

## Examples of Interfaces used in the study

This document provides examples of the interfaces used in the different stages of the study for each of the two conditions evaluated (Node-link and Adjacency Matrice).

Stages: Participants were first shown an introduction to a condition of the study, followed by a color-blindness test and performing training tasks. Participants then performed the actual study and provided some feedback.

### 1. Color-blindness test (Figure 1).

Please enter in the text boxes the number you see in the image next to it. Click the finished button when done

Finished Color Blindness Test

1.

---

2.

---

3.

4.

---

5.

---

6.

7.

---

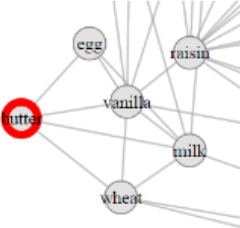
8.

Figure 1: Color blindness test administered to study participants.


## 2. Introduction to the Node-link condition (**Figure 2**).

### Introduction

This is a research study. We want to understand how to best show network data (items with connections between them). We will show you a visualization of cooking ingredients (ex: salt, meat) with links between ingredients that are often used in recipes together.



You can interact with the visualization. **Zoom** by using the mouse wheel. **Pan** by pressing the left mouse button down and dragging (as in Google maps). **Select and deselect** ingredients as **answers** by double-clicking on them. **Select and deselect** ingredients as **highlights** by clicking on them once. **Move** ingredients by dragging them (sometimes this can be useful to tell where its links go). **Mouse-over** ingredients and links to highlight them. Here is an example of a selected answer, a highlighted node, a hovered node and a hovered edge respectively.



We will ask you a few questions about this data. Please answer the questions as fast and accurate as possible by viewing and interacting with the visualization. There will be a **countdown** for each question; once it expires, we will hide the visualization. We will give you a **turk-code** to use for payment once you finish the study.

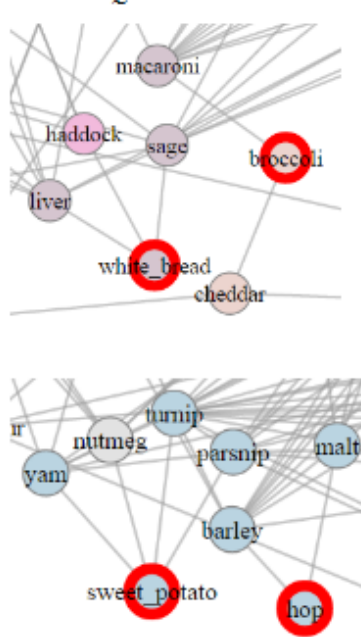
Figure 2: An example of an Introduction to the Node-link condition of the study.

3. Tasks and answers samples provided to participants in the Node-link condition (**Figure 3**).

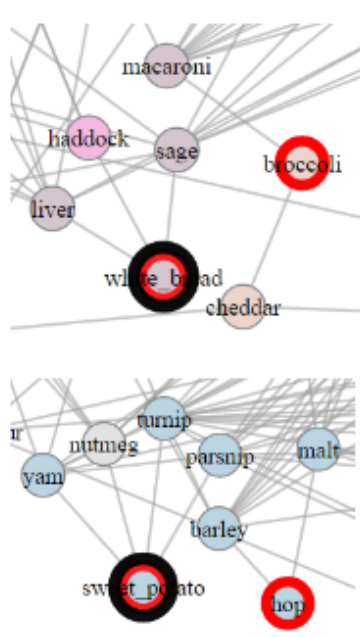
**Task 1: "Given two highlighted ingredients, select the one with more connections."**

Remember, you can select and deselect nodes as answers by double-clicking on them. A Selected answer will have a black circle around the node. See a few examples below:

*Questions*



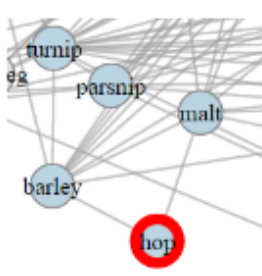
*Answers*



**Task2: "Select all ingredients that the highlighted ingredients is connected to."**

Remember, you can select and deselect nodes as answers by double-clicking on them. A Selected answer will have a black circle around the node. See a few examples below:

*Questions*



*Answers*

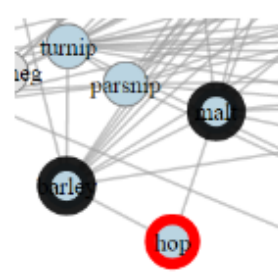


Figure 3: An example of task samples provided as part of the introduction to the node-link condition.

