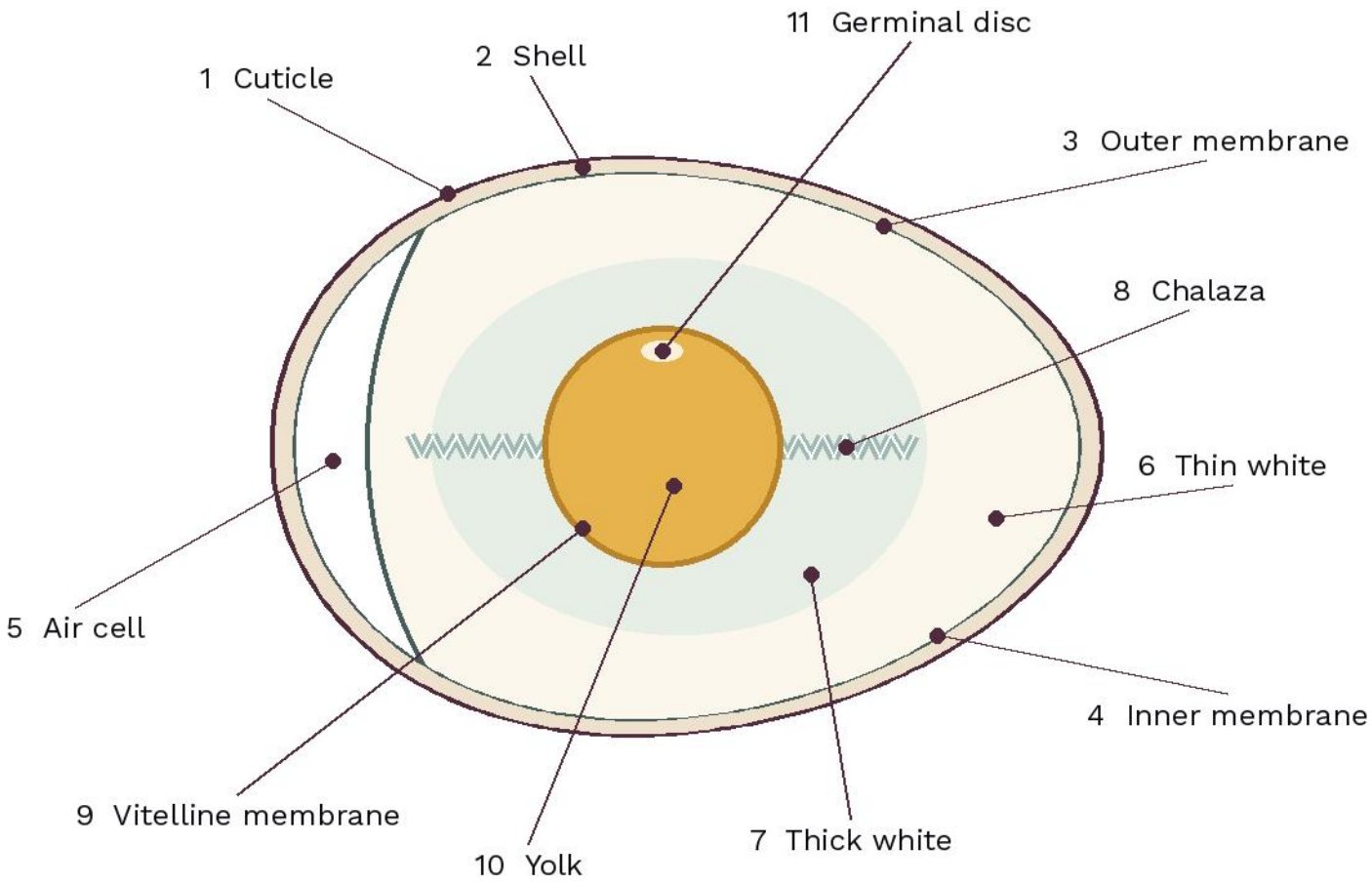
FREE PRINTABLE FROM MOTHERSTEADER

Parts of an egg

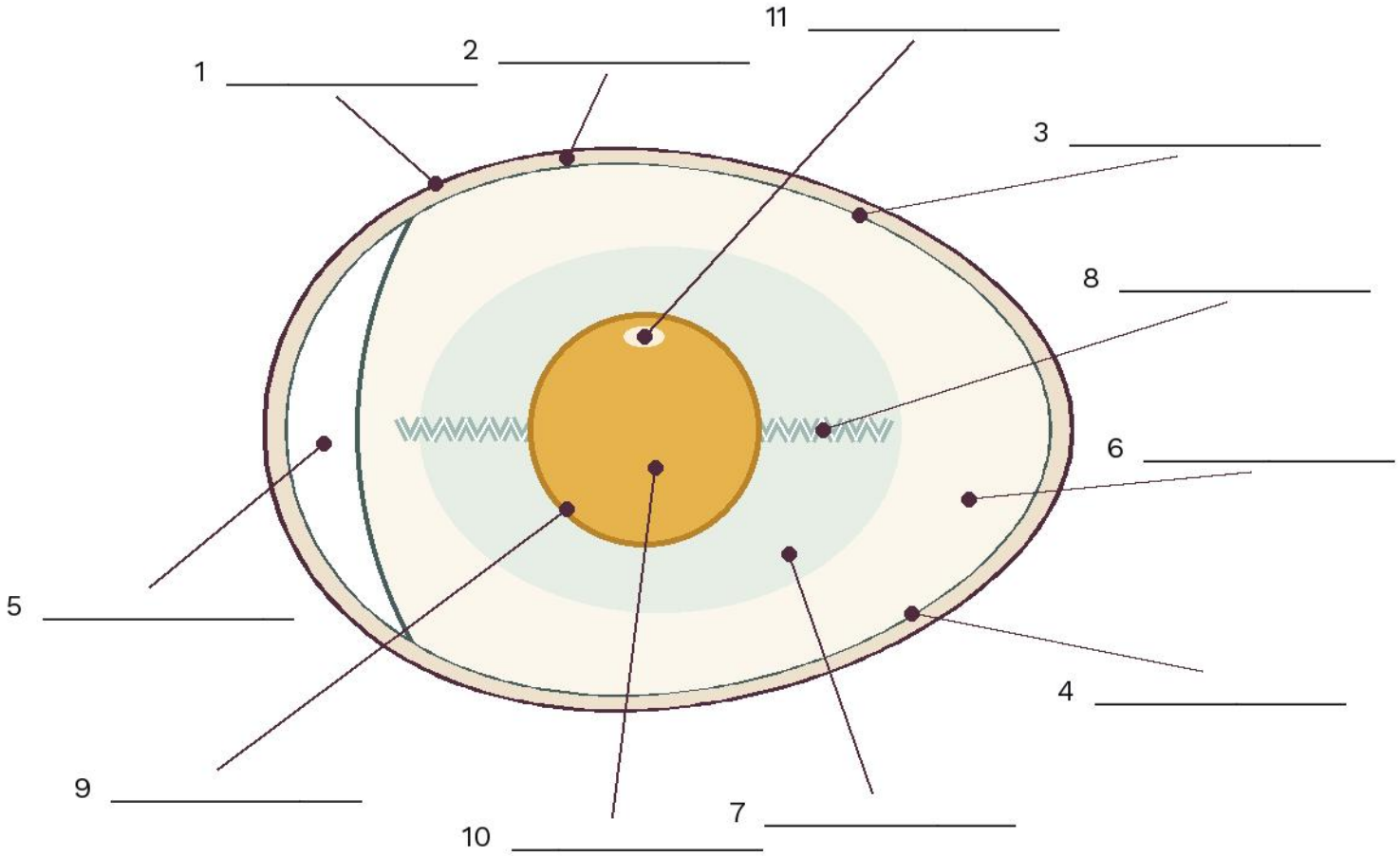


1 Cuticle	A thin coating on the outside of the shell. It blocks the pores and helps keep germs out.
2 Shell	Hard and almost all calcium carbonate, with about 17,000 tiny pores that let air and moisture through.
3, 4 Membranes	Two thin, clear layers just inside the shell that help defend against bacteria.
5 Air cell	A pocket of air that forms, usually at the large end, as a new egg cools. It grows as the egg ages.
6, 7 White	The albumen, mostly water and protein, in layers of thick and thin. About 58% of the egg by weight.
8 Chalaza	Twisted cords of white that anchor the yolk in the center of the white. Plural: chalazae.
9 Vitelline membrane	The clear casing that holds the yolk together. It gets weaker as the egg ages.
10 Yolk	Less water and more fat than the white. About 31% of the egg by weight.
11 Germinal disc	A small spot that stays at the surface of the yolk. Eggs from the store are not fertilized.

 Sources: USDA AMS Egg-Grading Manual (Agricultural Handbook 75); USDA FSIS Biology of Eggs; USDA FSIS Shell Eggs from Farm to Table.

LABEL IT

Parts of an egg



Word bank

cuticle	shell	outer membrane
inner membrane	air cell	thin white
thick white	chalaza	vitelline membrane
yolk	germinal disc	

Ages 4 to 6: label only 2, 5, 6 and 10 (shell, air cell, white, yolk).

