

Write your name below and indicate your role,

Project Manager (PM), Recorder (R)

Name _____ Role _____

Name _____ Role _____

Sending Binary Numbers

Your Tasks (Mark these off as you go)

- ☐ Review Binary Numbers
- ☐ Get acquainted with the Internet simulator
- ☐ Develop a protocol for sending binary numbers
- ☐ Have Ms. Pluska check off your protocol for sending binary number
- ☐ Test out your protocol
- ☐ Assess your protocol
- ☐ Define key vocabulary
- ☐ Recieve credit for the group portion of this lab

☐ Review Binary Numbers

In the last lesson we introduced some properties of binary numbers. Work with a partner to answer the following,

How many more numbers can be represented with 4 bits as opposed to 3?

What is the highest value you can count to using 3 bits? What about with 4?

☐ Get acquainted with the Internet simulator

Navigate to the following link and watch the video on the Internet Simulator

https://www.youtube.com/watch?v=clk2R0QuXkI&feature=youtu.be&list=PLzdnOPI1jNdVYhNyXeP4FsbSH_AkUhxB

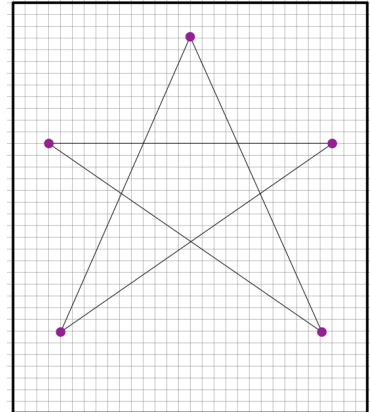
Navigate to lesson 6 Stage 2 and explore the simulator

□ Develop a protocol for sending binary numbers

Your challenge is to develop a protocol or set of rules for communicating a drawing to your partners using only numbers

Challenge Rules:

- The image will be a line drawing created by connecting points on a grid, like the one seen here.
- You can discuss and agree on a protocol ahead of time, but the image exchange must happen without communication between the two parties other than through using the Internet Simulator.
- You can only send **a single message - a single list of numbers** - through the Internet Simulator to describe the whole image.



Things to Consider:

How will your points be formatted?

How does the recipient know when one number ends and the next begins?

Your Protocol: Write the steps of your protocol below.

□ Have Ms. Pluska check off your protocol for sending binary numbers



Before you continue have Ms. Pluska check off your protocol for sending binary numbers

Do not continue until you have Ms. Pluska's (or her designated TA's) signature _____

□ Test out your protocol

Make a simple drawing on the graph paper. Use the protocol you developed to communicate your drawing to your partner. Your partner must draw what he or she receives on a blank grid.

□ Assess your protocol

Use the following criteria to evaluate your success in creating a protocol for sending the coordinates to draw an image described in the Sending Numbers activity. Justify your score for each rating.

Criteria	Yes	No	Comments
You successfully collaborated to create a workable protocol for sending numbers.			
The order of values were defined.			
The recipient could distinguish when one number ended and another began.			
The numbers were successfully translated, sent, and received.			
The receiving team member was able to translate the numbers and re-create the drawing on the other end.			

□ Define key vocabulary

Write a definition for the term(s) below

Protocol

--

□ Receive Credit for the group portion of this lab



- Indicate the names of all group members.
- Have Ms. Pluska check your Number Systems lab.
- Submit your lab to the needs to be graded folder to receive credit for the group portion of this lab.

Do not submit your lab until you have Ms. Pluska's (or her designated TA's) signature _____