

```
In [1]: # Import Splinter, BeautifulSoup, and Pandas
from splinter import Browser
from bs4 import BeautifulSoup as soup
import pandas as pd
from webdriver_manager.chrome import ChromeDriverManager
```

```
In [ ]: # Set the executable path and initialize Splinter
executable_path = {'executable_path': ChromeDriverManager().install()}
browser = Browser('chrome', **executable_path, headless=False)
```

## Visit the NASA Mars News Site

```
In [3]: # Visit the mars nasa news site
url = 'https://redplanetscience.com/'
browser.visit(url)

# Optional delay for loading the page
browser.is_element_present_by_css('div.list_text', wait_time=1)
```

Out[3]: True

```
In [4]: # Convert the browser html to a soup object and then quit the browser
html = browser.html
news_soup = soup(html, 'html.parser')

slide_elem = news_soup.select_one('div.list_text')
```

```
In [5]: slide_elem.find('div', class_='content_title')
```

Out[5]: <div class="content\_title">NASA's Mars 2020 Heads Into the Test Chamber</div>

```
In [6]: # Use the parent element to find the first a tag and save it as `news_title`
news_title = slide_elem.find('div', class_='content_title').get_text()
news_title
```

Out[6]: "NASA's Mars 2020 Heads Into the Test Chamber"

```
In [7]: # Use the parent element to find the paragraph text
news_p = slide_elem.find('div', class_='article_teaser_body').get_text()
news_p
```

Out[7]: 'In this time-lapse video taken at JPL, engineers move the Mars 2020 rover into a large vacuum chamber for testing in Mars-like environmental conditions.'

## JPL Space Images Featured Image



```
In [13]: df = pd.read_html('https://galaxyfacts-mars.com')[0]
df.head()
```

```
Out[13]:
```

	0	1	2
0	Mars - Earth Comparison	Mars	Earth
1	Diameter:	6,779 km	12,742 km
2	Mass:	6.39 × 10 <sup>23</sup> kg	5.97 × 10 <sup>24</sup> kg
3	Moons:	2	1
4	Distance from Sun:	227,943,824 km	149,598,262 km

```
In [14]: df.columns=['Description', 'Mars', 'Earth']
df.set_index('Description', inplace=True)
df
```

```
Out[14]:
```

	Mars	Earth
<b>Description</b>		
<b>Mars - Earth Comparison</b>	Mars	Earth
<b>Diameter:</b>	6,779 km	12,742 km
<b>Mass:</b>	6.39 × 10 <sup>23</sup> kg	5.97 × 10 <sup>24</sup> kg
<b>Moons:</b>	2	1
<b>Distance from Sun:</b>	227,943,824 km	149,598,262 km
<b>Length of Year:</b>	687 Earth days	365.24 days
<b>Temperature:</b>	-87 to -5 °C	-88 to 58°C

```
In [15]: df.to_html()
```

```
Out[15]: '<table border="1" class="dataframe">\n  <thead>\n    <tr style="text-align: right;">\n      <th></th>\n      <th>Mars</th>\n      <th>Earth</th>\n    </tr>\n    <tr>\n      <th>Description</th>\n      <th></th>\n    </tr>\n  </thead>\n  <tbody>\n    <tr>\n      <th>Mars - Earth Comparison</th>\n      <td>Mars</td>\n      <td>Earth</td>\n    </tr>\n    <tr>\n      <th>Diameter:</th>\n      <td>6,779 km</td>\n      <td>12,742 km</td>\n    </tr>\n    <tr>\n      <th>Mass:</th>\n      <td>6.39 × 1023 kg</td>\n      <td>5.97 × 1024 kg</td>\n    </tr>\n    <tr>\n      <th>Moons:</th>\n      <td>2</td>\n      <td>1</td>\n    </tr>\n    <tr>\n      <th>Distance from Sun:</th>\n      <td>227,943,824 km</td>\n      <td>149,598,262 km</td>\n    </tr>\n    <tr>\n      <th>Length of Year:</th>\n      <td>687 Earth days</td>\n      <td>365.24 days</td>\n    </tr>\n    <tr>\n      <th>Temperature:</th>\n      <td>-87 to -5 °C</td>\n      <td>-88 to 58°C</td>\n    </tr>\n  </tbody>\n</table>'
```

## D1: Scrape High-Resolution Mars' Hemisphere

# Images and Titles

## Hemispheres

```
In [16]: # 1. Use browser to visit the URL
url = 'https://marshemispheres.com/'

browser.visit(url)
```

```
In [17]: # 2. Create a list to hold the images and titles.
hemisphere_image_urls = []

# 3. Write code to retrieve the image urls and titles for each hemisphere.
```

```
In [18]: # 4. Print the list that holds the dictionary of each image url and title.
hemisphere_image_urls
```

```
Out[18]: [{'img_url': 'https://marshemispheres.com/images/full.jpg',
          'title': 'Cerberus Hemisphere Enhanced'},
          {'img_url': 'https://marshemispheres.com/images/schiaparelli_enhanced-full.jpg',
          'title': 'Schiaparelli Hemisphere Enhanced'},
          {'img_url': 'https://marshemispheres.com/images/syrtis_major_enhanced-full.jpg',
          'title': 'Syrtis Major Hemisphere Enhanced'},
          {'img_url': 'https://marshemispheres.com/images/valles_marineris_enhanced-full.jpg',
          'title': 'Valles Marineris Hemisphere Enhanced'}]
```

```
In [19]: # 5. Quit the browser
browser.quit()
```

```
In [ ]:
```