

Name:

Date:

Biodiversity Jenga

Essential Question: How does an invasive species impact biodiversity?

Key Vocabulary: biodiversity, invasive species, non-native species, predation, competition, resources

Do Now: Read the story below then answer the questions.

My best friend got me a goldfish for my birthday, but my mom won't let me keep it. I decided to go down to the pond and release my goldfish into the water.

What could happen to my fish? What could happen to the ecosystem?

After completing this activity, I will be able to...

| MS-LS 2-2 | Level 1 | Level 2: all of level 1 and... | Level 3: all of level 2 and... | Level 4: all of level 3 and... |
|---|--------------------------|--|--|---|
| Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems. | Define invasive species. | Accurately represent biodiversity counts and invasive species populations on a dot plot. | Explain the variability in my data and make a connection to variability in a real ecosystem. | Compare two dot plots to describe a relationship between the presence of invasive species and biodiversity in an ecosystem. |

Once you have completed the activity, circle the highest level that you achieved.

Biodiversity Jenga Rules:

- The Jenga tower represents an ecosystem. Each block represents a different native species in the ecosystem.
- Players take turns taking one block out at a time. Removing one block represents the removal of one native species from your ecosystem.
- After a native species block is removed, the player must place the block on the top of the tower. The block now represents an invasive species introduced to the ecosystem. All blocks that are placed on the top of the Jenga tower represent population growth of the same invasive species.
- Once your ecosystem topples, start a new game.

Biodiversity Jenga Data Table:

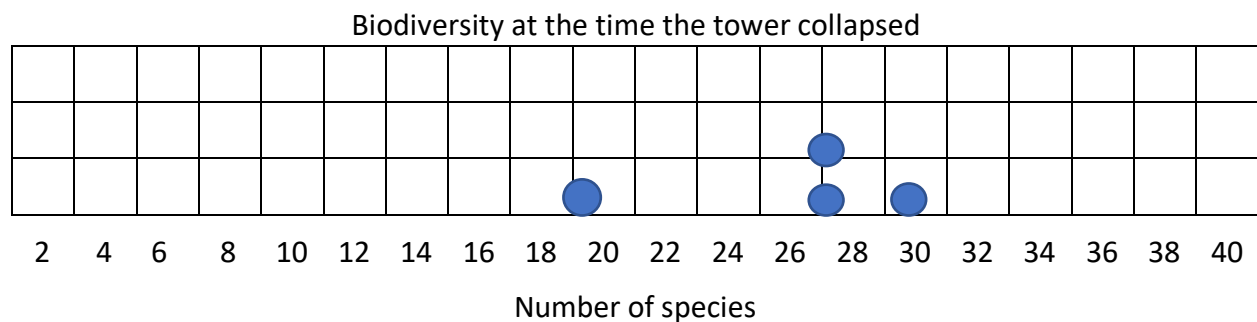
| Game 1 | | | | | | | | |
|---------------|------------------------------|-------------------|------|------------------------------|-------------------|------|------------------------------|-------------------|
| Turn | Biodiversity (species count) | # of the invasive | Turn | Biodiversity (species count) | # of the invasive | Turn | Biodiversity (species count) | # of the invasive |
| 0 | | | 15 | | | 30 | | |
| 1 | | | 16 | | | 31 | | |
| 2 | | | 17 | | | 32 | | |
| 3 | | | 18 | | | 33 | | |
| 4 | | | 19 | | | 34 | | |
| 5 | | | 20 | | | 35 | | |
| 6 | | | 21 | | | 36 | | |
| 7 | | | 22 | | | 37 | | |
| 8 | | | 23 | | | 38 | | |
| 9 | | | 24 | | | 39 | | |
| 10 | | | 25 | | | 40 | | |
| 11 | | | 26 | | | 41 | | |
| 12 | | | 27 | | | 42 | | |
| 13 | | | 28 | | | 43 | | |
| 14 | | | 29 | | | 44 | | |

| Game 2 | | | | | | | | |
|--------|------------------------------|-------------------|------|------------------------------|-------------------|------|------------------------------|-------------------|
| Turn | Biodiversity (species count) | # of the invasive | Turn | Biodiversity (species count) | # of the invasive | Turn | Biodiversity (species count) | # of the invasive |
| 0 | | | 15 | | | 30 | | |
| 1 | | | 16 | | | 31 | | |
| 2 | | | 17 | | | 32 | | |
| 3 | | | 18 | | | 33 | | |
| 4 | | | 19 | | | 34 | | |
| 5 | | | 20 | | | 35 | | |
| 6 | | | 21 | | | 36 | | |
| 7 | | | 22 | | | 37 | | |
| 8 | | | 23 | | | 38 | | |
| 9 | | | 24 | | | 39 | | |
| 10 | | | 25 | | | 40 | | |
| 11 | | | 26 | | | 41 | | |
| 12 | | | 27 | | | 42 | | |
| 13 | | | 28 | | | 43 | | |
| 14 | | | 29 | | | 44 | | |