#### 4. Training Tasks in the Node-link condition (**Figure 4**).

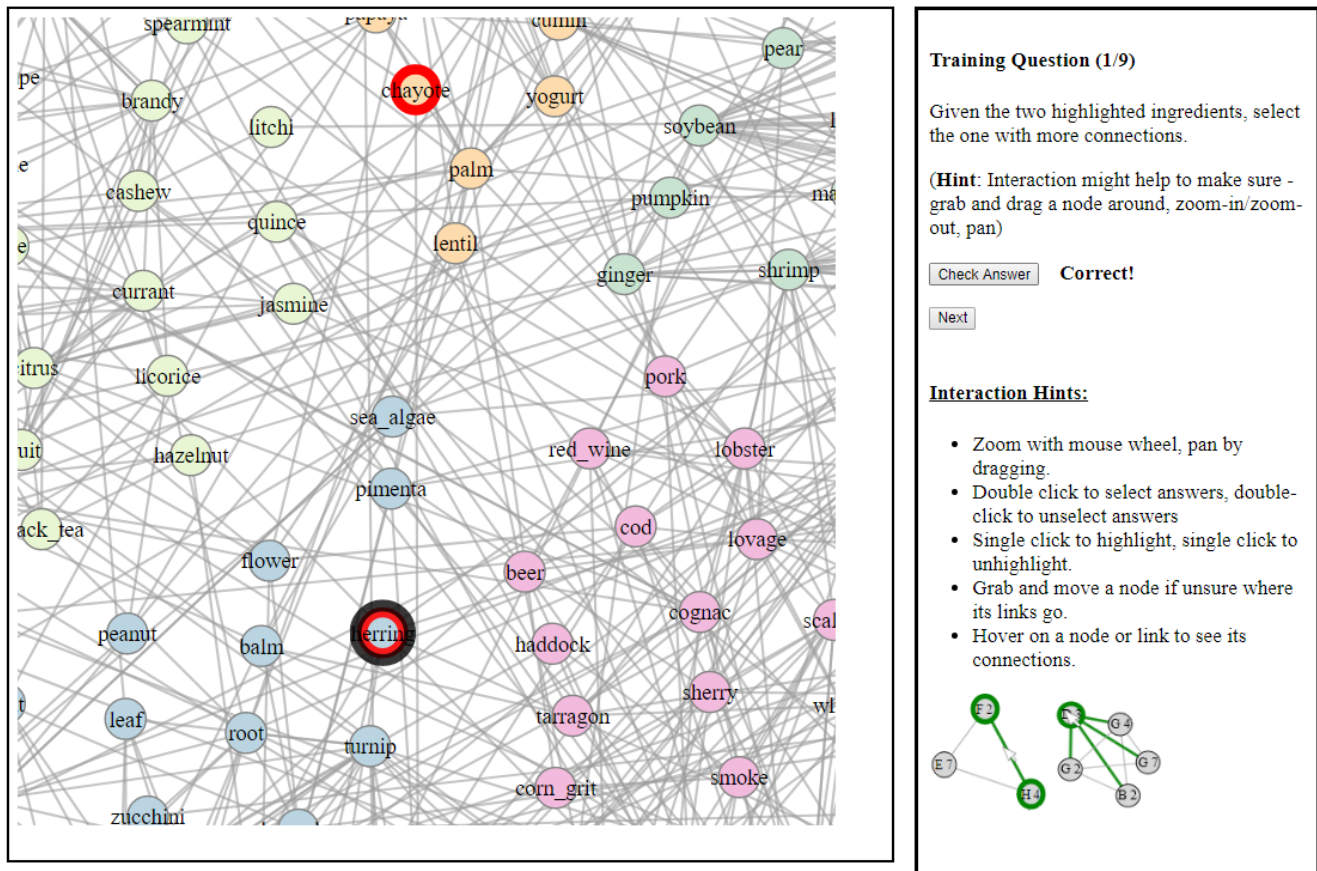


Figure 4: An example of training tasks performed by participants in the Node-link condition. Training tasks were not timed, and participants could check the accuracy of their responses.

