

Does My Brain Have a Mind of Its Own?

[An exploration of where human consciousness exists—and, thus, where humans exist in body or mind—as well as the possibility of machine consciousness. Based on Daniel Dennett's story "Where Am I?"]

Time Estimate

6-8 hour-long sessions



Preparation Thermometer

9



Preparation

1. Read Daniel Dennett's *Where Am I?* (In this philosophical essay, written in 1978, Dennett explores what might happen were his brain separated from his physical body. Where, then, would his real self reside—in his brain, or in his body? (link to story in glossary))
2. Print Rio's "Comic Book" for students to read and share.

Materials

- Poster board
- Paper brain handouts/cutouts
- Drawing/art supplies
- Tape/glue
- Flashlight
- Computers, dictionaries, etc. for defining vocabulary words

Glossary

Daniel Dennett
Where Am I
Reverse Engineering the Brain



BIG IDEA for Kids

What is consciousness, and how is it human? Do machines have consciousness? The characteristics of consciousness and intelligence are important concepts that have real world engineering impacts. For engineers to design machines with artificial intelligence—that is, machines that are intelligent in human ways—they must first understand the nature of human intelligence and human consciousness—how it works and where it exists.

Open the Window

Rio read the story *Where Am I?* by Daniel Dennett before he fell asleep and had that weird dream. Read it yourself, or read Rio's comic book. What does Rio's dream have to do with artificial intelligence? Brainstorm answers to Rio's question, "Where's the real me? In my brain ... or in my body? Where am I?"

Activity Instructions

1. For the following words, have students come up with a definition of each term. Make sure that no two words have the same definition. In other words, it's the students' job to distinguish each term from the others. Students should be encouraged to use the internet, dictionaries, books, articles, or any other source, and display their responses around the room, in their journals, or in other ways.

brain, mind, life, body, person, thought, consciousness, life, computing

2. Students read Rio's comic book and/or Dennett's *Where Am I?* independently or aloud in groups. Students can act out voices and/or comic in comic book, and can explore various ideas in the bomb, brain, and computer "comic books" at the end of the Rio's comic. Dennett's *Where Am I?* can be read aloud in sections, with students identifying challenging words and concepts for further exploration.

3. Watch the Dennett *Where Am I?* video— <http://youtu.be/m8cuAE3Os4o> (about 5 min.) Students can search for other videos that deal with this topic.

4. In pairs, students profile one another from the shoulders up on poster board, using flashlight, tracing, etc. Student cut out their "heads" and a "paper" brain. Brains are placed in heads and "decorated" with students' perception of their intelligence and consciousness. What do intelligence and consciousness look like, and where are they? Can they be represented graphically? Have students photograph and compare their work!

5. Research the workings of the human brain. The level of inquiry can be as in-depth as teachers or students permit. List interactive websites and other great sources! Findings about the brain can be expressed in artwork, journal entries, letter to scientists, videos and music, etc. Post something to our Through My Window Facebook page!
<https://www.facebook.com/TeamThroughMyWindow>

6. "Remove" brains from bodies. Students can "relocate" their brains, either into other heads or into the classroom "brain vat" and then think deeply about where they exist relative to their brain's whereabouts. Where is their intelligence? Consciousness?

If students have read Dennett's *Where Am I?*, encourage a debate between whether Dennett is Yorick (brain) or Hamlet (body).

--Break students into teams and flip a coin for which side of the argument you will take. One team will be called Yorick and the other team will be called Hamlet.

--Each team brainstorms a list of arguments for their half of the argument. Allow teams five minutes to organize ideas.

--Yorick's team will go first; half of the team will present the team's arguments. Each member will have one minute to present their point. Hamlet's team will present their arguments with the same procedure outlined above.

--Both teams will break away and have three minutes to organize a rebuttal of the other team's argument.

--Yorick's other half of the team will present the rebuttal—one minute per student. Hamlet's team will present their rebuttals in the same procedure outlined above.

--The teacher will award a point for each well-stated point and 2 points for each well-stated rebuttal. Each team will also be awarded a score out of 10 for presentation skills.

