In [1]:
```
from matplotlib import pyplot as plt
import numpy as np
```

In [9]:
```
csv=np.genfromtxt ('2023-01-26-incubation-data.csv',
                   #  skip_header=1,
                     delimiter=",")
csv[0:10]
csv = csv[6:]
csv[:6]
```

Out[9]:
```
array([[ 1., nan, nan,  8.,  0., 61., nan, nan],
       [ 2., nan, nan,  8.,  0., 56., nan, nan],
       [ 3., nan, nan,  7.,  1., 54., nan, nan],
       [ 4., nan, nan,  7.,  1., 52., nan, nan],
       [ 5., nan, nan,  7.,  1., 64., nan, nan],
       [ 6., nan, nan,  7.,  1., 57., nan, nan]])
```

In [11]:
```
no=csv[:,0]
no[:6]
```

Out[11]:
```
array([1., 2., 3., 4., 5., 6.])
```

In [12]:
```
age=csv[:,4]
age[:6]
```

Out[12]:
```
array([0., 0., 1., 1., 1., 1.])
```

In [13]:
```
mass0=csv[:,5]
mass0[:6]
```

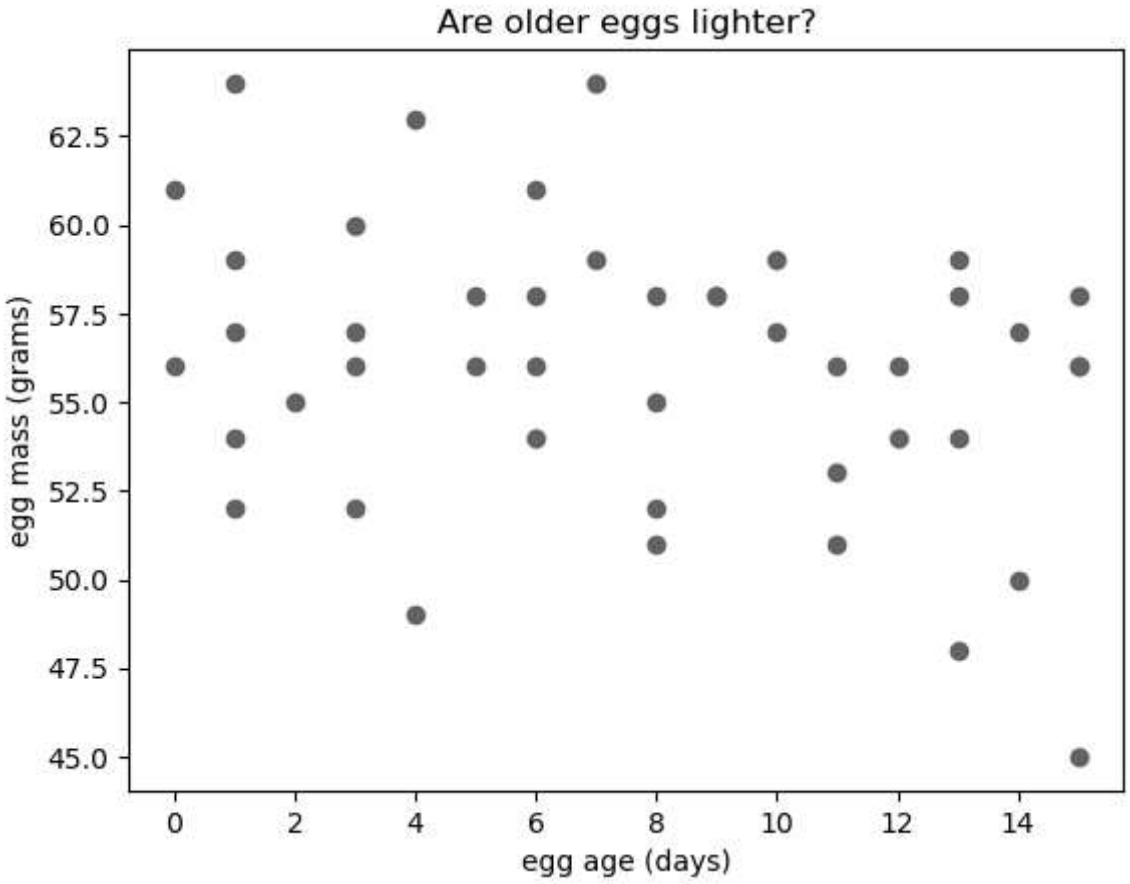
Out[13]:
```
array([61., 56., 54., 52., 64., 57.])
```

