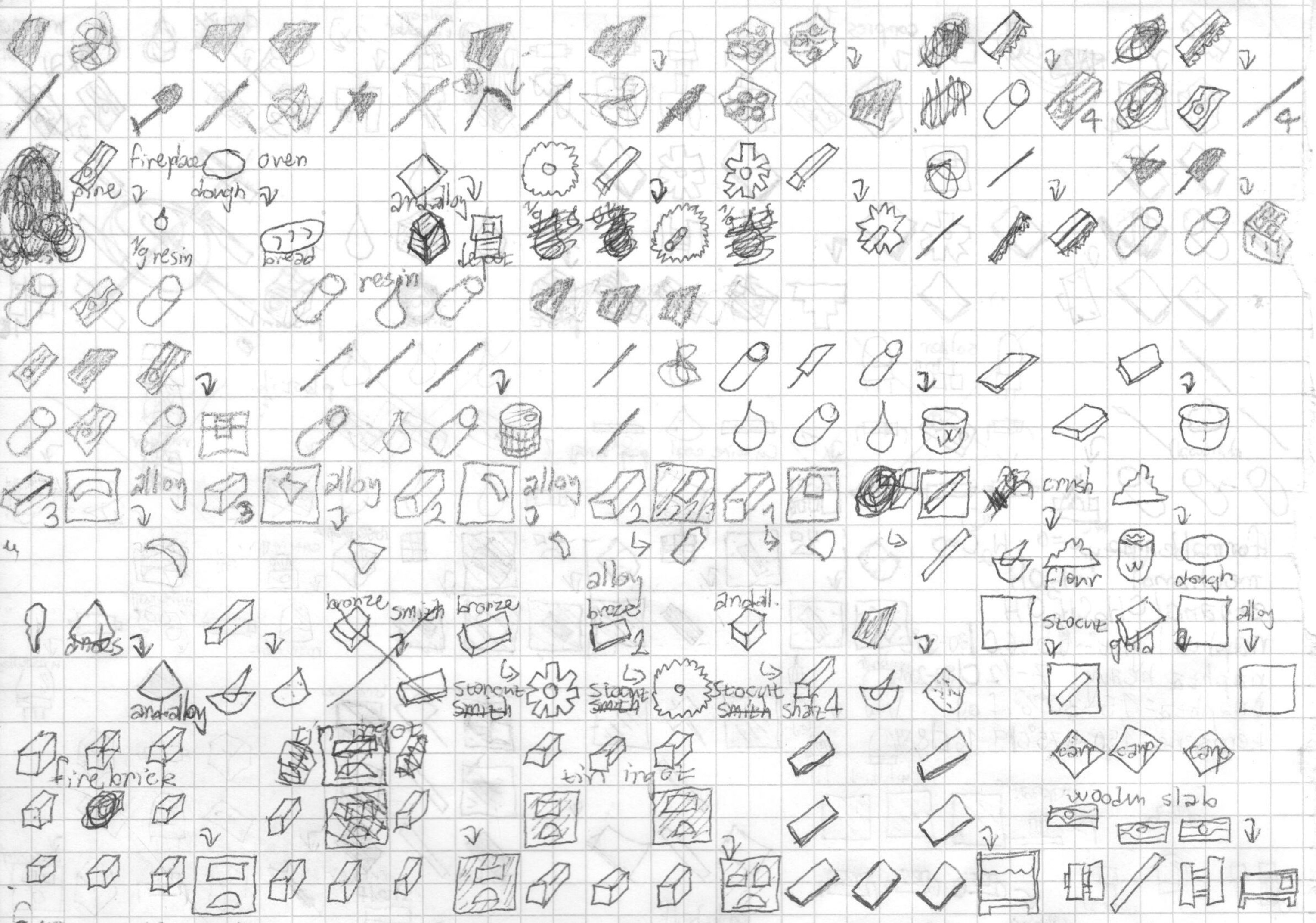
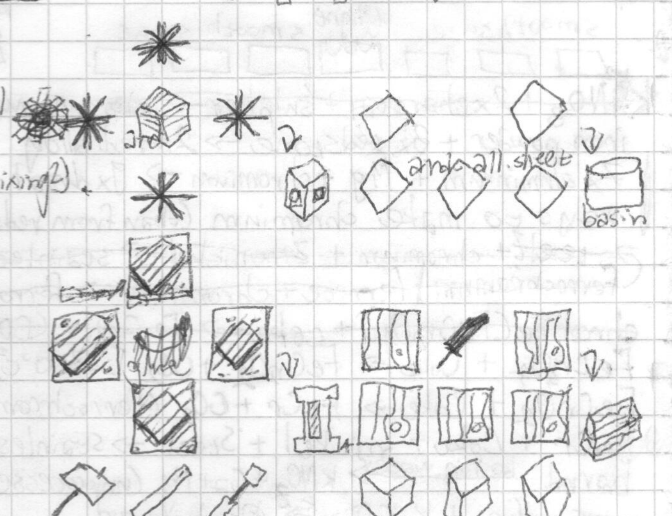
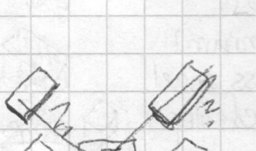


