Highlight/mark as you go:

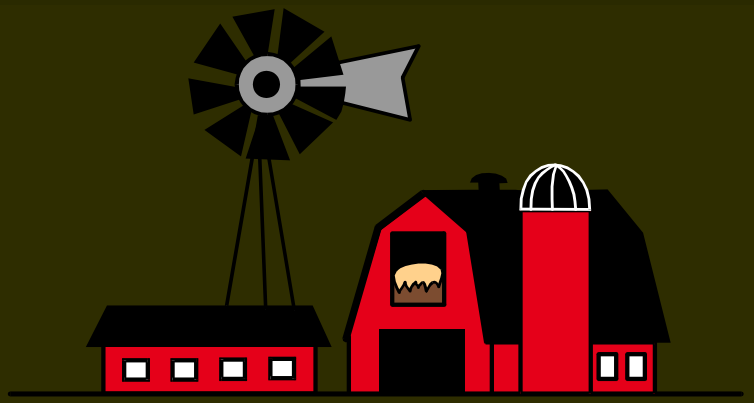
1 - **Why** did the Industrial Revolution first take place in **England**?

2 - What were some of the **major inventions** that changed production of goods?

3 - What were the **effects of urbanization** on people and cities?

Industrial Revolution

The Industrial Revolution was a series of dramatic changes not in the way that a country was governed, but in the **way work was done.**



FARMING:

Land owners renting farms to tenant farmers - **Enclosure system**

Jethero Tull invented the **seed drill** - this increased the number of seeds that took root and thus increased the crop yield.

Fallowing: Leaving a field unplanted every 2-3 years so that nutrients could build back up in the soil.

NOW . . . . **CROP ROTATION**

Charles Townshend - change the crop of the field every year:

Improved livestock:

Allow only the best animals to breed - weight and quality of animals increased.

Effects on Population:

Better livestock + more food = fewer people went hungry and nutrition improved.

People were healthy - had healthy children - small pox vaccine created - those children lived longer - had more children - meant there were more people to work - increased demand for food and supplies -

Cycle continues and fuels the Industrial Revolution

Britain's Advantages

1. Abundant Natural Resources:

Water Power	Coal	Iron

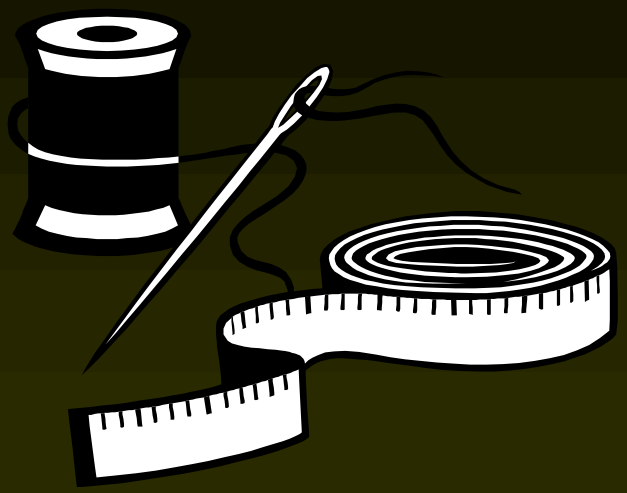
2. Favorable Geography:
   Lots of harbors + lots of ships = able to trade with the entire world

3. Favorable Climate for New Ideas:
   Royal Society - for discussing science and new inventions
   Businesses were willing to invest in new inventions

4. **Good Banking System:**
   Stable enough to loan money to business. Businesses invest in new machinery, build new factories, produce better goods, make a profit.

