

Interactive Maps

Grades

4-8

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*Requires accounts with CoSpaces Edu Pro and Tinkercad



Difficulty 3



3-45 minutes



small group

Tags: Social Studies, CoSpaces Edu, Tinkercad, Maps, Coding

App/Tech Tools

CoSpaces Edu Pro accounts, Tinkercad account, MERGE Cube, MERGE Headset (optional), device (phone/tablet)

Materials

Learning Objectives

- Create a 3D model of Canada or the United States then code it with interactive elements for presentation in AR.
- Export and modify a 3D model in Tinkercad to CoSpaces.
- Use math to create a scale representation of a statistic.
- Use Social Studies inquiry processes and skills to: ask questions; gather, interpret, and analyze ideas; and communicate findings and decisions.

Activity

1. This lesson allows students to take data/information and create interactive Augmented Reality presentations or visuals. View [an example here](#). Students can take population statistics, capitals, imports/exports or state/provincial natural resources and create a 3D interactive visual representation.

2. Determine what information you want students to display on their 3D model. Start students with the example from the above link, displaying 3D models of the provinces of Canada focusing on the province of BC, and then displaying the provincial flag and an [interesting fact](#) (Source: Daily Hive) about that province.
3. For creating a US model, use google docs for information using this link: [3D models here](#). For Canada, use this link for information: [3D models here](#) and have students save them to their computer's desktop.
4. When they have created their models, have students view the YouTube videos below which will guide them step-by-step to get their models into CoSpaces. They will then code their 3D models.

Loading your models: (Creating an Interactive Map Part 1)



Coding your Scene (Part 1): (Creating an Interactive Map Part 2)




Coding your Scene (Part 2): (Creating an Interactive Map Part 3)



5. Once scene is complete, students can use their merge cubes to display the interactive map through CoSpaces.

Extension Ideas

- Students can manipulating a 3D model to display a demographic in Tinkercad. They will choose a demographic to display in a 3D bar graph format, for this example we chose "Distribution of recent immigrants to Canada" [here](#) (Canada Immigration Newsletter).
- Have students log into their Tinkercad accounts.
- "Copy and Tinker" either Canada [here](#) or USA [here](#) (From Tinkercad).
- Have students review this video (Creating an Interactive Map Part 4)  to create a 3D map and bring it into CoSpaces.
- The interaction that can be coded into the map is limitless. If you would like your students to learn more fundamental coding in CoSpaces go through the "CoSpaces" lessons [here](#).

Suggested Questions

- Where did certain subgroups of migrants or immigrants tend to settle? What push-pull factors may have contributed to this?
- How do increases in human population and per-capita consumption of natural resources impact Earth's systems?
- How does immigration shape a nation's identity?
- How does a nation adjust to changing demographics?
- Why do some places have greater access to healthy foods than others?
- How did this process deepen your understanding and appreciation for demographics in general? Why is it important for students to study demographics?