~~flint~~ wooden → flint
stone → copper(bronze) advanced alloy; graphene plate
iron → iron steel; stainless steel; sturdy steel
diamond → steel dural; sturdy bronze; oil

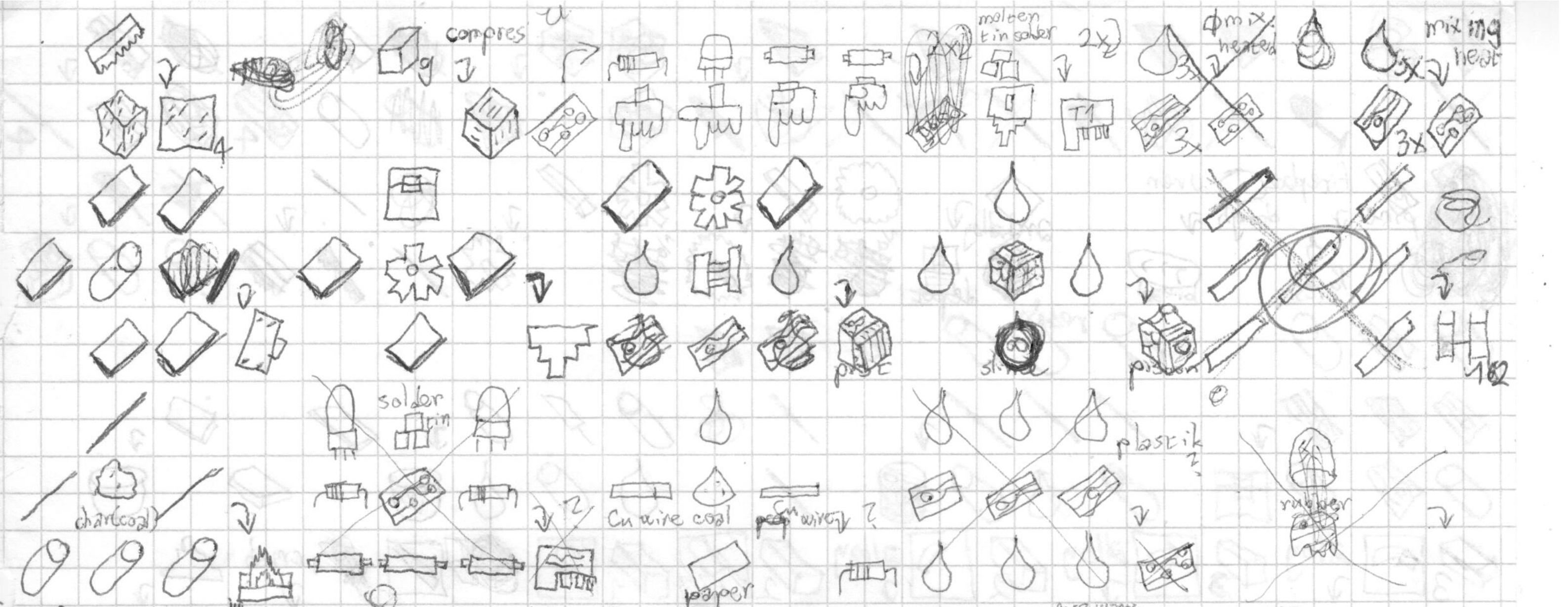


molten metals! (closed crucible (big cannons) for steel mixing?).
iron nugget + andesite dust → andesite alloy dust
7x copper dust + 1x tin dust → 8x bronze dust
8x sand + 1 flint dust → 9x glass dust
7x iron sand + 1 tin dust + zinc → 9x refined iron dust
copper destroyable by flint pickaxe
~~ingot~~ hot steel ? + H_2SO_4 → corroded steel ?
corroded steel + liquid dural → dural steel
$S + O_2 \rightarrow SO_2 + O_2 \rightarrow SO_3 + H_2O \rightarrow H_2SO_4$
~~$N + H_2 \rightarrow NH_3 + O_2 \rightarrow HNO_3 + H_2O$???~~
$NaCl \xrightarrow{elys} Na + Cl_2$; $NaCl \rightarrow NaOH + H_2 + Cl_2$
$H_2 + Cl_2 \rightarrow 2\,HCl$;

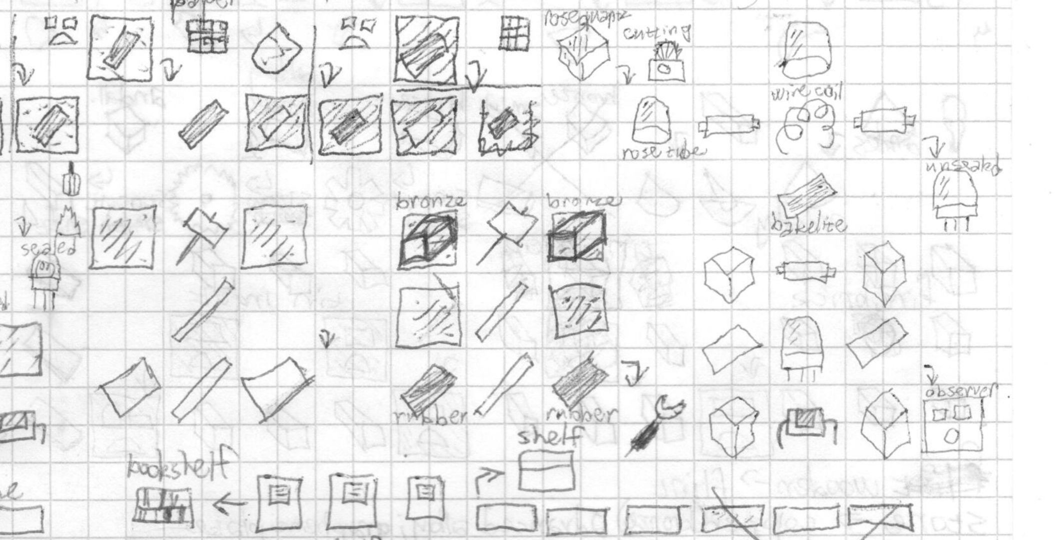


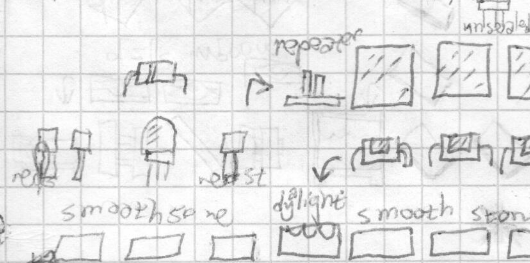
NERFNOUT RAW VIDLO + greate
anvil, beacon, bed, bookshelf, brewing stand, brick, cake, cauldron, comparator, cobblestone, crafting table, daylight detector, diamond block, dirt, dispenser, iron door, wooden door, dragon egg, dropper, emerald block, enchanting table, end stone, endframe, farmland, flowers, flowerpot, furnace, glass, glass pane, glowstone, goldblock, grass, gravel, ~~hardened clay~~, terracota, hayblock, hopper, ice, packed ice, ~~blue ice~~, iron bars, iron block, itemframe, jukebox, ladder, lapis, lava, leaves, lever, log, acacia, bigoak, birch, jungle, oak, spruce, melon, mob spawner, mushroom, nether brick, nether wart, netherrack, noteblock, obsidian, piston, sticky piston, planks, portal, pumpkin, quartz, rail, rail activator, rail detector, rail golden, red sand, redstone, redstone lamp, redstone torch, reeds, repeater, sand, sandstone, sapling, snow, soulsand, sponge, stone, stonebrick, smoothstone, tnt, torch, tripwire, water, cobweb, wheat, wool