5. Study tasks in the node-link condition (Zoomed out) (**Figure 5**).

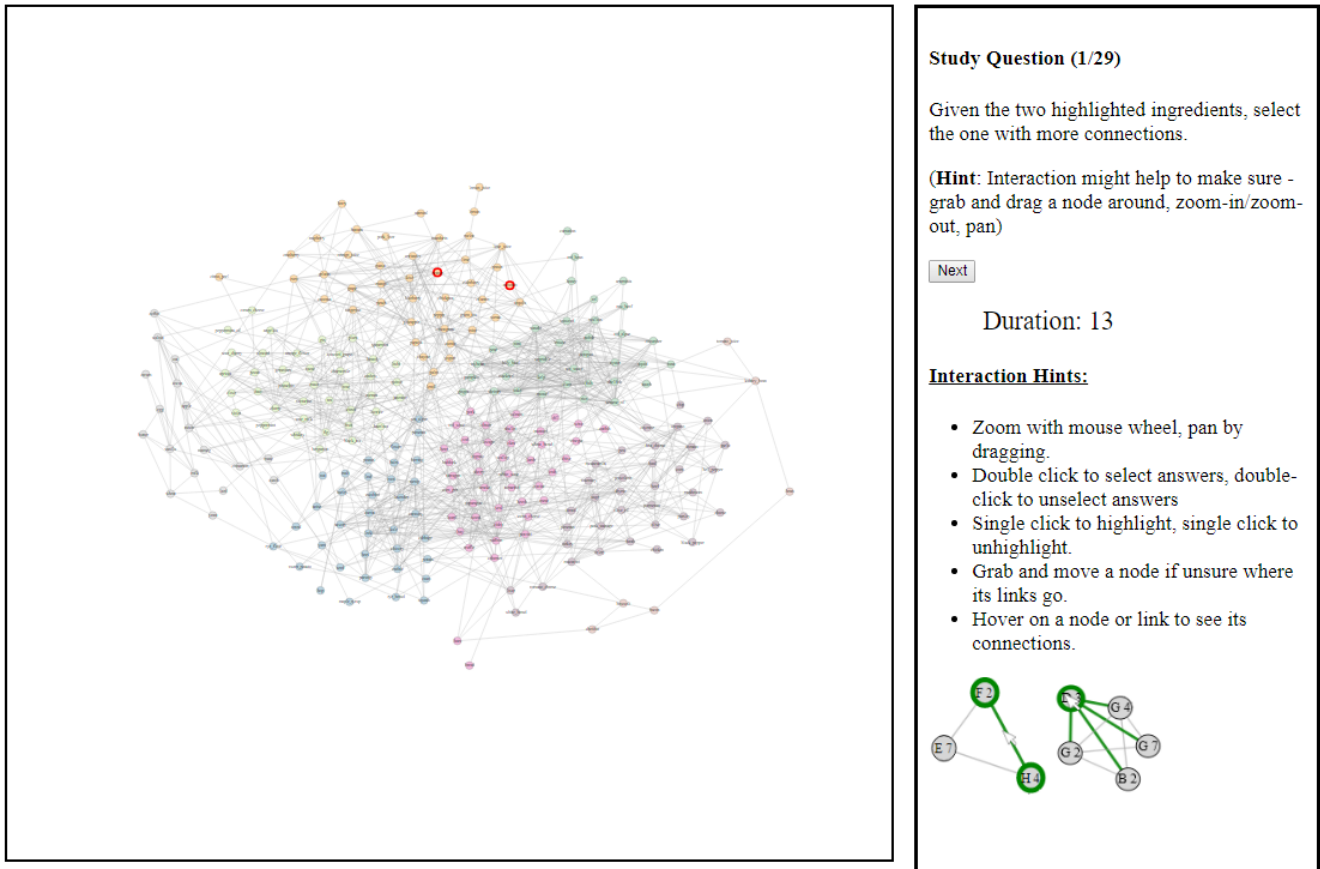
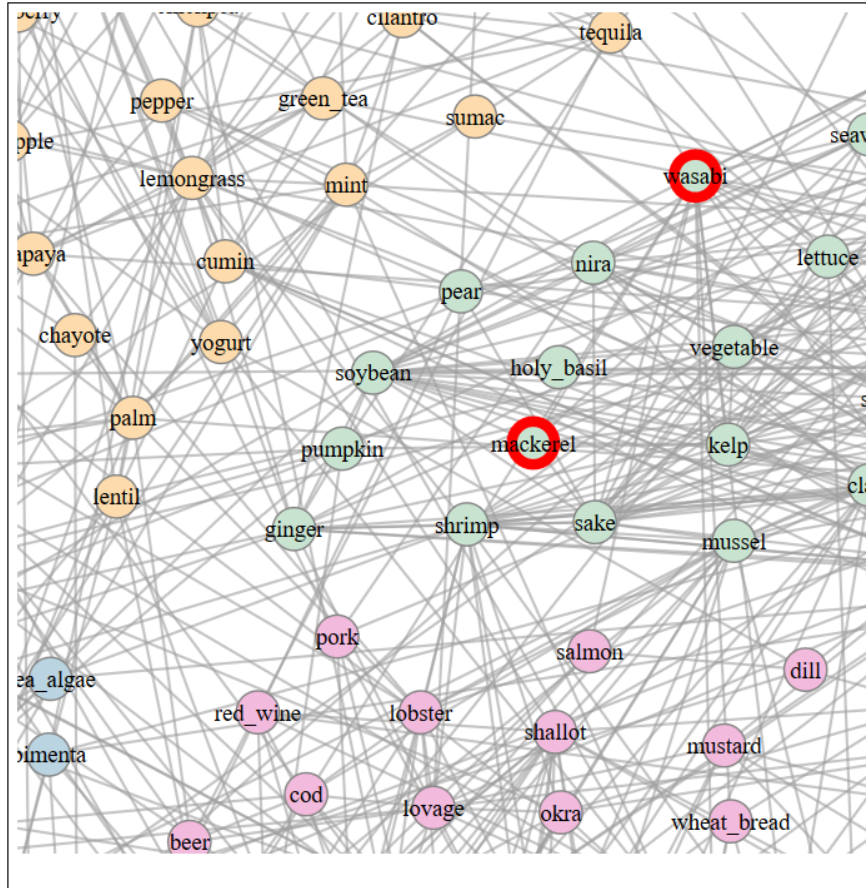