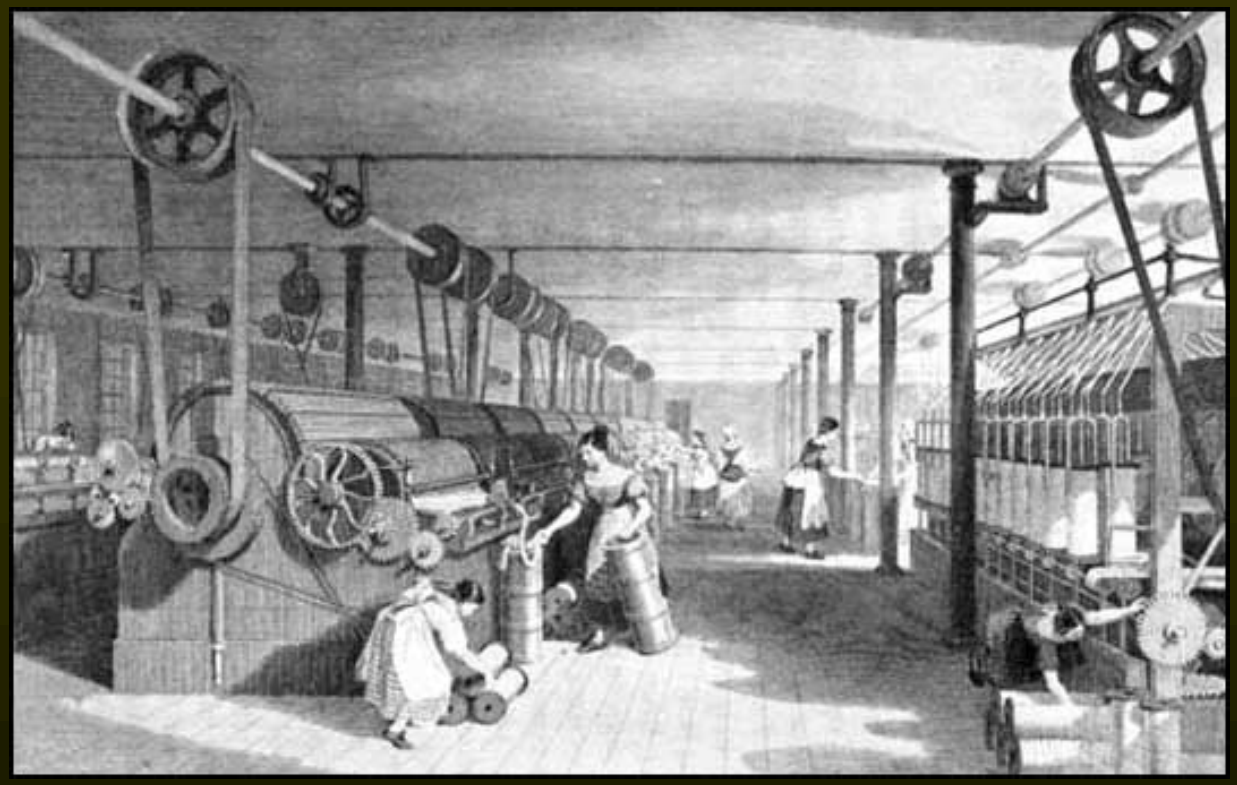
5. Political Stability:
   Century of peace
   Government encouraged economic growth
   Passed laws encouraging trade

Textile Industry:



Most popular type of cloth was made from cotton

Spinners and weavers could not keep up with the demands for the cloth.



EXIT

Carding Machine

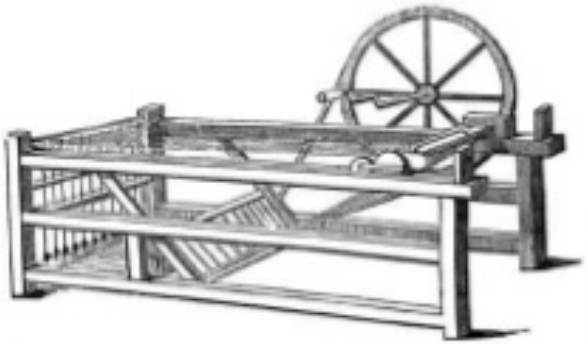
EXXON
Tiger Mart
2.79 9/10
2.87 9/10
3.09 9/10
3.19 9/10
EXXON
SUNOCO
DIESEL
CASH / CREDIT
9/10
LOW PRICE
EVERY DAY
EXPRESS
HAND CAR WASH
DETAIL CENTER
Fuel 4
GAS & DIESEL
2.73 9/10
Reg Cash
2.81 9/10
Reg Credit
2.91 9/10
SUPER Cash
2.99 9/10
SUPER Credit
MR. 4 HAND CAR WASH
DETAIL CENTER
201-541-5798

Six Major Inventions:

Flying Shuttle	John Kay	Allowed weaver to double the weaving speed
Spinning Jenny	James Hargreaves	Allowed one spinner to work 6 - 8 threads
Water Frame	Richard Arkwright	Used water power to drive spinning wheels
Spinning Mule	Samuel Crompton	Spinning jenny + water frame, made a stronger thread
Power Loom	Edmund Cartwright	Speed up weaving process
Cotton Gin	Eli Whitney	Allowed pickers to pick & clean 10 x as much cotton