In [27]:
```
print(mass0.mean(),mass0.std())
```

```
56.0 3.960920207336786
```

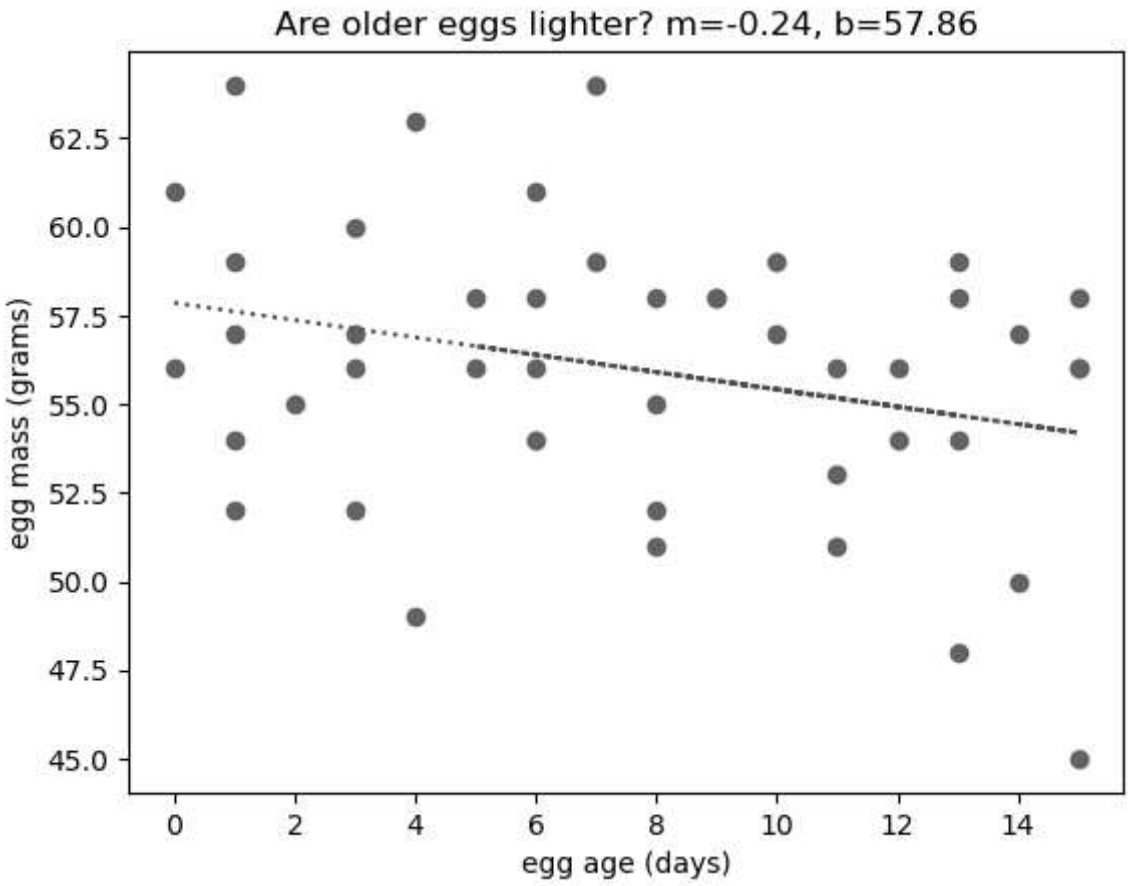
In [29]:
```
plt.plot(age,mass0,"o")
plt.xlabel("egg age (days)")
plt.ylabel("egg mass (grams)")
plt.title("Are older eggs lighter?")
```

