

## Instructions – network

Hello, thank you for coming. Today, we are going to play a few computerized games and make money. Who wants to make money?

In all the games, you are going to win points. At the end, you will be paid **\$1** for every **100** points accumulated. You will also be paid **\$10** just for playing with us.

The computer is going to form a network with many people. Each of you is going to be directly connected only to a few people but the people you are connected to are also themselves connected to other people and so on. This means that everyone is indirectly connected to everyone else in the network. Think of your connections as being the people you talk to, who themselves talk to other people, etc.

Now, what do you have to do?

The goal of the game is to guess the color of the world. It can be RED or BLUE.

### **[SLIDE 1]**

The computer will choose one color of the world with 50-50 chance, but it will not tell you. Instead, it will give each of you a signal.

- If the world is RED, more people will see a signal light red, and fewer people will see a signal light blue.
- If the world is BLUE, more people will see a signal light blue, and fewer people will see a signal light red.

Note that more people get the signal that corresponds to the true color of the world but not everyone, otherwise the game would be too easy. We are using light colors to make clear that it is an indication, and therefore it may be wrong.

In your computer, you will see a screen like this.

### **[SLIDE 2]**

Let me walk you through the different parts of the screen.

### **[SLIDE 3]**

First, you can see your neighborhood. These are the people you are directly linked to, in this case 4 people but in your session, it may be a different number. Visually, you are always at the center of your neighborhood, and these are your neighbors [point]. This is because you see your neighborhood from your own perspective. Other people will be at the center of their own neighborhood.

If you are linked to one person, that person is linked to you. But remember, they will be also linked to people you are not linked to and you will be also linked to people they are not linked to.

### **[SLIDE 4]**

Second, you can see your signal. In this case, your signal provides support that the world is BLUE. But, of course, you cannot know for sure.

#### [SLIDE 5]

Third, you can see your possible actions. That's where you make your decisions. You have to choose between the RED action and the BLUE action. As soon as you choose an action, you and your neighbors will see it [point at area (1)]. When your neighbors choose their actions, it will also appear here. After you see their actions, you can change yours... or not. It is totally up to you.

Why is the action important? Well, because it determines your payoff. If at some point during the round everyone in the entire network, that is all the neighborhoods, chooses the action that matches the color of the world, you will all earn **50** points, that is **50 cents**. If at least one person in the network chooses the action that does not match the color of the world, you will all get **0** points. Of course, if you all choose the same action but it does not match the color of the world, you will still get **0** points. Remember you get **50** points only if **everyone** chooses the action that matches the color of the world. Is this clear?

#### [SLIDE 6]

Finally, you will see a timer at the top of the screen. This tells you the amount of time left to play. You start with **a certain amount of time** and the clock runs backwards. You can change your action as many or as few times as you want and the same is true for your neighbors and everyone else in the network. Every time you change your action it appears immediately on the screen of your neighbors and every time your neighbors change their actions, it appears on your screen. If you want to change your action multiple times, you have to wait at least two seconds between changes. Any questions? If at any point you all chose the correct action, the clock stops, and you get you 100 points. If you run out of time and at least one person has the wrong action, you all get 0 points.

At the end of the round, you will see a screen like this.

#### [SLIDE 7]

It tells you what the actual color of the world was (in this case, blue), how many people chose the RED and BLUE actions (in this case 13 and 7) and your payoff (in this case 0, since not everyone chose blue).

You are going to play this same game multiple times. Each time, the computer will randomly choose the color of the world with a 50-50 chance. Each time you will get a new signal and a new set of neighbors, but the rules of the game are always the same: if you all collectively guess the color of the world you all get **50** points.

Before we start, we are going to play a practice round. This is only to familiarize yourself with the screen, the software, and the commands. The results of this round do not count for your final payment so feel free to play around, experiment and change the actions multiple times.

Any questions?