

2. (a) Pea
(b) Maize grain
(c) Bean seed
(d) Bean seed

3. (a) The radicle develops in to a root, while the plumule develops in to a shoot.

(b) Hilum is the inner concave side of the seed, where the seed was attached to the fruit wall. Micropyle is a small pore which ~~abs~~ absorbs and allows water required for

germination.

(c) Testa is the outer exposed part of the seed coat, whereas tegmen is a thin membrane and lies under the testa. It is the inner part of the seed coat.

4. The two functions of fruit are

- (i) It protects the seed from the unfavourable environmental conditions.
- (ii) Fruits store food inside them.

5. Column A

Column B

- | | | |
|---------------|---|------------------------------------------|
| (a) Radicle | - | (iii) Root |
| (b) Plumule | - | (i) shoot |
| (c) Cotyledon | - | (ii) Store food material |
| (d) Testa | - | (v) Protection of seed. |
| (e) Micropyle | - | (iv) Absorb water needed for germination |

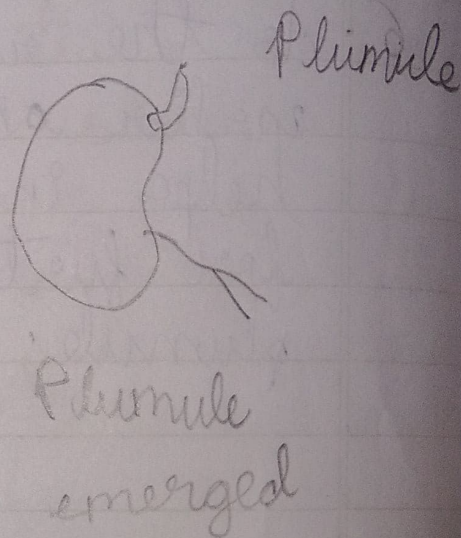
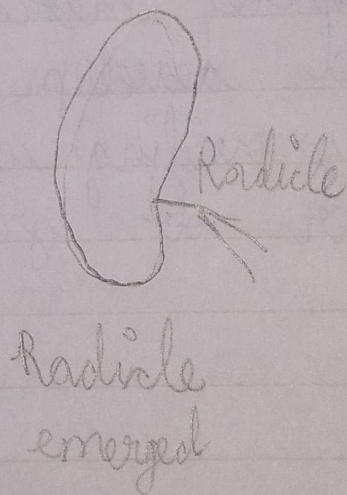
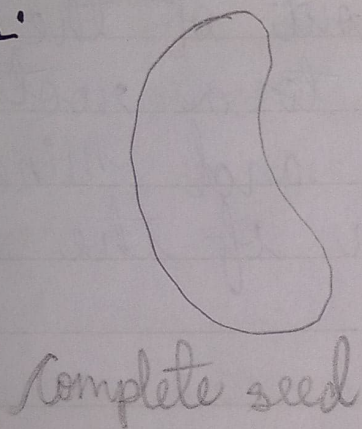
6. As the radicle emerges out of the seed earlier and develop in to a root it helps in providing water and mineral for further growth of the plumule.

8. (a) Radicle: It develops into a root.
(b) Cotyledons: It stores the food material which is used by the seedling for growth.
(c) Endosperm: It stores food in the form of starch.
(d) Micropyle: It absorbs and allows the entry of as much as water as is required for germination.

9. (a)

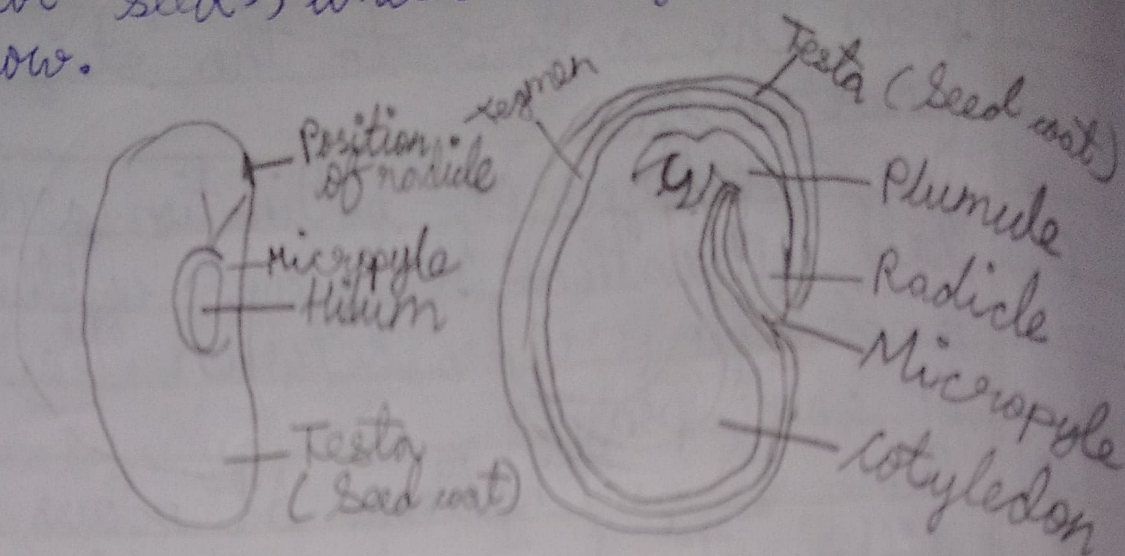
10. (a) Roots: Radicle
(b) Leaves: Plumule

11.



4.

The bean seed is an example of a dicot seed, whose diagram is shown below.



The green ~~outermost~~ outermost covering of the seed is called the seed coat. It protects the seed from insects and bacteria as well as from mechanical injury.

The seed coat is again made up of two parts. The outer exposed part is called the testa and the inner part is called legumen.

A scar called hilum is present in the inner concave side of the seed. This is the place where the seed is attached to the fruit wall.

Above the hilum there is a small pore called micropyle. It absorbs and allows

the entry of water required for ~~germination~~ germination.

The seed is made up of two fleshy seed ~~leaves~~ leaves called the cotyledons. They contain stored food material which is used by the seedling for growth.

In between the two cotyledons a delicate ~~embryo~~ embryo is located, which consists of radicle and plumule. The radicle develops into a root and the plumule develops into a shoot.

5. The process by which the embryo in the seed becomes active in the presence of water, air and ~~sun~~ suitable temperature and grows into a young plant is called germination.

The two types of germination are epigeal germination and hypogeal ~~germination~~ germination.

Epigeal germination: The type of germination in which the cotyledons are pushed above the soil is called epigeal germination. The leaves unfold and start preparing food for the growing plant. Germination of a