

# Report - group 18

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## Light Transparency Sampling

This formula is an oversimplification of how light interacts with transparency. Several factors such as the process of refraction and reflection, the angle of the ray and the variance of wavelength absorption are not accounted for by just a product of color and transparency. The use of this formula leads to unrealistic and overly-uniform results.

Examples:

1. **Light scattering:** some materials are penetrated by light which then scatters within the object and exits it at various points, not at just one point with a slightly different color.
2. **No dispersion:** some materials (like prisms) break light apart into its base colors, behavior not depicted with our formula.

## BVH Performance test

	Cornell box (mirror)	Monkey	Dragon
Num triangles	32	967	87 130
Time to create	0.0265ms	10.5088ms	117570ms
Time to render	98ms	151ms	220ms
BVH levels	3 (4)	8 (9)	15 (16)
BVH leaves	8	256	32 768
*for the bvh levels, in brackets are the number of levels if we include the 0 level			