

imagination is a career.

design thinking!

This 50 minute activity is a fun way to expose students to design thinking. The key to making this exercise a success is to encourage students to be creative and exploratory in their ideas.

set up:

- Paper cut into roughly 1" x 4" pieces, enough for each student to have 2 pieces
- Paper for students to ideate & sketch on
- Coloring materials of your choice: markers, pencils, paint, etc.

Give each student two 1" x 4" pieces of paper.
One piece for each of the two following prompts:

who

Pick someone. It could be anyone: a celebrity, a historical figure, a character from a comic book, etc. This should be someone or something most students are familiar with. If you'd like to push your class, try having them design for a real-world group, for instance an underserved community.

new

Choose an emerging technology to incorporate in your design, this is your **new**. Examples could include mixed reality, autonomy, alternative power sources, and artificial intelligence. Any option your students come up with will unlock its own unique design opportunities.

activity:

- 01** Allow three minutes for students to write their ideas for **who** and **new**: one **who** and one **new** per student.
- 02** Take a couple minutes to collect prompt papers (keeping **who** & **new** papers separate) and then draw one **who** and one **new** at random. Each student will be designing transportation for this **who**, incorporating this **new** tech.
- 03** Spend a few minutes discussing your **who** & **new** as a class. Collect key points about them.

For your **who**, try to have the discussion focus on what their life is like: what are their daily needs? How will the transportation be used? What kinds of things do they enjoy? What are their annoyances?

For your **new**, collect some basic information to make sure that everyone in the class has an equal opportunity to apply the technology in a meaningful way: how it works on a fundamental level, current applications, projected applications, etc.

After your discussion, split the students into two groups. One group will focus on features for the interior of the vehicle, and the other group will focus on the exterior of the vehicle.
- 04** Give the students about 30 minutes to sketch their ideas. Circulate through the room and use prompts (on reverse) to keep them inspired & sketching as many ideas as possible.

Provide students with tools for coloring during final 10 minutes of drawing so that they can consider color & material choices for their vehicles / features.
- 05** Take ten minutes at the end to allow students to share their sketches and ideas with each other.

- + **OPTION 1:** If you'd like to extend this activity, try breaking students into groups and having them collaborate to build a model of their design. Each student can introduce their best ideas to the group and then work together to build an even better mobility solution.

big question: how can we improve mobility & transportation for all people?

emphasize

Generating many ideas is better than a single very detailed idea.

Perfectionism is the enemy of ideation.

Don't get bogged down by what is possible today, instead consider what **MAY** be possible tomorrow.

Some students will be better at drawing than others and that is **OKAY**. The key to this exercise is the design thinking, drawing is primarily a way to express those thoughts. Anyone can improve their sketching skills, it just takes lots of practice.

contact

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designer story videos

user experience



exterior design



interior design



clay modeling



color & materials



+

OPTION 2: If you'd like to make this activity a week-long exercise, try using the following schedule:

Day 1: Research **who** & **new**
Day 2: Sketch interior features
Day 3: Sketch exterior features
Day 4: Collaborate & build
Day 5: Groups present models

tips

The goal of selecting a **who** is to get students thinking about human-centered design. Rather than designing something for themselves, they are forced to try to empathize with someone else, and design something around that person's wants and needs. By learning about the who, students can imagine specific use cases based on the person's daily life. Armed with this research & understanding, it becomes easier to discuss which of their design decisions make the most sense.

The goal of picking a **new** is to push the students into considering how technology that is being developed today can be implemented tomorrow. Their designs should leverage the **new** to improve life: both for humans and Earth as a whole.

Randomizing the **who** & **new** during this activity enables creative thinking by combining a person and a technology that may not always be imagined together. It also allows you as an instructor to see the sorts of things your students are interested in. This activity can easily be repeated by simply picking a fresh **who** & **new** from the ones your students already submitted.

prompts

interior

How does your **who** steer the vehicle? Do they need to steer the vehicle? Does your **who** have any limitations to consider, like hearing loss, or arthritis? What kinds of features will make them most comfortable while they travel? How long are the trips they typically take? Does this influence the designs? What are their storage needs like? Are there specific items they typically travel with? Can your **new** be implemented inside the vehicle? Will this improve the experience for your **who**?

exterior

How does the vehicle's shape feel? What feelings are important to your **who** while they drive (ex. safe, fun, cozy, powerful)? Does this vehicle make sense in the setting that your **who** will be using it in? What type of energy will the vehicle use to run? What does the vehicle's face look like if we imagine the headlights to be eyes? Does this feeling match the feeling of the vehicle's overall shape? Can your **new** be implemented on the vehicle's exterior? Does this application make sense & will it improve the experience for your **who**?

color & materials

What meanings do we give to colors (ex. red for hot, blue for cold)? How can we use the information that we have about **who** and **new** to inspire color & material choices? What are good names for the colors you've chosen? How will the materials you've chosen influence the overall experience of your **who**?

example: PORTAL

who
young adults
new
autonomy & electrification



Through research, Portal UX (user experience) designers learned about the challenges **young adults** face as their **lives change rapidly** from one stage to the next. For example, a user could go from being single and thriving on nightlife to married with a young family in only five years. **This realization, combined with future technology, drove the design of the vehicle.**

exterior design

Exterior designers applied UX insights to their sketches. They gave the vehicle its **rounded, family-friendly form**, as well as its signature Portal doors which open away from each other to create a **single large entry**. This feature **maximizes the flexibility of the vehicle** for its users.

interior design

Interior designers maximized flexibility in Portal's interior by designing a **reconfigurable seating pattern**. This way the vehicle can **move family, move belongings, or function as an open space to spend time**.

color & materials

Designers wanted Portal to feel like a **living room on wheels**. Light neutrals turn the space into a **blank canvas**, awaiting the user's personalization, and heathered grays (like a favorite sweatshirt) **add comfort to the space**. Chartruese accents symbolizes the vehicle's **electrification**.



neutral, blank canvas
heathered, cozy
electrification

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