Flying shuttle

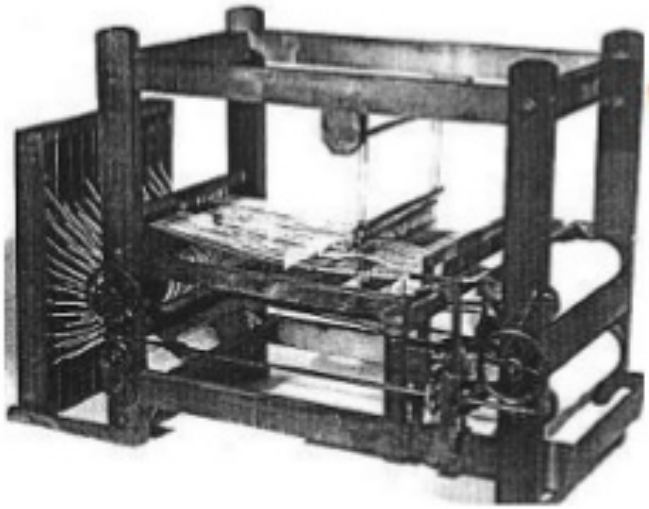
Spinning Jenny



Water Frame

Spinning Mule

Power Loom



Cotton Gin

Frame loom to Flying Shuttle video

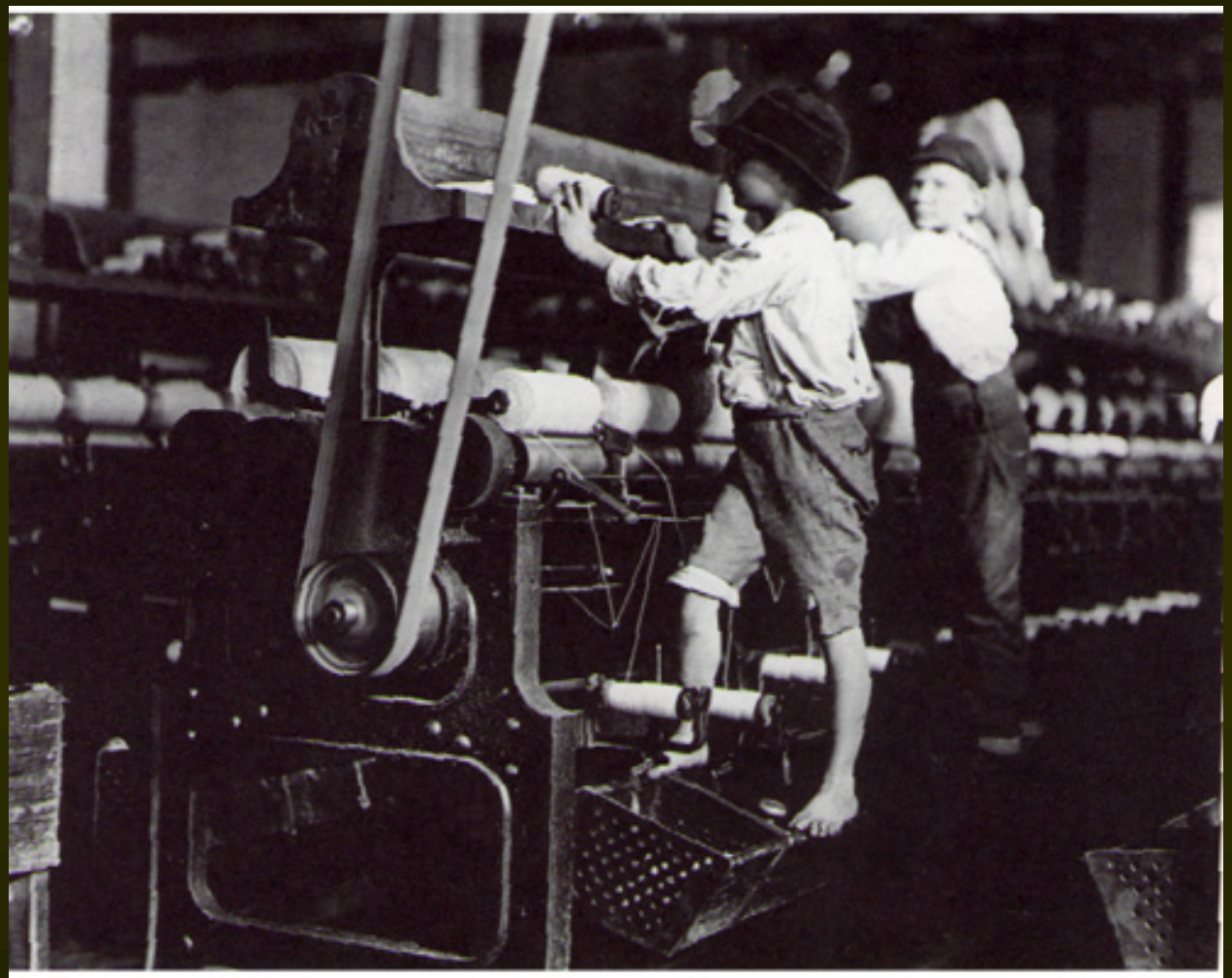
https://www.youtube.com/watch?v=kNqHgY4TQwM