7. Students design intelligent machines, on paper or out of other arts/crafts supplies, and explore the following questions through writing assignments, marker talks, or a sticky note idea board:

--Do their machines have consciousness?

--In what ways are their machines intelligent?

--How do they replicate human intelligence?

--If student brains are "placed" in machines, are the machines now human? Why or why not?

Does My Brain Have a Mind of Its Own?

View From My Window:

- Do you think your body is conscious without your brain in it?
- What does it mean to be conscious? Are you conscious when you're asleep or if you pass out?
- Can consciousness be created? Is it necessary for human intelligence? Artificial intelligence?
- Imagine that the year is 2200 and we have the technology to build anything we want. Do you believe we could make a computer that's conscious?
- Do you think a computer can be creative? Have feelings? Be able to make choices?
- How could you tell whether or not the computer really is creative, has feelings, or is making choices?
- Do you think animals are conscious? If so, do you think are all animals conscious?

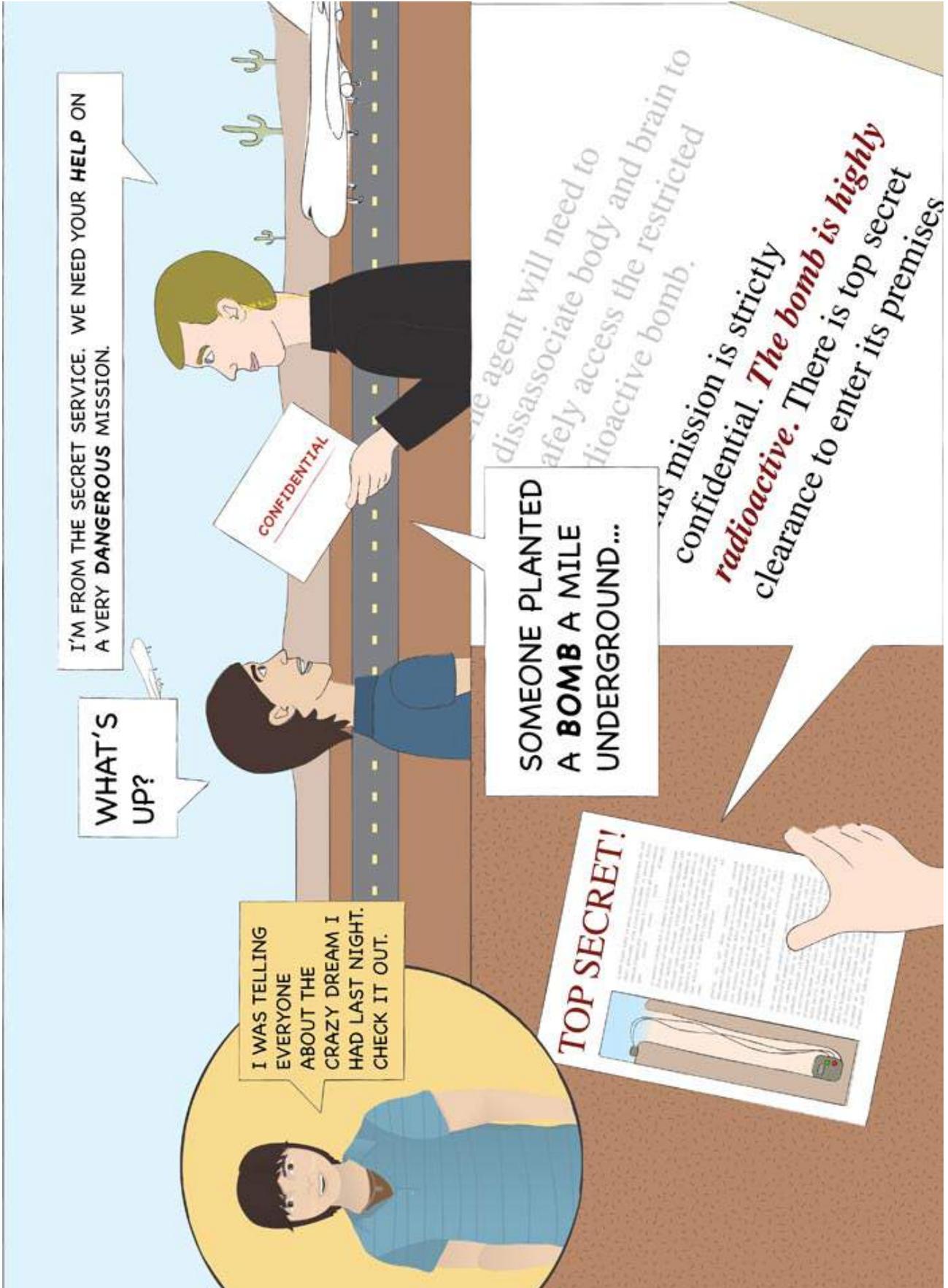
Extended/Family Learning

- Observe people around you. How do you see consciousness in people? In machines?

Imaginative Education Tools

Story, sense of reality, extremes and limits of reality

Teacher Notes:



I'M FROM THE SECRET SERVICE. WE NEED YOUR **HELP** ON A VERY **DANGEROUS** MISSION.

WHAT'S UP?

