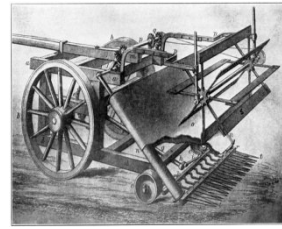


Westward Expansion: Technological Advancements

Technological Advancements

Because of new **advancements** in **technology** people saw the **Great Plains** not as a “**treeless wasteland**” but as a vast area to be **settled**



1. Dry Farming

- Type of farming that allowed farmers to farm without much **water**
- Planted the seeds **deeper** to get more water
- Popular crops = **wheat, corn** and **potatoes**

2. Wheat Farming

- Wheat doesn't need much **water**
- Wheat can be made into **flour** which is **non-perishable** and can be used to make **bread** and **cereal**

3. Steel Plow

- Great Plain **soil** was **hard** and **rocky**
- **Wooden** plows weren't **strong** enough
- Harder **steel** was able to break through the tough **topsoil**

4. Windmills

- **Water-pumping windmills** provided water for people and animals in areas with **little rainfall**
 1. Wind turns the **blades** of the windmill.
 2. The turning of the blades operates a **pump** that brings water up from **underground** sources (**aquifers**)
 3. The water flows into an open **wooden** box called a **trough**.

5. Mechanical Reaper

- Mechanical reaper (mower) reduced **farm labor** needs and increased production of **wheat** and other **grains**

6. Beef Cattle Raising

- Some areas were had natural **grasses** that were good for cows (**cattle**) to **graze**
- **Texas** became the center of cattle ranching
- People in the **East** wanted to eat **beef**; **BEEF = \$\$\$\$**



7. Barbed Wire

- Barbed wire was used for **fencing** large **ranches** and **farms**
- Built more **quickly** and **cheaply** than **wood** fences, which were **expensive** and hard to get (few **trees** for wood)
- Kept **livestock** in and **predators** out

8. Sod Houses

- Sod = the **top layer** of **soil** and **grass** (8-10 **inches** thick)
- Settlers in the Plains built **houses** out of **sod** and **wooden** beams
- Easy to **build**, **durable**, well-**insulated**, and practically **free**

9. Railroads

- Made it easier to travel **west**
- **Farmers** could ship their **crops** to the **markets** in the **East**

Transcontinental Railroad

- linked the **East** to the **West** (from the **Atlantic** to the **Pacific** Ocean)
- Transported **people** and **goods**
- Made **trade** easier
- Made it possible to start building **factories** in the West
- Started as **two** railroads: **Union Pacific** (east to west) and **Central Pacific** (west to east)
- Union Pacific: began in **Omaha, Nebraska**
- Central Pacific began in **Sacramento, California**
- “Meet me in the **middle**”
- May 10, 1869: UP and CP met at **Promontory Point, Utah**
- Leland **Stanford**, Gov. of California, drove the last spike.

- **Who built the Transcontinental Railroad?**
 - Union Pacific – 8,000 **Irish immigrants** and **African-Americans**
 - Central Pacific - 10,000 **Chinese immigrants**

10. Telegraph

- Invented by **Samuel Morse**
- (THINK **MORSE CODE**)
- Allowed people to **communicate** across long **distances**
- **Messages** could travel across the **country** in a matter of **minutes**.