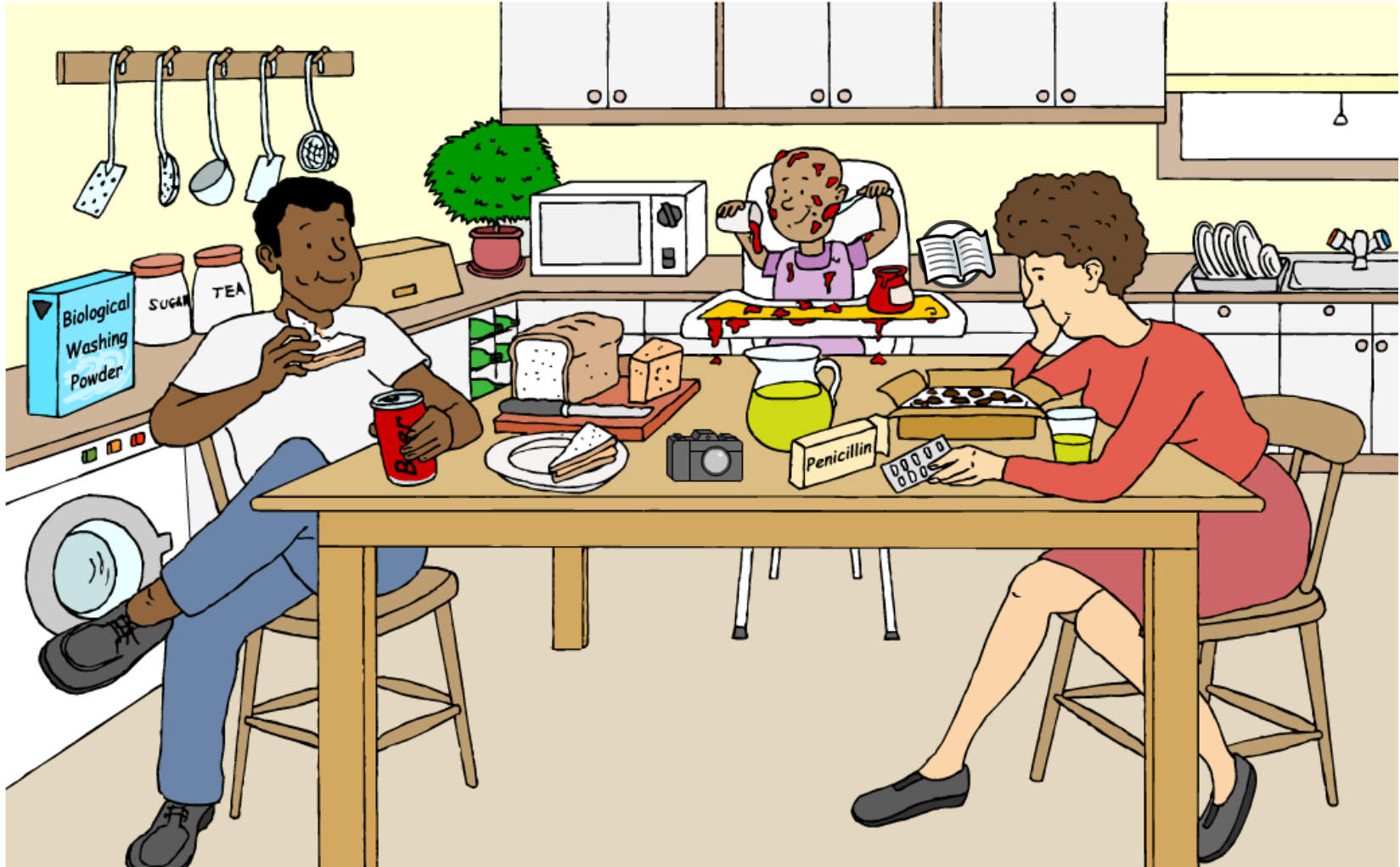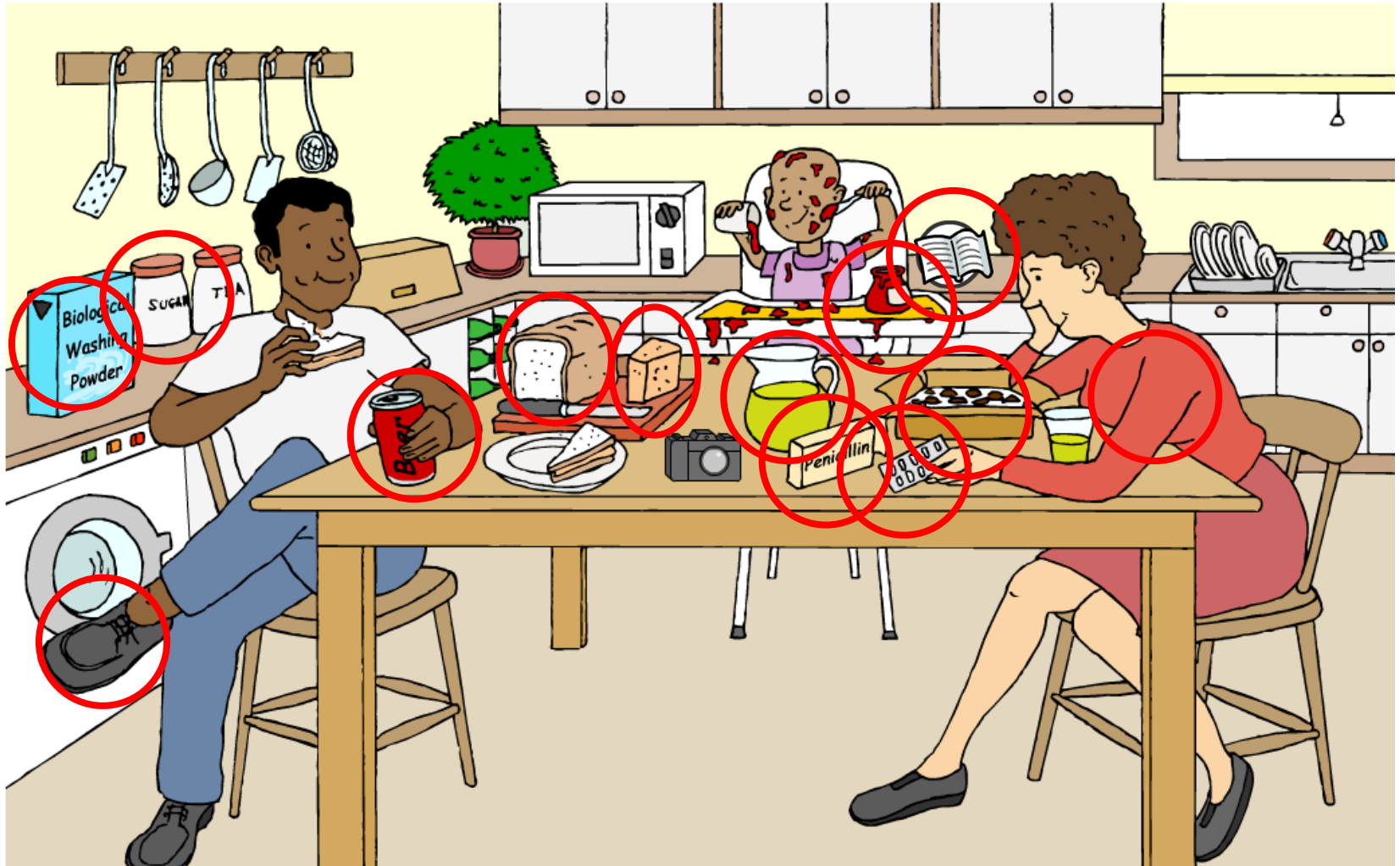# Enzymes in the home

