

Symmetry: the general form or body plan of an organism
working definition: how many planes can be passed through an organism to yield mirror images

4 main types of symmetry

1-**asymmetry:** no body plan, no definite shape; no planes can be passed through organism to get mirror image

2-**spherical symmetry:** like a ball, the body looks the same all over; an infinite # of planes can be passed through organism to get mirror image

3-**radial symmetry:** has a definite top and bottom but otherwise it looks the same all around; a number of planes can be passed through organism, but planes must pass through the mouth

4-**bilateral symmetry:** has a definite right & left side, a definite anterior & posterior end; only 1 plane can be passed through to get mirror images

4 types of symmetry

1-**asymmetry**

no body plan, no definite shape

no planes can be passed through to get mirror images

organism can change shape: amoeba

some sponges have this type

2-**spherical symmetry**

shaped like a ball, looks the same all over

infinite # planes will yield mirror images

organism has no effective form of movement by itself

algae - *Volvox*

3-radial symmetry

organism has central mouth w/parts
radiating outward from center
organism has definite top & bottom, but
otherwise looks the same around
many planes can be passed through to get
images, but they must go through mouth
wheel, jellyfish, starfish

4-bilateral symmetry

only one plane can be passed through to
get mirror image
organisms have definite head end, definite
right & left sides
organisms exhibit **cephalization**: nervous
tissue concentrated at head end
terms that apply to bilateral organisms
anterior end: toward the head
posterior end: toward the tail
dorsal surface: back surface
ventral surface: belly surface

Which symmetry is most complex? most
advanced? why?