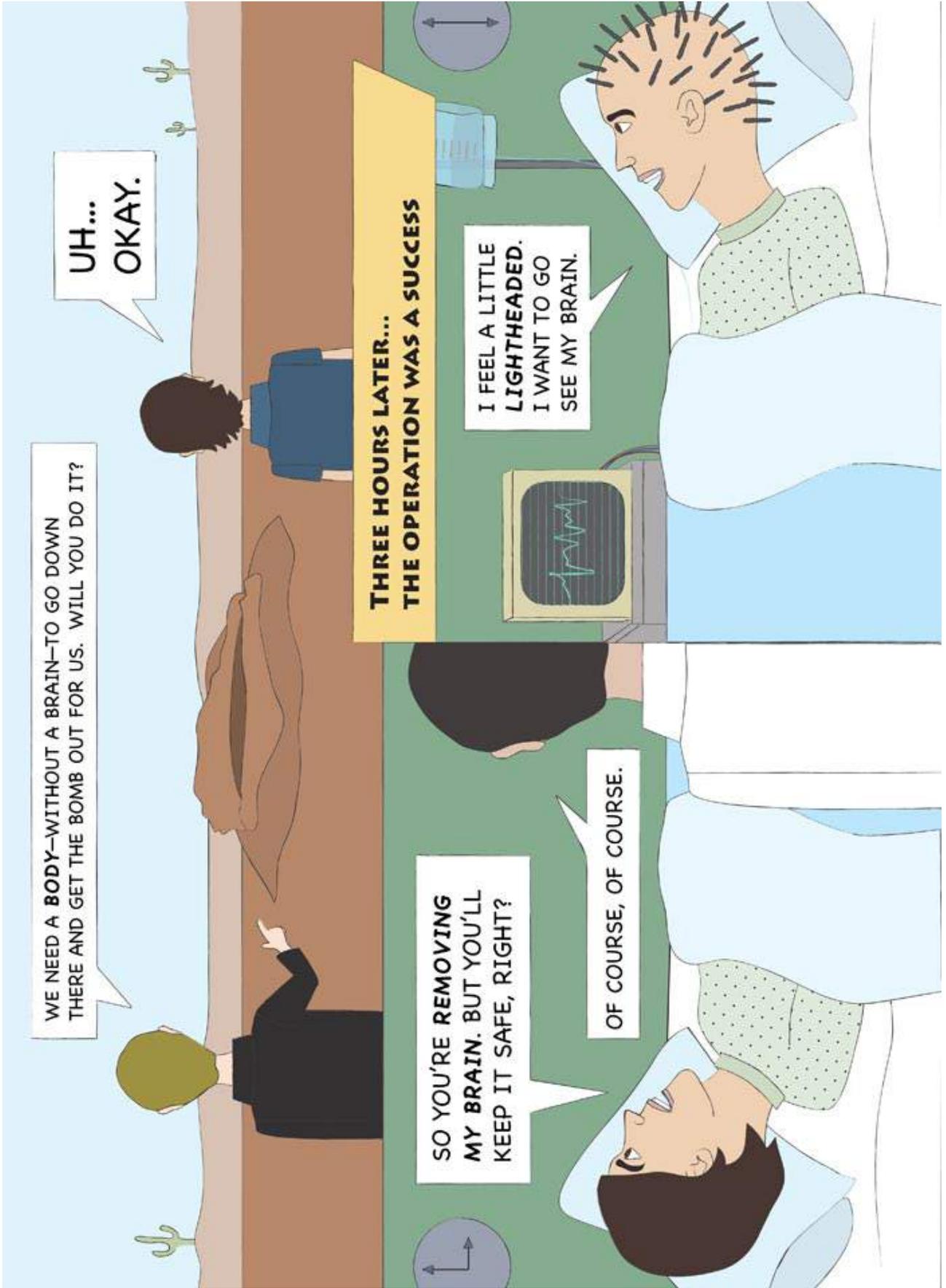
CONFIDENTIAL

I WAS TELLING EVERYONE ABOUT THE CRAZY DREAM I HAD LAST NIGHT. CHECK IT OUT.

SOMEONE PLANTED A **BOMB** A MILE UNDERGROUND...

TOP SECRET!

...the agent will need to disassociate body and brain to safely access the restricted radioactive