Figure 5: An example of an actual study in the Node-link condition. Each task instance starts zoomed out. There is a countdown timer, and the visualization gets hidden when the timer gets to zero.

## 6. Study task in the node-link condition (Zoomed-in) (Figure 6)



### Study Question (4/29)

Given the two highlighted ingredients, select the one with more connections.

(Hint: Interaction might help to make sure - grab and drag a node around, zoom-in/zoom-out, pan)

Next

Duration: 7

### Interaction Hints:

- Zoom with mouse wheel, pan by dragging.
- Double click to select answers, double-click to unselect answers
- Single click to highlight, single click to unhighlight.
- Grab and move a node if unsure where its links go.
- Hover on a node or link to see its connections.

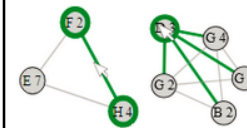
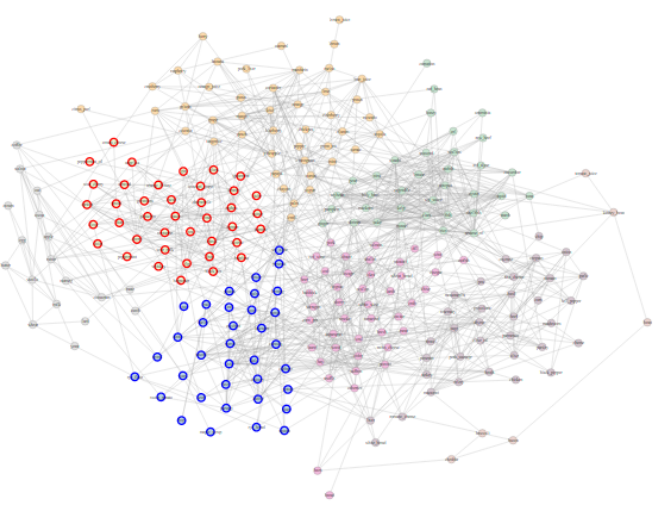


Figure 6: An example of a study in the node-link condition with the visualization zoomed in.



7. Feedback page shown to participants in the node-link condition (**Figure 7**).



**Final questions**

Please answer the following questions about the study. You will be provided with the turkID after this.

1. Please enter your Mechanical Turk ID
2. Do you have any feedback,comment or what issue did you had in this study?

*Figure 7: An example of the feedback page shown to users after the study in the node-link condition.*