How Fabric is made today:

https://www.youtube.com/watch?v=lCy5DJb24_s

Child Labor:

"The displaced working classes, from the seventeenth century on, took it for granted that a family would not be able to support itself if the children were not employed."



Replacing bobbins on machinery

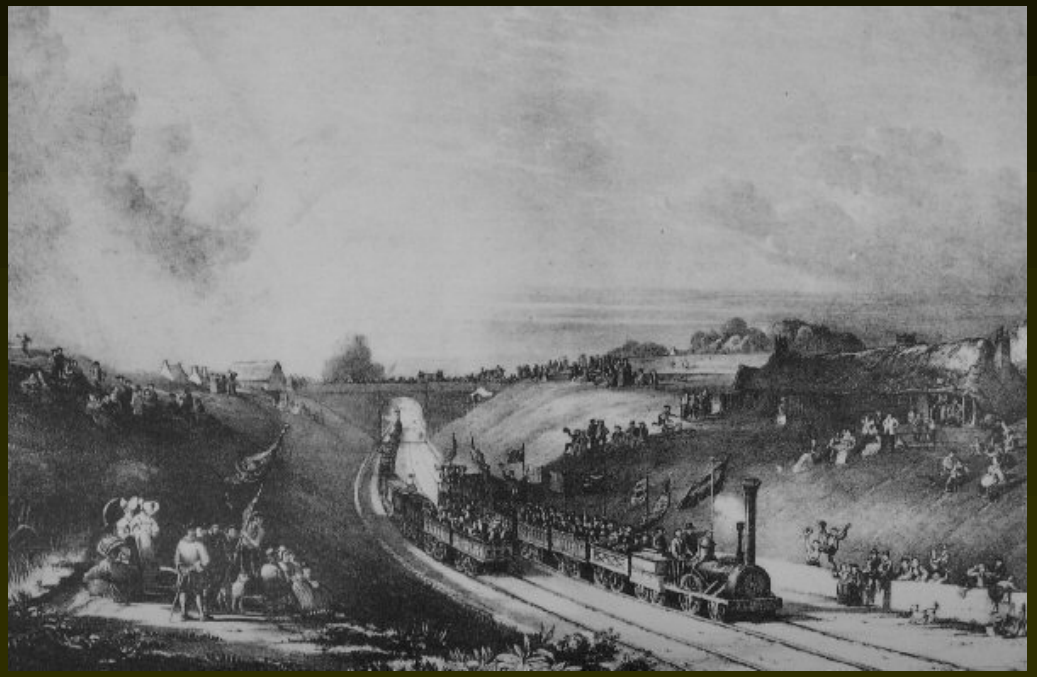
Kids At Work, Russell Freedman, Scholastic, 1994. Photo by Lewis Hine

Children were used to set dynamite in mines and to fix looms and textile machines

Steam Engine:

Man by the name of **James Watt** saw that the steam engine worked very slowly and burned quite a bit of fuel.
He improved it soon they were being used in all the factories.
Watt is called an **entrepreneur**

Industry:



Canals and roads had to be built in order to transport goods to and from factories. In the 1700s and early 1800s, British workers built more than 4,000 miles of inland waterways.

The steam engine was put on wheels and became known as the **railroad locomotive**

Tracks were laid between cities and harbors.

People used it for **personal transportation as well as the transportation of goods.**

- **Encouraged industrial growth**
- **Created millions of new jobs**
- **Made travel fast and efficient**

City Life:

The growth of the factory system sent people flocking into cities and towns where there was work available.