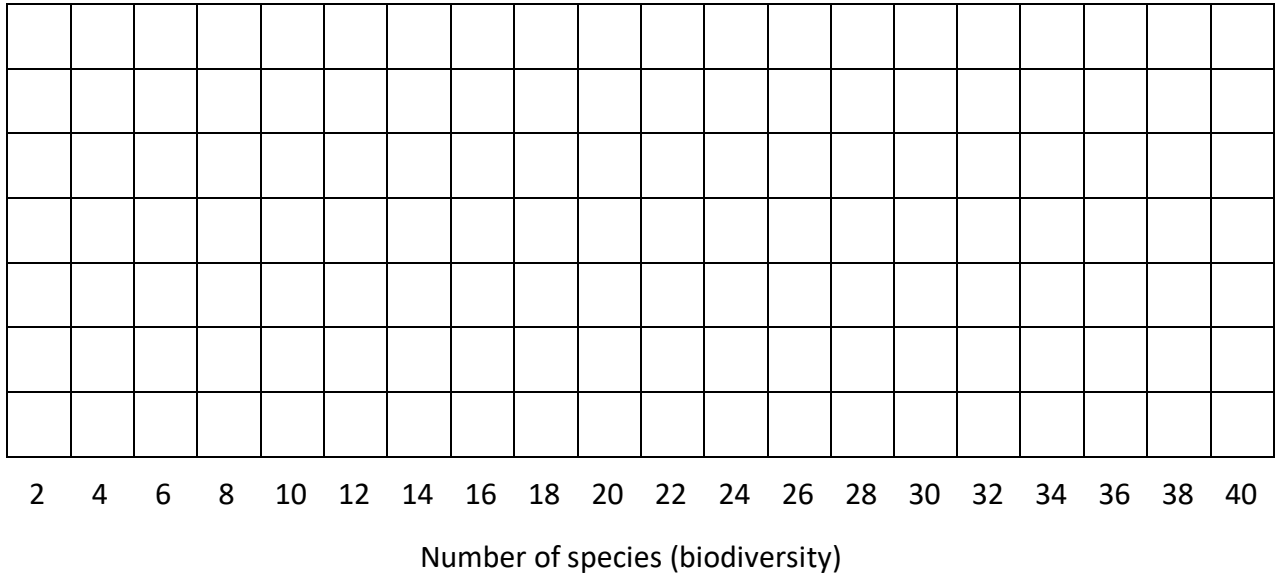
Biodiversity Jenga Graphs

Directions:

1. On the next page, draw a dot on the bottom line of the graph above the number that shows the final number of species before the towers collapsed.
2. Add the other students' data to your graph, too. If more than one group has the same number, add the dot above it. Here is an example graph:



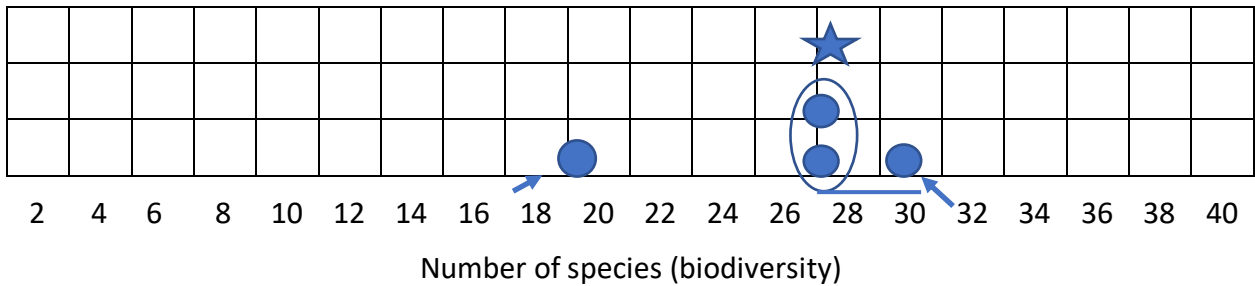
Biodiversity at the time the tower collapsed



On your graph:

1. Draw an arrow pointing to the lowest number of species when the tower collapsed.
2. Draw another arrow pointing to the highest number of species when the tower collapsed.
3. Circle the most common number of species when the tower collapsed.
4. Underline any groups or clusters of data that you see.
5. If you were to play biodiversity Jenga again, what do you predict the number of species would be when the tower collapsed? Draw a star next to your prediction.

Here is an example:



Use the information in the graphs above to answer the following questions:

1. What do the points on your graph mean? Look at the title for a hint.