## 8. Introduction to the Adjacency Matrice condition (Figure 8).

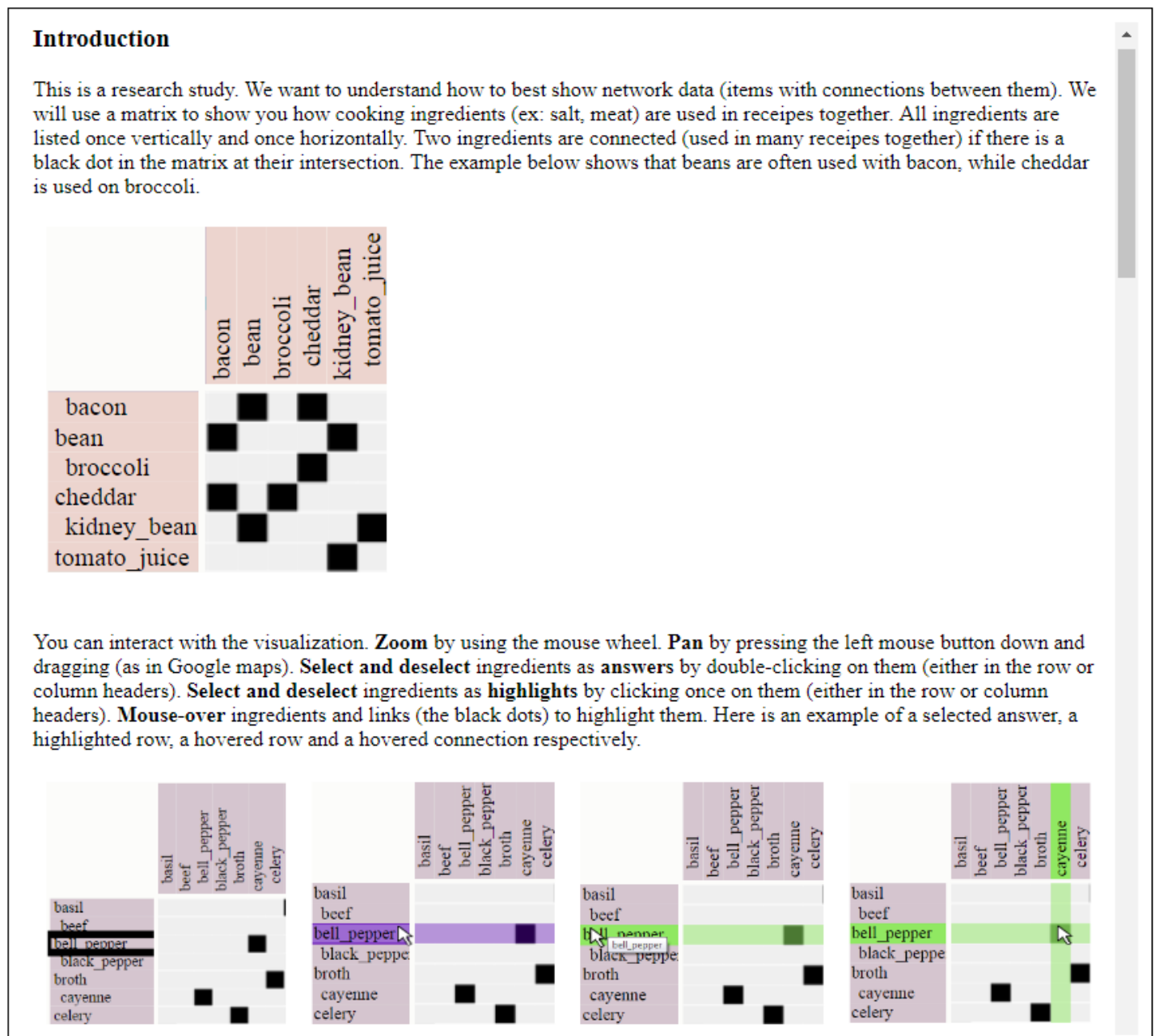


Figure 8: An example of an Introduction to the adjacency matrice condition of the study.

## 9. Task and answer samples provided in the introduction of the Adjacency Matrice condition (Figure 9)

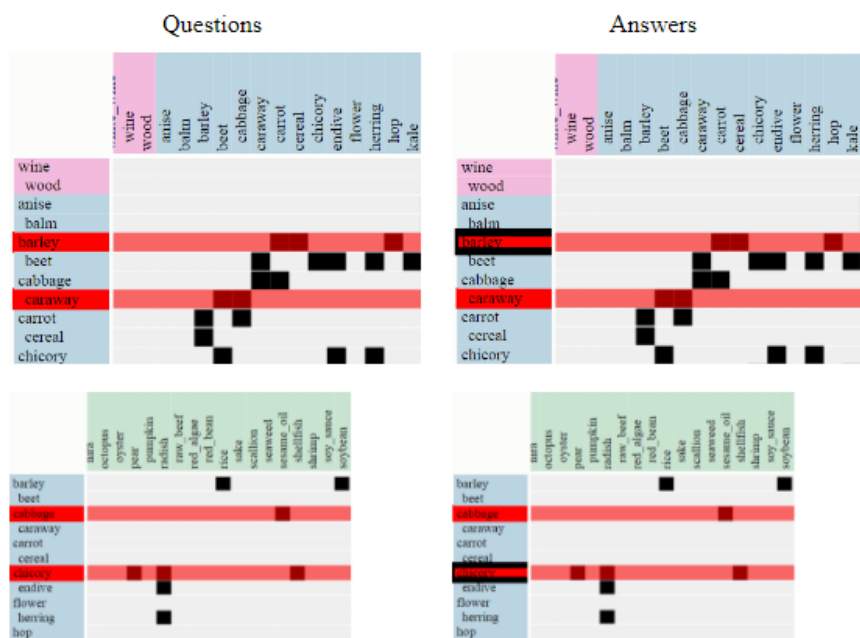




### Task 1: "Given two highlighted ingredients, select the one with more connections."

Hint: an ingredient has as many connections as there are dots on its row or column.

Remember, you can select and deselect nodes as answers by double-clicking on them. A selected answer node has a black border around it. See a few examples below:



### Task 2: "Select all ingredients that the highlighted ingredient is connected to."

Hint: find all dots on the selected row and trace them up to their column labels.