bomb. This mission is strictly confidential. **The bomb is highly radioactive.** There is top secret clearance to enter its premises



WE NEED A **BODY**—WITHOUT A BRAIN—TO GO DOWN THERE AND GET THE BOMB OUT FOR US. WILL YOU DO IT?

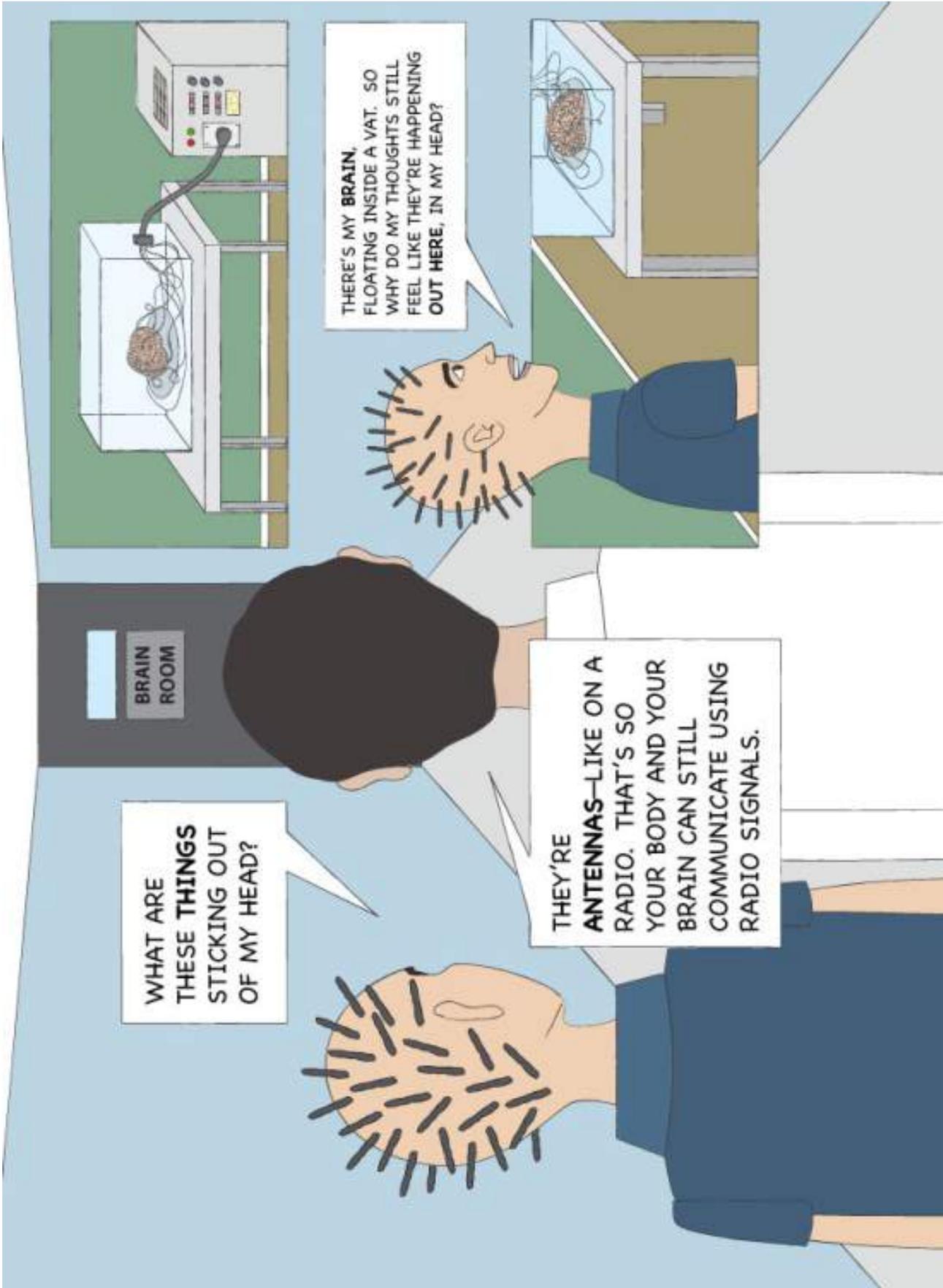
UH...
OKAY.

