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 movemt

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

symmetry cont.

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
- 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?

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