Most European cities doubled in population from 1800 to 1850

PROBLEMS:

- **Most streets were not paved**
- **Factory smoke blew past houses**
- **No sanitary codes**
- **People brought their animals with them**
- **Sickness was rampant**
- **Average life of a working class person was 17 years**

WORKING CONDITIONS:

- Work day was 14 hours, 6 days a week
- Factories were poorly lit
- Buildings were dirty
- Machines would maim workers
- Coal dust caused disease

CHILDREN:

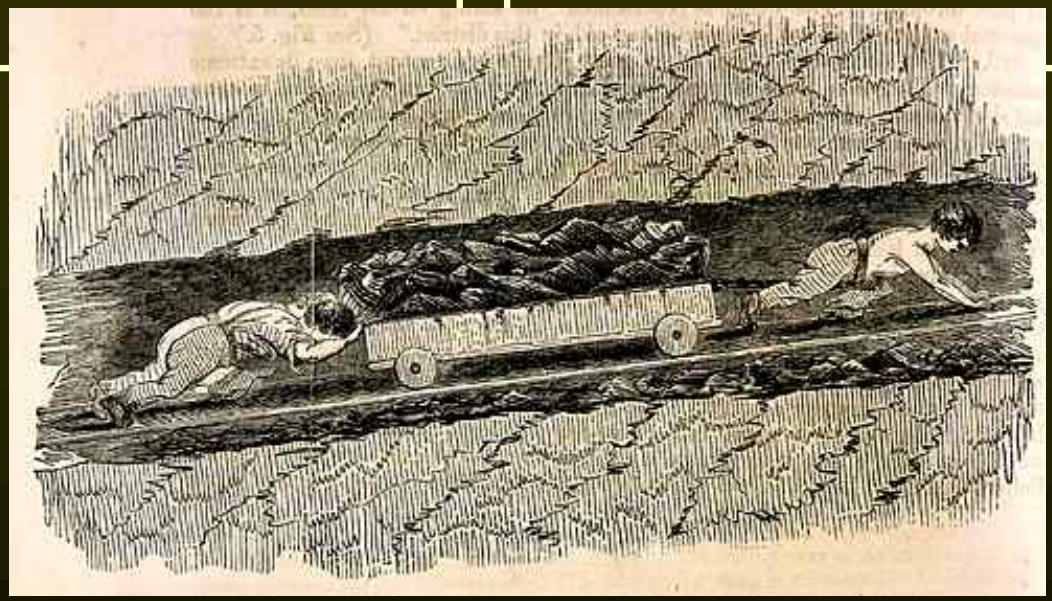
- Used in mines to get to small places
- orphan children were bought by factory owners

Parliament enacted laws that:

Made it illegal to work until age 9

9 -13 could work 8 hrs a day

14 - 18 could work 12 hrs a day



CLASS SYSTEM:
<u>The middle class grew</u> -

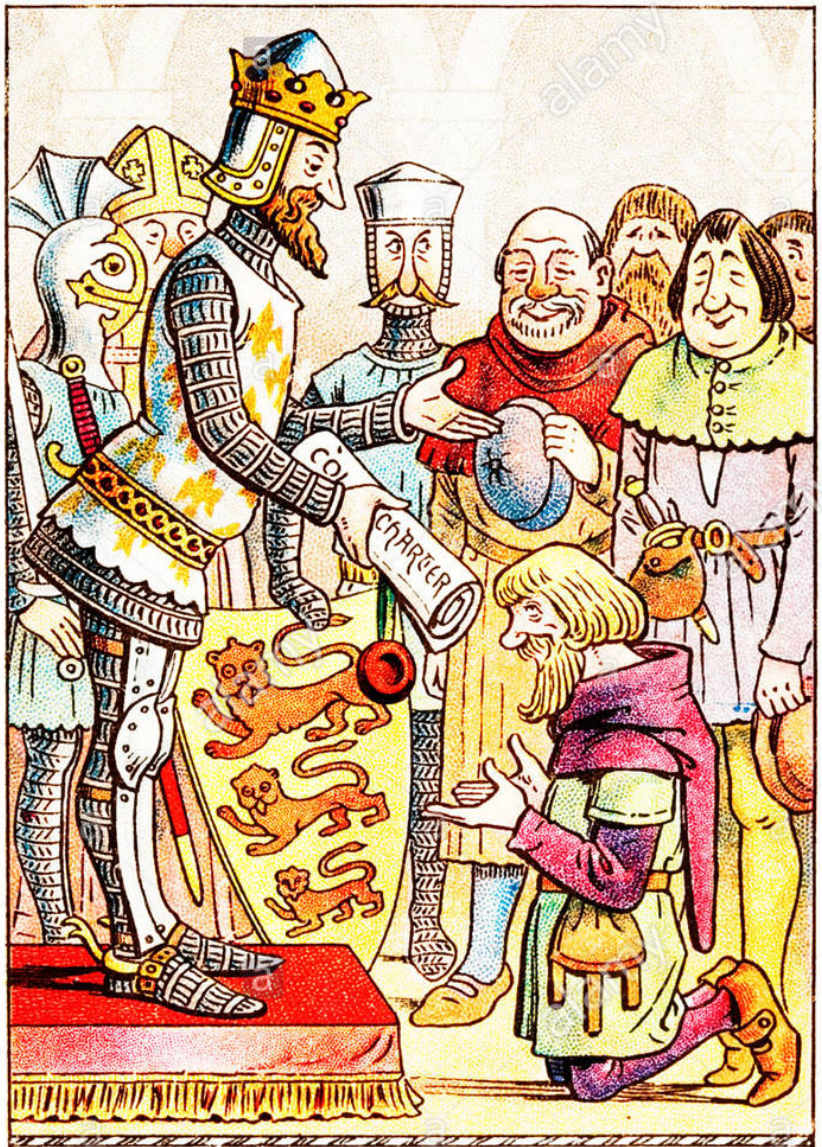
not rich or poor.