**THREE HOURS LATER...
THE OPERATION WAS A SUCCESS**

SO YOU'RE REMOVING
MY BRAIN. BUT YOU'LL
KEEP IT SAFE, RIGHT?

OF COURSE, OF COURSE.

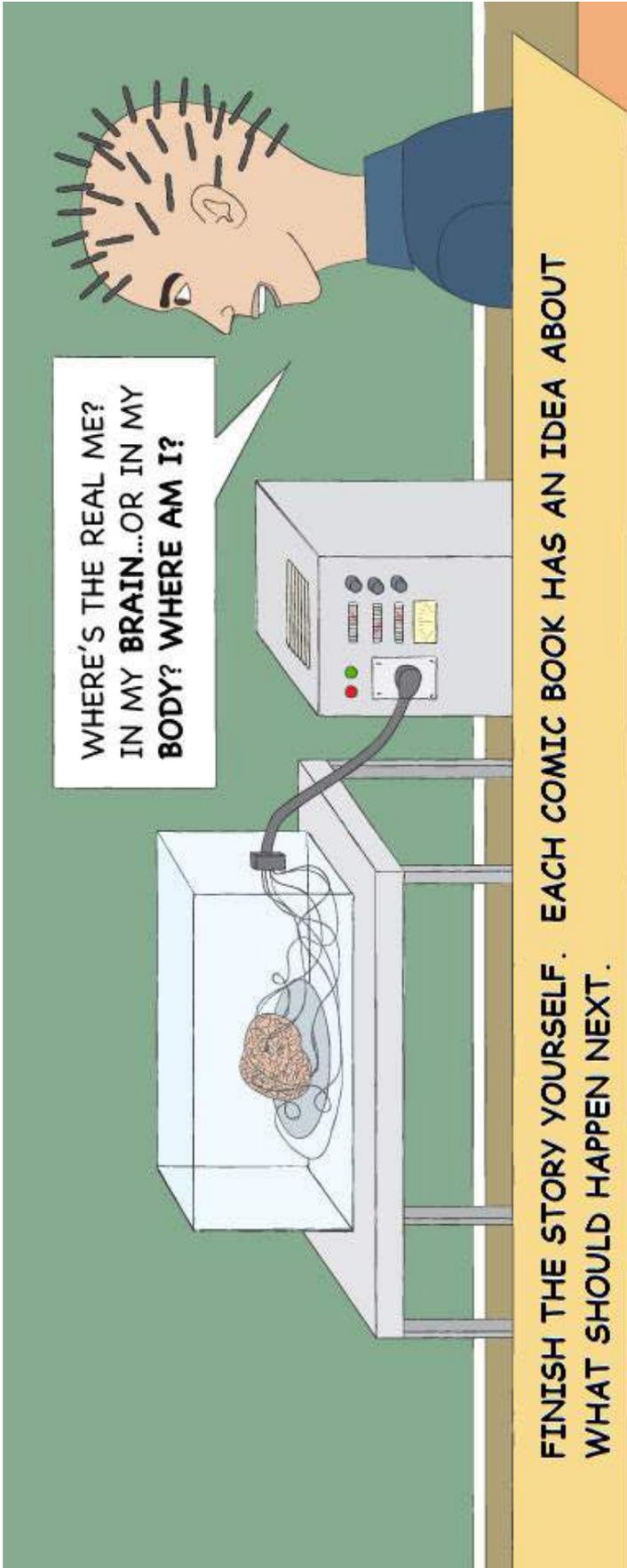
I FEEL A LITTLE
LIGHTHEADED.
I WANT TO GO
SEE MY BRAIN.