How many items are made using enzymes?

ANSWER

How many items are made using enzymes?

This illustration contains several discussion points relating to items made using enzymes, including:

- **Baby food:** Proteases such as trypsin are used to predigest the protein in baby foods.
- **Baking (bread):** Fungal enzymes are used to catalyze the breakdown of starch into sugar. The enzymes also produce carbon dioxide gas, which makes the dough rise.
- **Biological detergent (washing powder):** Proteases, amylases and lipases are used to remove protein, starch and oily stains from clothes.
- **Brewing (beer):** Proteases in barley are released as it is fermented during beer production. The enzymes break-down starch, carbohydrases and proteins, and clarify stored beers.
- **Confectionary (chocolates):** Enzymes are used to make soft-centred chocolates.
- **Dairy products (cheese):** Rennet (an enzyme from calves' stomachs) is used to coagulate milk during cheese production, separating the curd (solids) from the whey (liquid). Lipases are used to enhance the flavour and ripening of blue cheeses, and lactases are used to break down-lactose into glucose and galactose.
- **Fruit juice:** Enzymes that act on cellulose reduce the cloudiness of fruit juices.
- **Paper (penicillin box):** Proteases and cellulases are used to soften and smooth pulped fibres during paper manufacture
- **Photography:** Proteases are used to dissolve gelatin from waste film, allowing its silver content to be recovered and recycled.
- **Rubber (place mat in high chair):** Catalase is used to convert latex into foam rubber.

1. **Leather shoes** - Leather industry
2. **Biological washing powder** - Detergent industry
3. **Beer**- brewing industry
4. **Bread**: baking industry
5. **Cheese** – dairy industry
6. **Fruit juice**: food industry
7. **Penicillin**: pharmaceutical industry
8. **Medicine**: pharmaceutical industry
9. **Chocolate**: food industry
10. **Baby food** – food industry
11. **Book**- paper industry
12. **Clothing** - Textiles Industry
13. **Sugar** – food industry