Ages 7 to 10: label all eleven. Ages 11 to 14: label all eleven and write what each does.

Answer key: page 1.

IN THE KITCHEN, ABOUT 20 MINUTES

Look and find

You need

One raw egg, a clear bowl or plate, a spoon, and this page.

Optional for ages 11 to 14: a kitchen scale and a second egg with an older date.

Ages 4 to 6

- [ ] I found the shell.
- [ ] I found the air cell inside the big end of the shell.
- [ ] I found the white.
- [ ] I found the yolk.

Draw what you see:

Ages 7 to 10

- [ ] Peel a bit of membrane from inside the shell.
- [ ] Find the chalazae next to the yolk.
- [ ] Find the thick white around the yolk and the thin white at the edge.
- [ ] Find the germinal disc on the surface of the yolk.
- [ ] Is the white cloudy or clear? cloudy clear

Ages 11 to 14

Whole egg in the shell: _____ g

Shell after cracking: _____ g Share of the egg: _____ %

Compare: the Egg-Grading Manual puts the shell at about 11%.

Older egg vs newer egg: air cell, chalazae, white. What changed?

_____

Safe handling (USDA FSIS)

Raw eggs can carry Salmonella. Do not taste anything raw.

Cook the egg until the white and yolk are firm, or refrigerate it and cook within 24 hours.

Wash the bowl, spoon and counter with hot, soapy water, and wash hands with soap.

 Sources: USDA AMS Egg-Grading Manual (Agricultural Handbook 75); USDA FSIS Biology of Eggs; USDA FSIS Shell Eggs from Farm to Table.