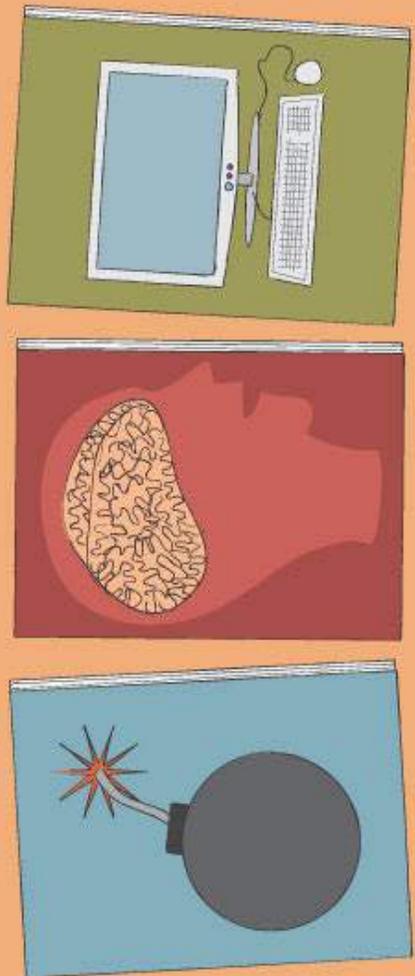
WHAT ARE THESE THINGS STICKING OUT OF MY HEAD?

THEY'RE ANTENNAS—LIKE ON A RADIO. THAT'S SO YOUR BODY AND YOUR BRAIN CAN STILL COMMUNICATE USING RADIO SIGNALS.

THERE'S MY BRAIN, FLOATING INSIDE A VAT. SO WHY DO MY THOUGHTS STILL FEEL LIKE THEY'RE HAPPENING OUT HERE, IN MY HEAD?



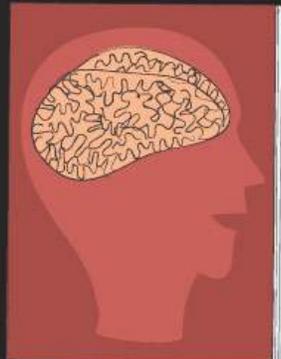
FINISH THE STORY YOURSELF. EACH COMIC BOOK HAS AN IDEA ABOUT WHAT SHOULD HAPPEN NEXT.





*Rio's body goes a mile underground to get the bomb—but the bomb **explodes!** All that's left is Rio's brain back at the lab.*

- ? Would Rio still be alive?*
- ? What would it be like for Rio to be a brain without eyes, ears and hands to let him see, hear and touch?*



The scientists make a new body for Rio that can communicate with his brain.

- ? Where is the real Rio now?*
- ? If the scientists made two new bodies for Rio, where would the real Rio be?*



The scientists create a computer program that's an exact copy of how Rio's brain works.

- ? Would that computer program be Rio too?*