Laissez-faire encouraged

Workers joined together to ask for better working conditions.

These groups are known as **<u>unions</u>**

COMIC HISTORY OF ENGLAND SERIES. No. 4.



HENRY III. GRANTING A CHARTER TO "DIGGE FOR COLE."

PUBLISHED BY CASWELL & BOWDEN, LTD., BIRMINGHAM.

Hudson & Son, Lith., Birmingham. Copyright. Entered Stationers' Hall.

Work as a table to come with with a name for your town.

See your Queen for a Charter

FDA
U.S. Department of Health and Human Services
Food and Drug Administration

FDA
Produce Scale
Produce Scale
WEIGH IT!
prepared foods

What is FDA's Universe?

- In 2011, FDA:
  - Regulated ≈ $417B in domestic food products, $49B foreign food products
  - Regulated 167,000 US food facilities; 254,000 foreign food facilities
  - Conducted 19,000 inspections of US facilities, 995 foreign inspections (≈ 2.3% of total)
  - Spent $190M for inspections, including $25M to states to conduct inspections

Original Label
Nutrition Facts
Serving Size 2/3 cup (55g)
Servings Per Container About 8
Amount Per Serving
Calories 230
Calories from Fat 72
% Daily Value*
Total Fat 8g 12%
Saturated Fat 1g 5%
Trans Fat 0g
Cholesterol 0mg 0%
Sodium 160mg 7%
Total Carbohydrate 37g 12%
Dietary Fiber 4g 16%
Sugars 1g
Protein 3g
Vitamin A 10%
Vitamin C 8%
Calcium 20%
Iron 45%
* Percent Daily Values are based on a 2,000 calorie diet. Your daily value may be higher or lower depending on your calorie needs.
Calories: 2,000 2,500
Total Fat Less than 65g 80g
Sat Fat Less than 20g 25g
Cholesterol Less than 300mg 300mg
Sodium Less than 2,400mg 2,400mg
Total Carbohydrate 300g 375g
Dietary Fiber 25g 30g
New Label
Nutrition Facts
8 servings per container
Serving size 2/3 cup (55g)
Amount per serving
Calories 230
% Daily Value*
Total Fat 8g 10%
Saturated Fat 1g 5%
Trans Fat 0g
Cholesterol 0mg 0%
Sodium 160mg 7%
Total Carbohydrate 37g 13%
Dietary Fiber 4g 14%
Total Sugars 12g
Includes 10g Added Sugars 20%
Protein 3g
Vitamin D 2mcg 10%
Calcium 260mg 20%
Iron 8mg 45%
Potassium 235mg 6%
* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

