Fill in the following table using your textbook, online resources, class notes, etc. The first one is done for you.

<table>
<thead>
<tr>
<th>Organelle</th>
<th>Cells that have it</th>
<th>Function</th>
<th>Structure</th>
<th>Analogy to a City</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nucleus</strong></td>
<td>eukaryotes</td>
<td>Contains DNA which provides instructions for how to build all proteins thereby controlling the cell</td>
<td>Nuclear envelope with pores forms outer wall, inside contains DNA and the nucleolus (where ribosomes are assembled)</td>
<td>City Hall</td>
</tr>
<tr>
<td><strong>Cell Membrane</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Cytoplasm</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cell Wall</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ribosomes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Golgi Bodies / Apparatus</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Smooth Endoplasmic Reticulum</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Rough Endoplasmic Reticulum</strong></td>
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<tr>
<td><strong>Mitochondria</strong></td>
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<tr>
<td><strong>Chloroplasts</strong></td>
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<tr>
<td><strong>Vesicles</strong></td>
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<tr>
<td><strong>Vacuoles</strong></td>
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<tr>
<td><strong>Cytoskeleton</strong></td>
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<tr>
<td><strong>Centrioles</strong></td>
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<tr>
<td><strong>Flagellum</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Cilia</strong></td>
<td></td>
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</tr>
</tbody>
</table>
Fill in the following Venn Diagram by writing in the names of the organelles, which are listed in the table below and on the next page.
Eukaryotic Animal Cell

The average adult human has between 60 and 90 trillion cells!

To learn more about cells, visit http://askabiologist.asu.edu/explore/building-blocks-life

Color and label parts:

1. ________________
2. ________________
3. ________________
4. ________________
5. ________________
6. ________________
7. ________________
8. ________________
9. ________________
10. ________________
11. ________________
12. ________________
13. ________________
14. ________________
Eukaryotic Plant Cell

Plant and animal cells have many common parts, but a few are unique to plant cells. Do you know which parts are different? To learn more about cells, visit http://askabiologist.asu.edu/explore/building-blocks-life

Color and label parts:
1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10. 
11. 
12. 
13. 
14. 
15. 
16.
Cell Project

This is a two part project. Both parts are due: ________________________________

Use your textbook (chapter 7), the websites listed below, and any other reference materials you would like to help you complete this project.

Websites:
- *Introduction to Cells:* [http://www.youtube.com/watch?v=gFuEo2ccTPA](http://www.youtube.com/watch?v=gFuEo2ccTPA)
- *A Tour of the Cell:* [http://www.youtube.com/watch?v=1Z9pqST72is](http://www.youtube.com/watch?v=1Z9pqST72is)
- *The Inner Life of the Cell (produced by Harvard):* [http://www.youtube.com/watch?v=zrXykvorybo](http://www.youtube.com/watch?v=zrXykvorybo) (FYI but not required: you can view an explanation of the things shown in this video here, but this is at an academic level above our class: [http://www.youtube.com/watch?v=GigxU1UXZXo](http://www.youtube.com/watch?v=GigxU1UXZXo))
- *David Bolinsky: Visualizing the wonder of a living cell:* [http://www.youtube.com/watch?v=Id2rZS59xSE](http://www.youtube.com/watch?v=Id2rZS59xSE)
- *More animated views inside the cell:* [http://www.youtube.com/watch?v=UVtRGNElnk](http://www.youtube.com/watch?v=UVtRGNElnk)

Assignment Overview

Design a Sales Brochure for Cells (see the *Cell Mart* project description below). It can be a print catalog or an online catalog. You may work with up to two other people on this project. Each member must contribute equally. This project is worth 100 points.

Optional Enrichment (up to 15 points)

Add a second section to your catalogue for whole cells, including muscle cells, bone cells, nerve cells, pancreatic cells, liver cells, blood cells (red and white), skin cells and, gametes (sex cells). There are various types of each cell – be creative and provide multiple options to your customer! Be sure to specify how the structure and function of each cell type differs, including how the content of cell organelles differ. Each team member must contribute equally.

GRADING POLICY – points will be determined based on:
- Followed specific instructions for the chosen project
- Depicted appropriate organelles for the cell chosen
- Correctly described the function of each structure
- Provided adequate insight for the more advanced projects (sales guides, analogies, cell improvements, etc.)
- Organization and neatness
- Creativity and appeal

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**CELL MART** Cell-to-Cell Sales

Welcome aboard! We’re glad you’re joining our sales team! As you know, Cell-Mart strives to be the one-stop shopping place for all of our customers’ cellular needs. We stock the very latest models in membrane components, trendy genes, and subcellular organelles to appeal to a wide eukaryotic customer base. Advertising is an important part of Cell-Mart’s activities, and we’re excited to have hired some of the top minds in media today to help us put together our sales campaign.

Each media team will create a draft of the Cell-Mart Organelle Catalog. Your catalog can be a print copy or an online catalog. There should be a page for each of the following:

- Title page introducing the company and the catalogue
- Table of contents
- Nucleus (with nucleolus & DNA)
- cell membrane
- cell wall
- ribosomes
- Rough endoplasmic reticulum
- Smooth endoplasmic reticulum
- golgi apparatus
- mitochondria
- chloroplasts
- vesicles
- vacuoles
- Centrioles
- Cytoplasm
- Flagella
- Cilia

Each page should contain a picture of the organelle, a flattering description of its function, a customer testimonial, and the price. The CEO will judge your proposals on scientific accuracy, explanation of the organelles’ functions, professionalism (including grammar and spelling), and creativity in presentation. THE INFORMATION IN THE CATALOG MUST BE IN YOUR OWN WORDS.

Consider the following when designing your catalog:

1. What is your audience? (What type of cells is your organelle needed in?)
2. Why do your buyers need this organelle? (What is your organelle’s job?)
3. Do your buyers need any special equipment for installation? (What is your organelle constructed of?)
4. Will your buyers have room for this organelle? (Where is this organelle’s location in the cell?)
5. Is the organelle shipped with any special packaging? (Is there a bilayer membrane around it inside the cell?)

Remember, people that buy things need to:

- Be convinced that they need the product
- Be taught information about the product
- Believe every word you say to be true!
- Like you, as a salesperson…so make them laugh!