Remember, you can select and deselect nodes as answers by double-clicking on them. A selected answer node has a black border around it. See a few examples below:

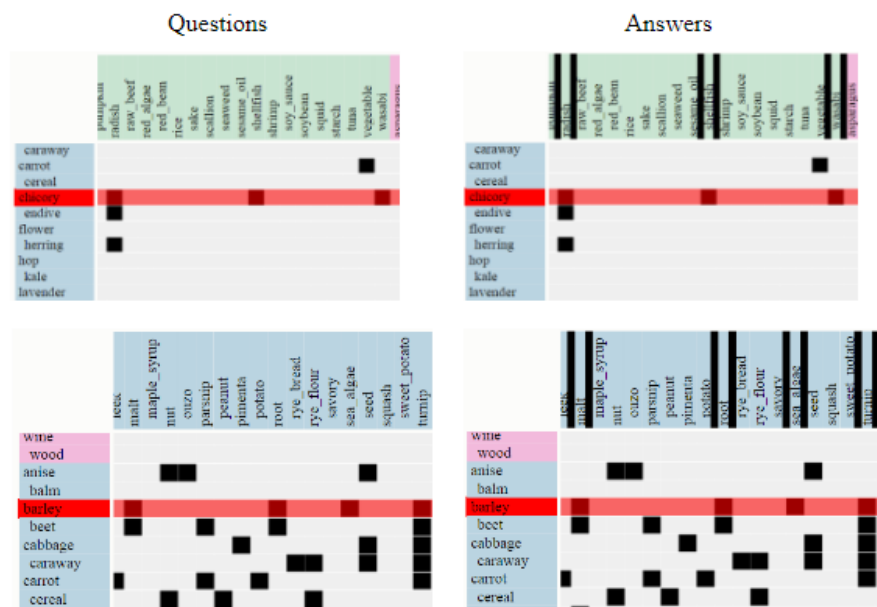


Figure 9: An example of task samples provided in the introduction of the adjacency matrix condition.