síl nad zlato = byl jednou jeden král

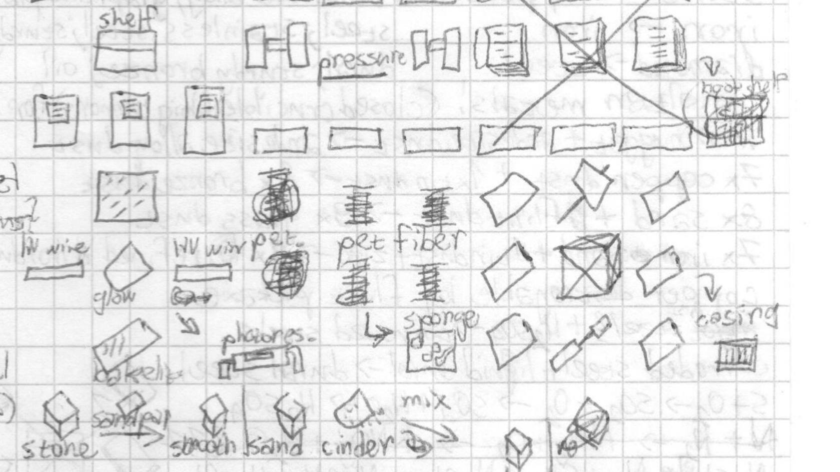


formaldehyde $H_2C=O$; $H_2C=O$
methanol CH_3OH
ethanol CH_3CH_2OH
naphta light: 5-6 C | 30-90°
naphta heavy: 7-12 C | 90-200°
naphta = 15-30% of oil
kerosene: 150-275°C | 9-16 C | 8,5%





~~KNO_3 + 2x charcoal + sulphur → gunpowder~~
iron powder + 8x redstone → 2x red alloy
7x aluminium + Mg + chromium → 9x dural
ways to make chromium (than from redstone)
~~steel + chromium + Zn nickel → stainless steel~~
~~ferrochromium~~ | ~~ferrite + chromite → ferrochromus?~~
~~chromite ($FeCr_2O_4$) + coke → (FeCr) + (CO_2)~~
$FeCr_2O_4$ + Coke → $FeCr_2O_2$ + CO_2 [2800°C]
$FeCrO_2$ + Coke → FeCr + CO_2 (ferrochromium)
FeCr + Coke + nickel + Steel → stainless steel
barnd —boil in water→ KNO_3 + Ca + Mg (unprocessed saltp.)
unproc. saltp. + K_2CO_3 —t→ saltpeter
~~saltpeter~~ shit + soil —time + water→ saltpeter + soil
$NaNO_3 + KCl \rightarrow NaCl + KNO_3$
75% KNO_3 + 15% charcoal + 10% sulfur → gunpowder
$4NH_3 + 5O_2 \xrightarrow{900°} 4NO + 6H_2O$ [Pt + 10% Rh]
$4NH_3 + 6NO \xrightarrow{900°} 5N_2 + 6H_2O$ [side effect]
$2NO + O_2 \xrightarrow{250°} 2NO_2$; $3NO_2 + H_2O \rightarrow 2HNO + NO$
$2NO_2 \rightarrow N_2O_4$; $3N_2O_4 + 2H_2O \rightarrow 4HNO_3$
$H_2O + CH_4 \xrightarrow{t↑} 3H_2 + CO$; $CO + H_2O \xrightarrow{t↑} CO_2 + H_2$
$3H_2 + N_2 \xrightarrow{20MPa; 500°C} 2NH_3$ 15% [$FeO + Fe$, Al_2O_3, SiO_2]
phenol + formaldehyde —mix + heat + $ZnCl_2$→ bakelite A
bakelite A + alcohol —mix + heat→ bakelite resin
bakelite resin —[p↑ + 150°C]→ bakelite
$2CH_3OH + O_2$ →[300°C]→ ~~$2H_2O + H_2O$~~ $2CH_2O + 2H_2O$
CH_3OH —[600°C]→ $CH_2O + H_2$