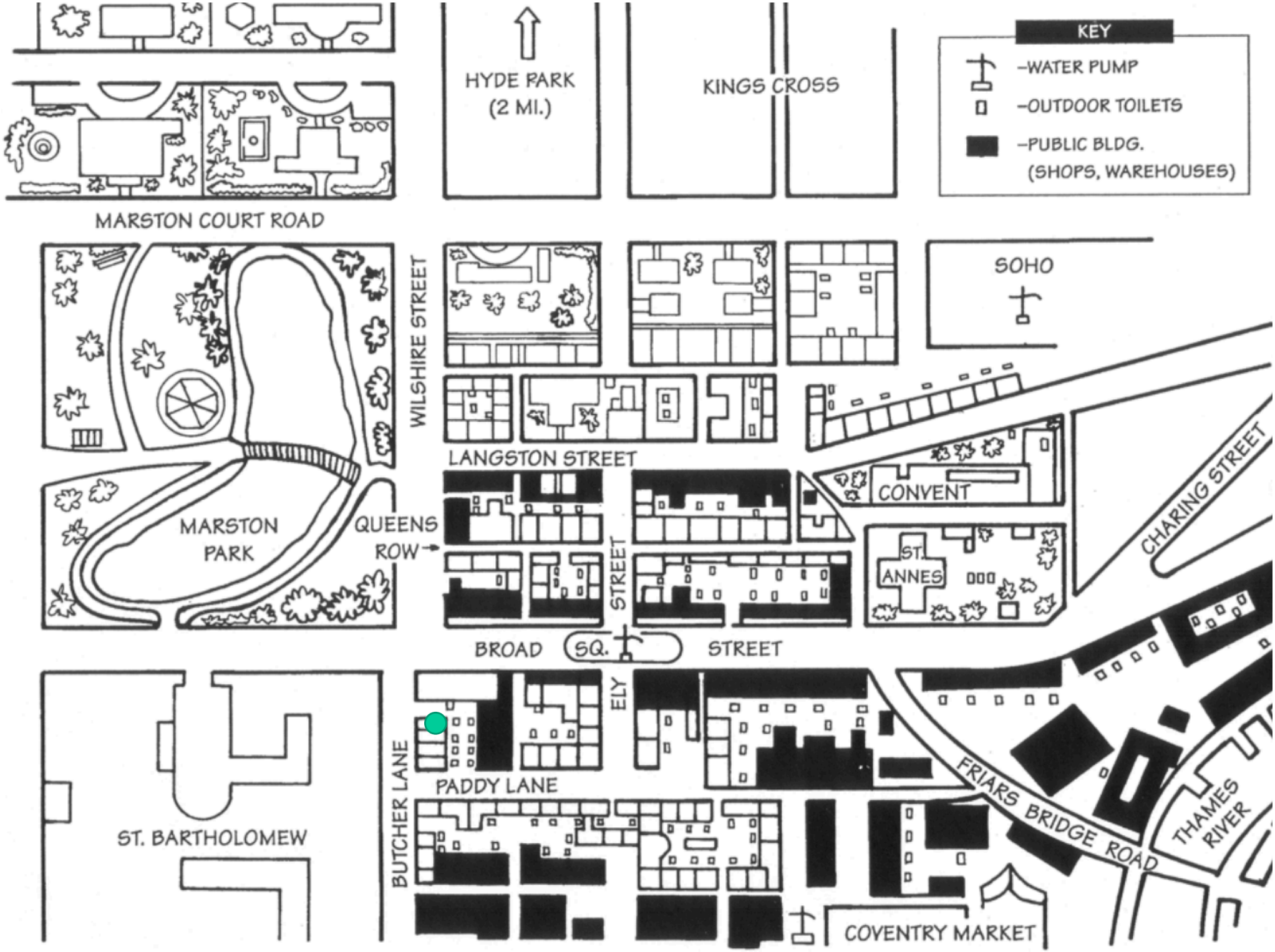
Total Fat 0g	**0%**
Sodium 280mg	**12%**
Total Carb 3g	**1%**
Sugars 2g	
Protein 0g	

