Discovery Cube Project Kit

Congratulations! You're going to Discovery Cube! Use these project ideas to enrich your educational experience. Read through them before you go to make sure you understand the terms and concepts, and to help you determine if you want to expand upon any of them. You'll find fun facts and printable worksheets at the end of this packet.

a- elementary level activity b- middle school level activity c- high school level activity

Language Arts

There is so much to see at Discovery Cube! Choose one of the exhibits that you'd like to explore deeper. Then complete one of the activities below:

a. Imagine you are only 1 inch tall! Explore your favorite exhibit and talk about how it might look or feel if you were very small. Use your exploration to create a story and tell your story to others. You can even draw a picture for your story and write it down if you want!
b. Imagine you were going to teach about your favorite exhibit to a class of students just like you! How would you get your students excited about it? What would you teach them? Write a short lesson plan and then find someone to give your lesson to. Don't forget to include questions to get your student(s) thinking!
c. Imagine you lived 1000 years ago. If you saw your exhibit for the first time, what would you think? What would you try to do with it? Could you find a useful purpose for it? How could you use it to improve your life or the lives of others? Write a short essay about your ideas.

Materials required: Notebook, pen/pencil
Submission: A copy of your writings/drawing, and any pictures/videos

Teaching or learning notes:

Applied Math

How much money does Discovery Cube make from visitors? They average $15 per ticket sold. How many people come to Discovery Cube every day? There are several ways to estimate this: ask someone who works there, find out the area of the building and divide it into representative areas that you can count and multiply, or find the information on the internet. How much does Discovery Cube make in a day? In a month? In a year?

a. Talk about the math and make verbal estimates with your teacher. Write down your math.
b. Do the calculations on your own and write everything down. Talk about expenses and how those affect Discovery Cube's profit.
c. Do the calculations, write it down, and ask more questions to determine Discovery Cube's estimated costs (don't forget staff, the building lease, utilities, etc.). Estimate gross and net incomes per day, month, and year. Run a hypothetical model to see how the numbers change if attendance or costs decline or increase.

Materials required: Notebook, pen/pencil, calculator or smartphone (optional)
Submission: Your calculations, estimations, and conclusions, and any pictures/videos

Teaching or learning notes:

Science

There is more science in the Cube to see and do than you could possibly do in one day! Take some time with one of your favorite exhibits to document the science. What questions were the scientists asking that inspired them to think of this exhibit? How did they go about testing their ideas? What did they need to build their exhibit/experiment? What questions were answered from their experimenting?

a. Talk about what goes into doing an experiment. What methods did the scientists use to create the exhibit? Draw or write about your ideas.
b. Practice using the Scientific Method to analyze the exhibit. What was the scientist's initial question? What was their hypothesis? How did they test it and what did they conclude? Write down your analysis.
c. Design your own experiment. After analyzing an exhibit and how it's creators used the Scientific Method, use the same method to ask and answer your own question. Design your own exhibit to show others your work or explain how you can use the same exhibit to answer your own question. Draw a picture or explain it in a short essay. If you want, take it a step further and actually perform your experiment and write down your conclusions!

Materials required: Notebook, pen/pencil
Submission: A copy of your drawings, diagrams, maps, or designs, and any pictures/videos

Teaching or learning notes:

Social Studies

Southern California is a popular tourist location. Throughout your trip pay attention to the people around you. Can you tell if any of them are foreign travellers? Do some come from other states? How can you tell? What other languages can you hear? How far did they travel? Do they look like they're enjoying their vacation? How large are their groups that they are travelling in? How well do you feel Discovery Cube is representing America, California, or the Los Angeles area?

a. Pay attention to the people around you. Find at least one group of tourists and see if you can find out where they are from. Be discreet and polite while you look and listen for clues. Write down the clues you found. If you are brave, ask them where they are from and tell them you hope they are having fun on their trip!
b. See how many languages or accents you can identify. Where are those languages or accents spoken? What can you guess about the travellers based on their language or accent? How far did they have to travel to come to Discovery Cube? Why do you think they picked the Cube, or Southern California? Is there anything like this in their home country? Write about your ideas.
c. What makes the Los Angeles area so popular for tourists? Do a little research about the area. Write a short essay about this area and why it is so interesting.

Materials required: Notebook, pen/pencil, smartphone (optional)
Submission: A copy of your writings/drawings, and any pictures/videos

Teaching or learning notes:

Fun Facts

- The Discovery Cube has over 100 hands-on exhibits!
- The Cube is dark because it is covered in solar panels.
- The Sun makes up 99.8% of the entire mass of the whole Solar System. One million Earths would be needed to be the same size as the Sun.
- Space officially begins at the universal marker of the Karman Line. This invisible boundary is only 62 miles above the Earth. In theory if you could drive your car upwards, you could be in space in less than hour.
- The first man-made object sent into space was in 1957 when the Russian satellite named Sputnik was launched.
- There are 206 bones in the adult human body and there are 300 in children (as they grow some of the bones fuse together).
- The smallest bone in the human body is the stapes or stirrup bone located in the middle ear. It is approximately .11 inches (.28 cm) long.
- There are no poisonous snakes in Maine.
- The human eye blinks an average of 4,200,000 times a year.
- The ears of a cricket are located on the front legs, just below the knee.
- Sound travels about 4 times faster in water than in air.
- If you could throw a snowball fast enough, it would totally vaporize when it hit a brick wall. Can you guess why?
- No matter its size or thickness, no piece of paper can be folded in half more than 7 times.

Discovery Cube

1. Draw a picture of your favorite exhibit at the Cube.

2. Describe your favorite exhibit and why you love it.

3. What is one thing you learned about space at the Cube?

4. Draw or describe something robotic you saw.

5. Describe or draw something biological you saw.

6. What is the difference between kinetic and potential energy?

BONUS:

Discovery Cube Scavenger Hunt!

- ❑ Something that flies _____
- ❑ Something that spins _____
- ❑ Something with 5 colors _____
- ❑ Something tiny _____
- ❑ Something huge _____
- ❑ Something fast _____
- ❑ Something fun _____
- ❑ Something alive _____
- ❑ Something cold _____
- ❑ Something that helps the earth _____
- ❑ Something you can build _____

DiscoveryCube OC & LA™

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