2 Components of Food

In Chapter 1, we made lists of the food items that we eat. We also identified food items eaten in different parts of India and marked these on its map.

A meal could consist of *chapati*, *dal* and brinjal curry. Another may be rice, *sambar* and a vegetable preparation of lady's finger (*bhindi*). Yet another meal could be *appam*, fish curry and vegetables.

Activity 1

Our meals usually have at least one item made of some kind of grain. Other items could be a *dal* or a dish of meat and vegetables. It may also include items like curd, butter milk and pickles. Some examples of meals from different regions are given in Table 2.1. Select food items you depicted on the map in Chapter 1. Add some more meals to this list and enter these in Table 2.1.

Sometimes, we may not really have all this variety in our meals. If we are travelling, we may eat whatever is available on the way. It may not be possible for some of us, to eat such a variety of items, most of the time.

There must be some reason though, why meals usually consist of such a distribution. Do you think that our body needs different kinds of food for some special purpose?

2.1 What Do Different Food Items Contain?

We know that each dish is usually made up of one or more ingredients, which we get from plants or animals. These

Table 2.1 Some common meals of different regions/states

Region/ State	Item of grain	Item of *dal*/meat	Vegetables	Others
Punjab	*Makki* (corn) *roti*	*Rajma* (Kidney beans)	*Sarson saag* (Mustard leaf curry)	Curd, *ghee*
Andhra Pradesh	Rice	*Tuar dal* and *rasam* (*charu*)	*Kunduru* (*dondakai*)	Buttermilk, *ghee*, pickle (*aavakai*)

ingredients contain some components that are needed by our body. These components are called **nutrients**. The major nutrients in our food are named carbohydrates, proteins, fats, vitamins and minerals. In addition, food contains dietary fibres and water which are also needed by our body.

Do all foods contain all these nutrients? With some simple methods we can test whether cooked food or a raw ingredient contains one or more of these nutrients. The tests for presence of carbohydrates, proteins and fats are simpler to do as compared to the tests for other nutrients. Let us do these tests and record all our observations in Table 2.2.

For carrying out these tests, you will need solutions of iodine, copper sulphate and caustic soda. You will also need a few test tubes and a dropper.

Try these tests on cooked food items as well as raw materials. Table 2.2 shows you a way to record the observations from these tests. Some food items are given in this table. You can conduct the tests either with these or any other available food items. Do these tests carefully and do not try to eat or taste any chemicals.

If the required solutions are not available in readymade form, your teacher can prepare them as given in the box.

Let us begin by testing different food items to see if they contain **carbohydrates**. There are many types of carbohydrates. The main carbohydrates found in our food are in the form of starch and sugars. We can easily test if a food item contains starch.

A dilute solution of iodine can be prepared by adding a few drops of tincture iodine to a test tube half filled with water.
Copper sulphate solution can be prepared by dissolving 2 gram (g) of copper sulphate in 100 millilitre (mL) of water.
10 g of caustic soda dissolved in 100 mL of water makes the required solution of caustic soda.

Activity 2

Test for Starch

Take a small quantity of a food item or a raw ingredient. Put 2-3 drops of dilute iodine solution on it (Fig. 2.1). Observe if there is any change in the colour of the food item. Did it turn blue-black?

Fig. 2.1 *Testing for starch*