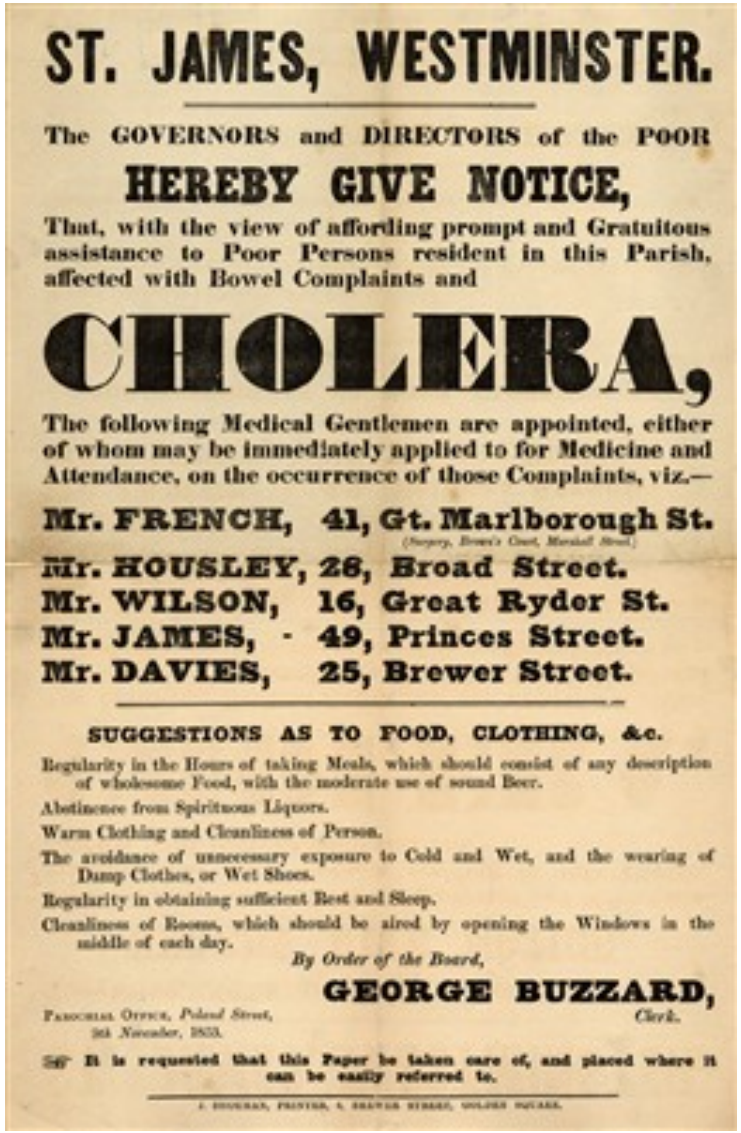
*Percent Daily Values are based on a 2,000 calorie diet.

INGREDIENTS: TOMATO PUREE (WATER, TOMATO PASTE), VINEGAR, CORN SYRUP, SALT, RAISIN PASTE, CRUSHED ORANGE PUREE, SPICE, DRIED GARLIC, CARAMEL COLOR, DRIED ONIONS, POTASSIUM SORBATE (TO PRESERVE FRESHNESS), XANTHAN GUM, CELERY SEED

KRAFT FOODS GLOBAL, INC.
NORTHFIELD, IL 60093-2753 USA

http://www.foodnetwork.com/videos/making-head-cheese-in-philly-0206516
Imgur: mmexico25


KEY
-WATER PUMP
-OUTDOOR TOILETS
-PUBLIC BLDG.
(SHOPS, WAREHOUSES)
HYDE PARK
(2 MI.)
KINGS CROSS
MARSTON COURT ROAD
WILSHIRE STREET
SOHO
LANGSTON STREET
CONVENT
CHARING STREET
MARSTON
PARK
QUEENS
ROW
STREET
ST.
ANNES
BROAD
SQ.
STREET
ELY
BUTCHER LANE
PADDY LANE
FRIARS BRIDGE ROAD
THAMES
RIVER
ST. BARTHOLOMEW
COVENTRY MARKET



ST. JAMES, WESTMINSTER.

The GOVERNORS and DIRECTORS of the POOR

HEREBY GIVE NOTICE,

That, with the view of affording prompt and Gratuitous assistance to Poor Persons resident in this Parish, affected with Bowel Complaints and

CHOLERA,

The following Medical Gentlemen are appointed, either of whom may be immediately applied to for Medicine and Attendance, on the occurrence of those Complaints, viz.—

Mr. FRENCH, 41, Gt. Marlborough St.
(Surgery, Brown's Court, Marshall Street)
Mr. HOUSLEY, 28, Broad Street.
Mr. WILSON, 16, Great Ryder St.
Mr. JAMES, 49, Princes Street.
Mr. DAVIES, 25, Brewer Street.

SUGGESTIONS AS TO FOOD, CLOTHING, &c.

Regularity in the Hours of taking Meals, which should consist of any description of wholesome Food, with the moderate use of sound Beer.

Abstinence from Spirituous Liquors.

Warm Clothing and Cleanliness of Person.

The avoidance of unnecessary exposure to Cold and Wet, and the wearing of Damp Clothes, or Wet Shoes.

Regularity in obtaining sufficient Rest and Sleep.

Cleanliness of Rooms, which should be aired by opening the Windows in the middle of each day.

By Order of the Board,

GEORGE BUZZARD,
Clerk.

Parochial Office, *Poland Street,*
9th *November,* 1853.

☞ **It is requested that this Paper be taken care of, and placed where it can be easily referred to.**

J. SHOUMAN, PRINTER, 4, BREWER STREET, GOLDEN SQUARE.

Show me your hypothesis to get your next set of clues