Out[29]:
```
Text(0.5, 1.0, 'Are older eggs lighter?')
```



In [43]:
```
z=np.polyfit(age,mass0,1)
p=np.poly1d(z)
plt.plot(age,mass0,"o", age, p(age),"r:")
plt.xlabel("egg age (days)")
plt.ylabel("egg mass (grams)")
plt.title("Are older eggs lighter? m=%.2f, b=%.2f"%(z[0],z[1]))
```

Out[43]:
```
Text(0.5, 1.0, 'Are older eggs lighter? m=-0.24, b=57.86')
```

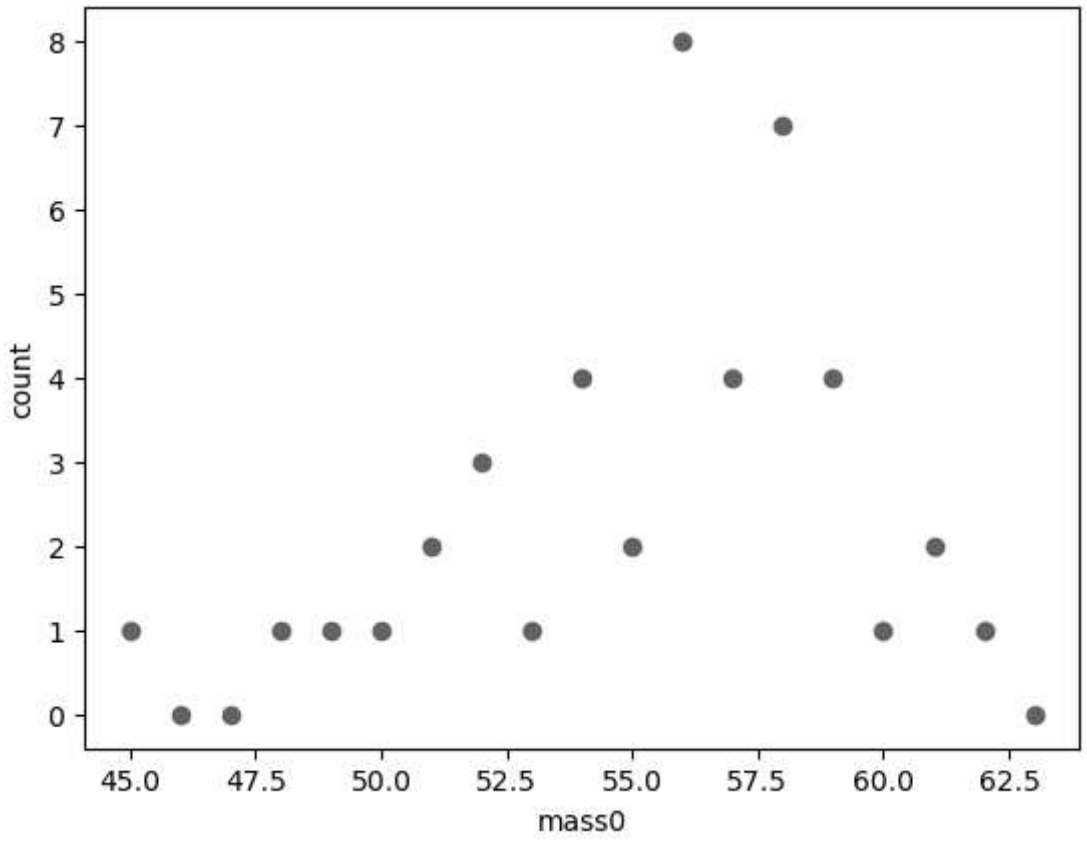


In [81]:
```
mybins=np.arange(min(mass0),max(mass0),1)
h=np.histogram(mass0,bins=mybins)
```