$4FeCr_2O_4 + 8Na_2CO_3 + 7O_2 \rightarrow 8Na_2CrO_4 + 2Fe_2O_3 + 8O_2$
$2Na_2CrO_4 + H_2SO_4 \rightarrow Na_2Cr_2O_7 + Na_2SO_4 + H_2O$
$Na_2Cr_2O_7 + 2C \rightarrow Cr_2O_3 + Na_2CO_3 + CO$
$Cr_2O_3 + 2Al \rightarrow Al_2O_3 + 2Cr$
bulk / suspension / emulsion polymerization
$CH_2=CHCl + H_2O$ + [plast] —initiat + p↑→ PVC
$H_2C=CH_2 + Cl_2 \rightarrow H_2ClC-CH_2Cl$
$H_2ClC-CH_2Cl \xrightarrow{t} H_2C=CHCl + HCl$
$n\,C_6H_4(CO_2H)_2 + n\,HOCH_2CH_2OH \rightarrow PET + 2n\,H_2O$
$C_6H_4(CH_3)_2 + O_2 \xrightarrow[Co-Mn-Br]{T} C_6H_4(COOH)_2 + H_2O$
1024x egg + 1024x obsidian powder + 1024x ender dust → drag. egg
9x nugget —amo→ ingot, 9x ingot → block ;
red sand + 2x carbon cell → sand soul + empty 2x

uraninite $U_3O_8 + PbS$ + ... Acid: HCl; H_2S; HF, HI; HBr; HCN; HN_3; H_2SO_4; H_2SO_3; HNO_3; HNO_2; HBO_3; H_2CO_3;
yellowcake U_3O_8 × H_2SiO_3; $H_2Si_2O_5$; $H_2S_2O_7$; H_3PO_4; H_3PO_3; $HClO$; $HClO_2$; $HClO_3$;
uranium trioxide UO_3 $HClO_4$
uranium dioxide UO_2 Hydrox: $NaOH$; $LiOH$; KOH; $Ca(OH)_2$; CH_3OH; CH_3CH_2OH
uranium tetrafluoride UF_4 Halogen: KCl; $NaCl$; UF_4; UF_6; CaF_2; $CaCl_2$;
uranium hexafluoride UF_6 $CaSO_4 \cdot \frac{1}{2}H_2O$ sadra
uranium oxyfluoride UO_2F_2

CaF_2	fluorite/kazivec
$Na_3[AlF_6]$	cryolite
$Ca_5[(PO_4)_3F]$	fluorapatite
$NaCl$	halite
KCl	sylvite
$KMgCl_3 \cdot 6H_2O$	carnallyte
FeS_2	pyrite
$CuFeS_2$	chalkopyrite
PbS	galenite
ZnS	sfalerite
$BaSO_4$	barite
$CaSO_4 \cdot 2H_2O$	sádrovec

Na: Sodium $[^{23}_{11}Na]$ $[Ne]\,3s^1$
$NaCl$: halite, sodalite, feldspar
$T_m = 370K$; $T_B = 1156K$; $\rho = 0,96\ g/cm^3$
$NaOH$, $NaCl$, Na_2CO_3, $NaHCO_3$, $NaNO_3$
Na_2HPO_4, Na_3PO_4, $Na_2S_2O_3 \cdot 5H_2O$
$Na_2B_4O_7 \cdot 10H_2O$; mýdlo, NaK
$Na \cdot 2K$

