

Additive & Subtractive

Art & Design

Mixing light and mixing pigment: different rules, different primaries.

Additive - light

- Primaries red, green and blue
- Mixing adds wavelengths
- All three together give white
- Screens, projectors, stage lighting
- Secondaries: cyan, magenta, yellow

Subtractive - pigment

- Primaries cyan, magenta and yellow
- Each layer absorbs wavelengths
- All three together give muddy brown
- Ink, paint, dye, filters
- Secondaries: red, green, blue

THE DIFFERENCE THAT MATTERS

The secondaries of one system are the primaries of the other. That is why screen and print never quite agree.

Red, yellow and blue is a teaching convention, not a subtractive primary set. Cyan and magenta mix a far wider range.