In [85]:
```
count=h[0]
count=np.append(count,0)
```

In [91]:
```
plt.plot(mybins,count,"o")
plt.xlabel("mass0")
plt.ylabel("count")
```

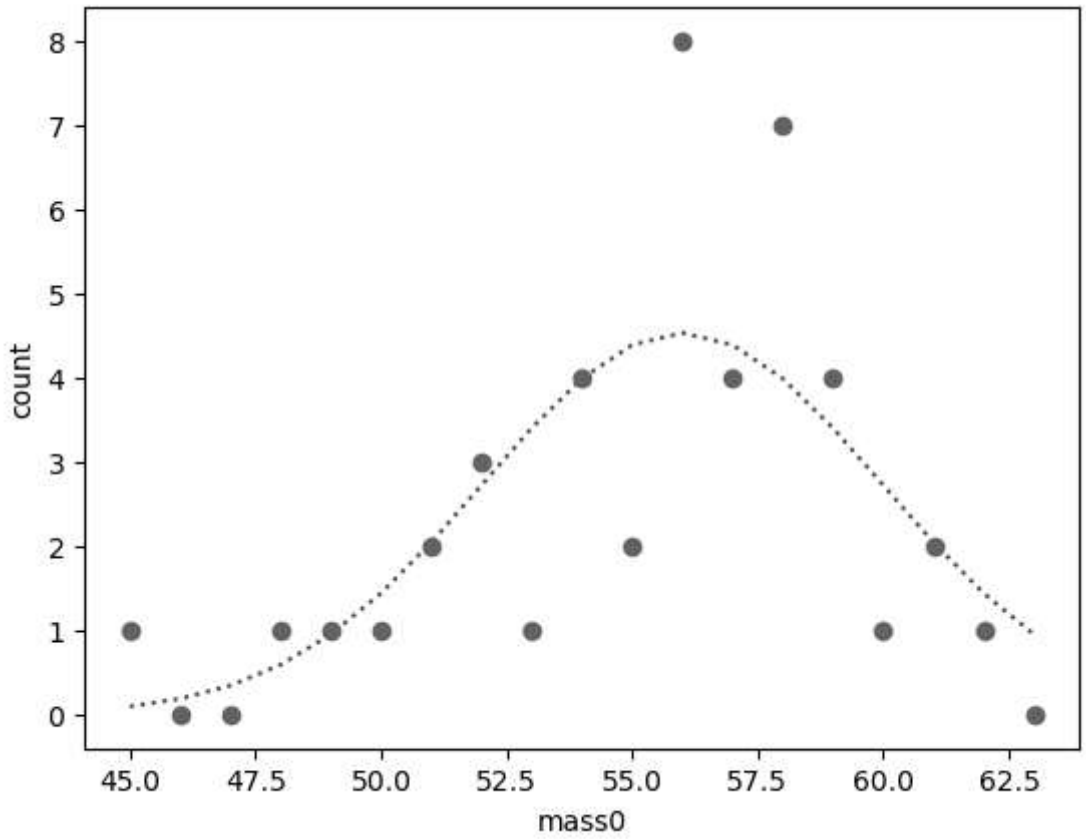
Out[91]:
```
Text(0, 0.5, 'count')
```



In [103…
```
mu = mass0.mean()
sigma=mass0.std()
x=np.arange(min(mass0),max(mass0))
normal=(1.0/(sigma*np.sqrt(2.0*np.pi)))*np.exp(-0.5*((x-mu)/sigma)**2)
num=len(mass0)
```

In [106…
```
plt.plot(x,normal*num,"r:", mybins,count,"o")
plt.xlabel("mass0")
plt.ylabel("count")
```

Out[106]:
```
Text(0, 0.5, 'count')
```



In [ ]: