me: In-ter-net

A group of computers and servers that are conneced to each other

Servers

Say it with me: Serv-ers

Computers that exist only to provide things for others

Fiber Optic Cable

Say it with me: Fye-ber Op-tic Cay-bl

A connection that uses light to transmit information

Wi-Fi

Say it with me: Wye-Fye

A wireless method of sending information using radio waves

DSL/Cable

Say it with me: D-S-L / Cay-bl

A method of sending information using telephone or television cables

Packets

Say it with me: Pack-ets

Small chunks of information that have been carefully formed from larger chunks of information

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Directions:

1) Create your own DNS table, similar to what is shown here.

2) Have the class help you fill in the blank spots in the table.
Pick your favorite URLs and find their IP addresses using a site like www.getip.com.

3) Divide into groups of 3 to 5.

4) Assign each group an IP address from the table, and each person in the group a position:

* The Message Writer
* The Internet
* The Server (carries the IP Address)
* The Return Internet (Optional)
* The Message Receiver (Optional)

5) Each group will draw an IP address Card and a Delivery Card to find out where their message is going and what their method of message delivery (Wi-Fi, Cable/DSL, or Fiber Optic Cable) will be.

6) The Message Writer will craft a note to send to the server.

7) The Internet will rip the message up into small pieces called packets, then deliver each packet one at a time to the Server with the IP address that was drawn from the IP address Card stack.

8) The Server will make sure that the message arrives in order, then will send each packet off one at a time with the Return Internet (can be the same person or different person than the original Internet).

9) The Return Internet will deliver each piece back to the Message Receiver (can be the same person or different person than the Message Writer) and put it back together.

10) The Message Receiver will wait for all of the pieces to arrive, then read the message to be sure it arrived correctly!

Rules:

1) The Internet must rip the message into exactly four packets.

2) If the Internet drops a packet, they have to pick it up and go back to the start to deliver it again.

3) The server has to wait for all of the message pieces to arrive before it can begin to send the message along.

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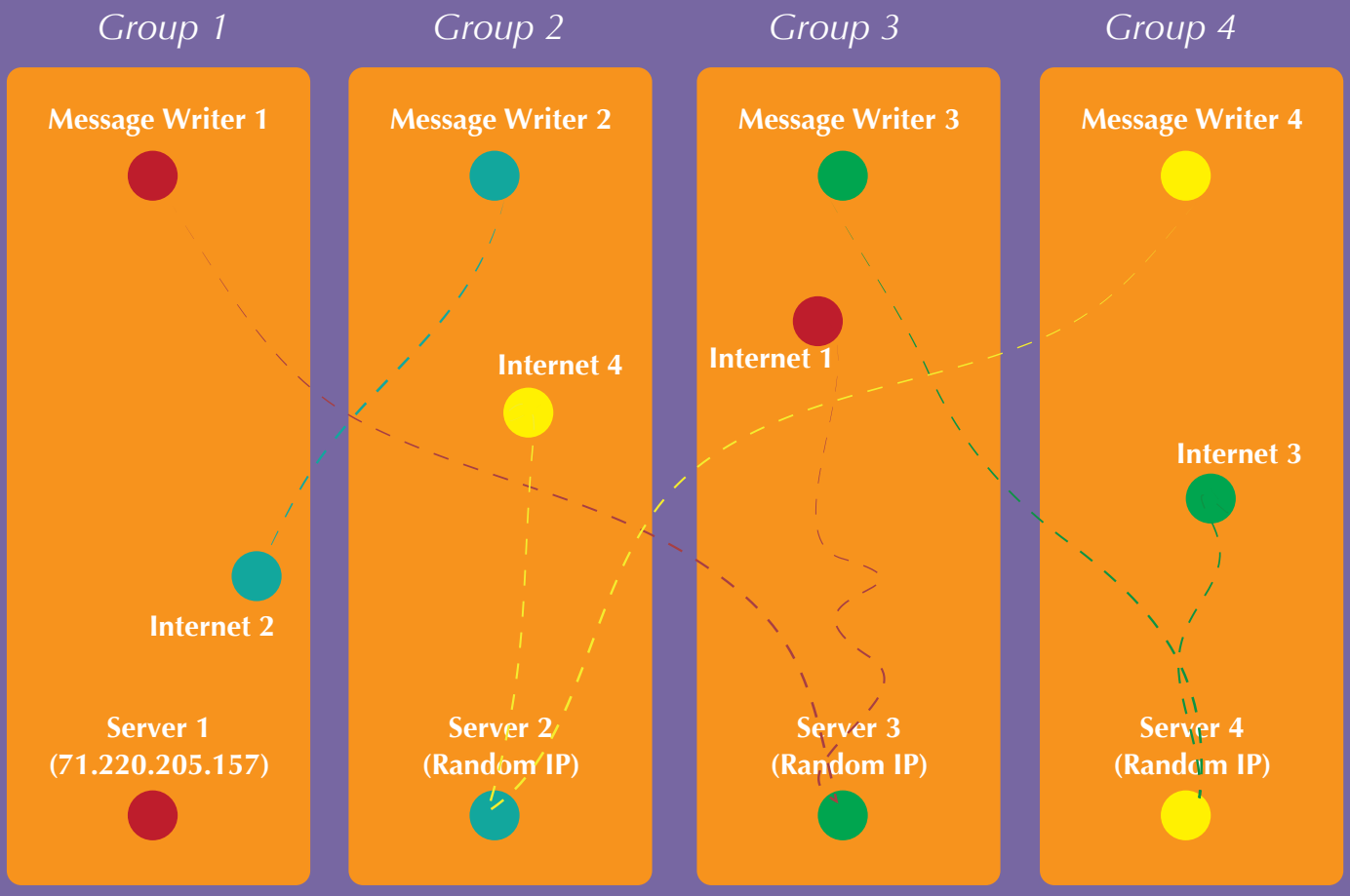
Sample of DNS Table

#	URL	IP ADDRESS
1	www.code.org	54.243.71.82
2		
3		
4		
5		

Sample of Classroom Group Layout During Game Play



Internet

IP Address Cards

These cards correlate with numbered entries in the DNS Table.
(You should make one distinct row for each group.)

1	2
3	4
5	6

Internet

Delivery Type Cards

These cards correlate with different methods of delivering messages over the Internet.
(Print enough to have one card for each group.)

Wi-Fi	**Fiber Optic**
DSL	**Cable**

Types:

1) **Wi-Fi:** Convenient, but spotty. Wi-Fi doesn't require cables, but since the signal bounces all over the place, packets can get lost pretty easily.
   Simulation: *Internet must carry each packet on their shoulder (no hands).*

2) **Cable/DSL:** Fairly good at delivering messages, but you must be connected to a wire.
   Simulation: *Internet must carry each packet on the back of one hand and must keep the other hand touching a wall, desk, chair or the floor at all times.*

3) **Fiber Optic Cable:** The best at delivering messages, but you must be connected to a wire.
   Simulation: *Internet can carry packets in hand, but must keep the other hand touching a wall, desk, chair or the floor at all times.*