cobble -[enriching]-> antunnite
antunnite -[grind]-> 5% raw uraninite
raw uraninite -[ind.grind]-> raw U dust
raw uraninite -[ind.gr + Na_2PO_3 sod.ph]-> r.U.d. + raw lead
raw U dust + H_2SO_4 -[chem bath]-> liqu. yellowcake
aq.ye.c. -[distiller]-> yellowcake
y.cake + O_2 -[blast f. + 500°C]-> UO_3
$UO_3 + H_2$ -[b.f + 700°C]-> UO_2 + (H_2O)
UO_2 + HF -[ch.reac]-> UF_4 + ($2H_2O$)
$2\,UF_4 + F_2$ -[ch.r.]-> UF_6
UF_6 -[centrif]-> dUF_6 + $seUF_6$
UF $2\times seUF_6$ -[centrif]-> dUF_6 + $meUF_6$
$2\times meUF_6$ -[centrif]-> dUF_6 + $leUF_6$
$2\times leUF_6$ -[centrif]-> dUF_6 + eUF_6
$eUF_6 + H_2O$ -[ch.reac]-> $eUOF_2 + HF$
$eUO_2F_2 + H_2$ -[ch.re]-> $eU_3O_8 + HF$
$dUF_6 + H_2O$ -[ch.r]-> $dUO_2F_2 + HF$
$dUO_2F_2 + 2H_2$ -[ch.r]-> $dU_3O_8 + HF$
$S + O_2$ -[burning]-> SO_2
$SO_2 + O_2$ -[chem+cat]-> SO_3
$SO_3 + H_2O$ -[cooled+slow]-> H_2SO_4
$SO_3 + H_2SO_4$ -[ch.r]-> $H_2S_2O_7$
$H_2S_2O_7 + H_2O$ -[chr]-> $2\,H_2SO_4$

[heart of the sea -> orb of origin base
$RCOOH + NaOH \rightarrow RCOO^-Na^+ + H_2O$ (harder soap)
$RCOOH + KOH \rightarrow RCOO^-K^+ + H_2O$
$NaHCO_3 \rightleftarrows NaOH + CO_2$ (baking)
$2NaCl$ -[elecerol.+$CaCl_2$]-> $2Na + Cl_2$
$2H_2O + NaCl$ -[elecerol.]-> $NaOH + H_2 + Cl_2$
$H_2 + Cl_2$ -[ch.r. + UV]-> $2HCl$
$H_2O + Cl_2$ -[hydrolyzation]-> $HClO + HCl$
$2\,HClO$ -[chem]-> [centrif]-> $2HCl + O_2$
$2KBr + Cl_2$ -[ch.r.]-> $2KCl + Br_2$
$4HCl + 2MnO_2 \rightarrow Cl_2 + 2MnCl_2 + 2H_2O$
$16HCl + 2KMnO_4 \rightarrow 2KCl + 2MnCl_2 + 5Cl_2 + 8H_2O$
$14HCl + K_2Cr_2O_7 \rightarrow 3Cl_2 + 2KCl + 2CrCl_3 + 7H_2O$
$10KBr + 8H_2SO_4 + 2KMnO_4 \rightarrow 5Br_2 + 6K_2SO_4 + 2MnSO_4 + 8H_2O$
$2KI + Cl_2 \rightarrow 2KCl + I_2$
$CaF_2 + H_2SO_4 \rightarrow CaSO_4 + 2HF$ (chem. bath)
$2NaCl + H_2SO_4$ -[chem.bath]-> $Na_2SO_4 + 2HCl$
$SiO_2 + 4HF \rightarrow SiF_4 + H_2O$ (glass dissolve)
$SiF_4 + 2HF \rightarrow H_2[SiF_6]$
$H_2 + S \rightarrow H_2S$; $FeS + 2HCl \rightarrow FeCl_2 + H_2S$
$FeS_2 + O_2$ -[blast f.]-> $SO_2 + Fe_2O_3$
$CaCO_3 + O_2 + H_2O + SO_2 \rightarrow CaSO_4 + H_2O + CO_2$
$Cu + 2H_2SO_4 \rightarrow CuSO_4 + SO_2 + H_2O$
$Na_2SO_3 + HCl \rightarrow NaCl + H_2O + SO_2$