10. Study Task in the Adjacency Matrice condition (Zoomed out) (**Figure 10**).

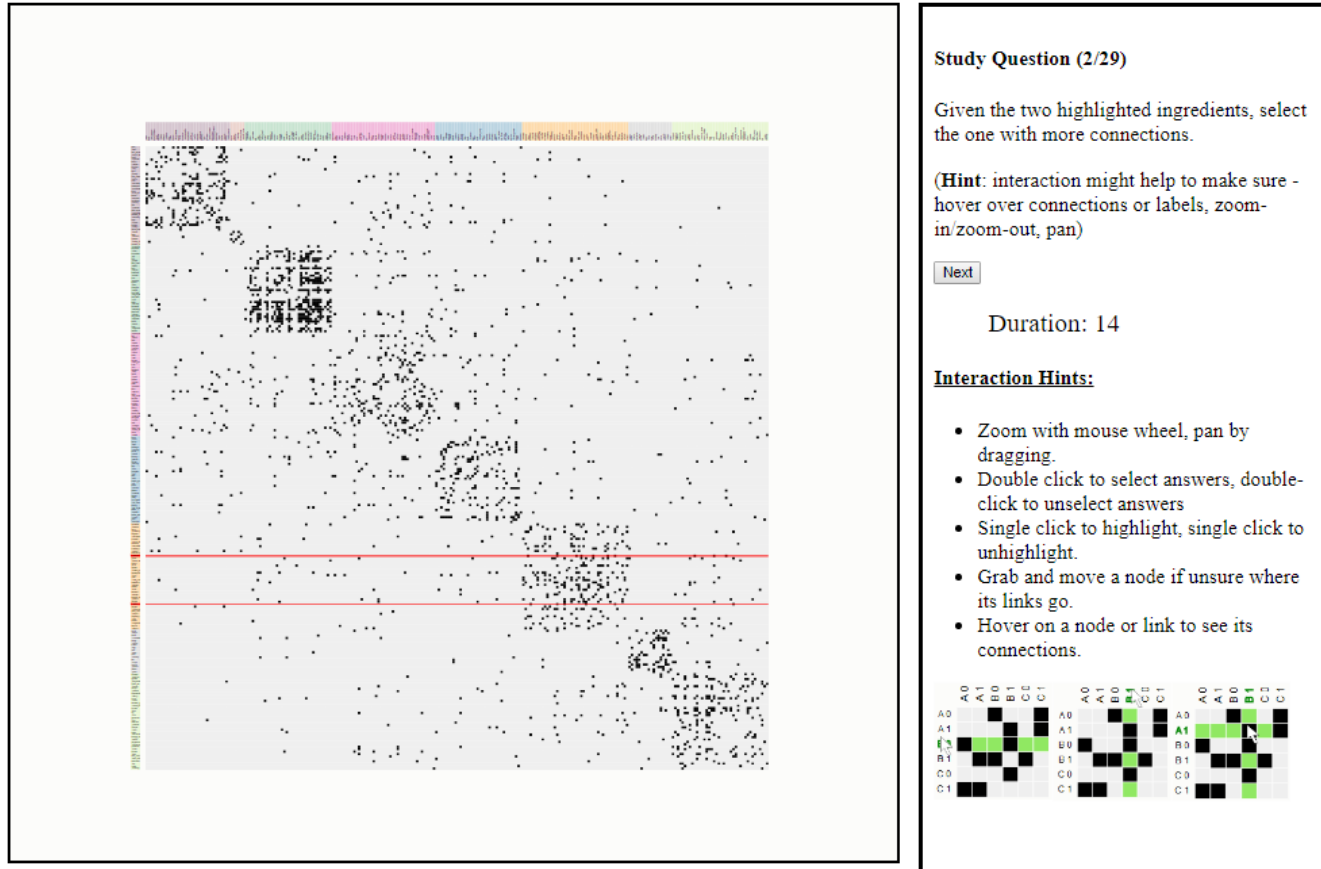


Figure 10: An example of an actual study in the adjacency matrice condition. Each task instance starts with the visualization zoomed out. A countdown timer is started and the visualization is hidden when the countdown gets to zero.

11. Study Task in the Adjacency Matrice condition (Zoomed-in) (Figure 11).

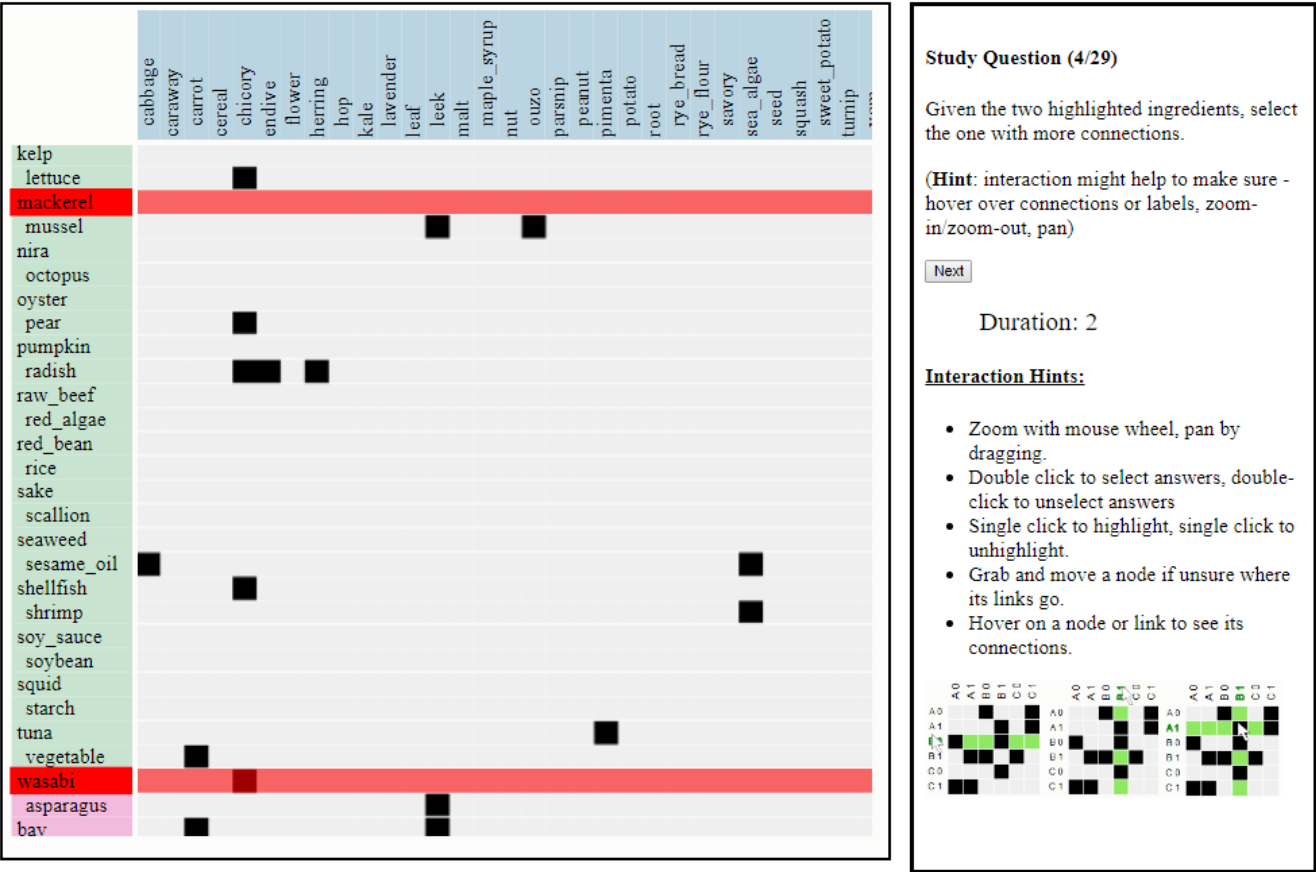
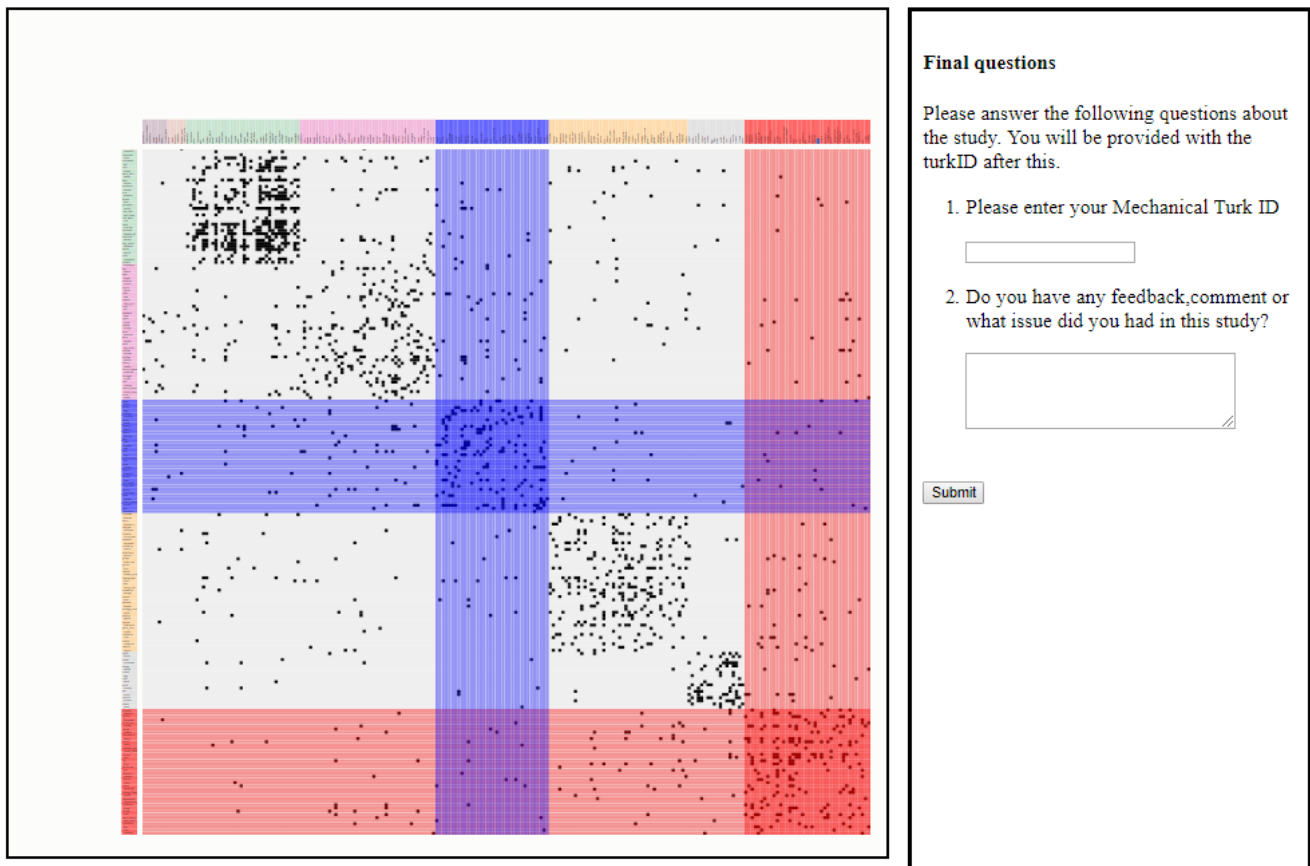


Figure 11: An example of study with the adjacency matrice visualization zoomed in.

12. Feedback page shown to participants in the Adjacency Matrice condition (**Figure 12**).



**Final questions**

Please answer the following questions about the study. You will be provided with the turkID after this.

1. Please enter your Mechanical Turk ID

2. Do you have any feedback, comment or what issue did you had in this study?

Submit

*Figure 12: Participants provided feedback at the end of the study.*