Hccuracy and Precision Measurement A <u>measurement</u> is the process of opthing physical data (properties) of matter. How class a measured value Hecuracy is to correct value How close measured values recision To measure is the process of taking a are to each other. Measurement of matter using measurement tools / devices. Measurement Types Accorated and Precise Length (Oistane) - Ruler/Tape Measure. - Scale / Balance Mass (weight) - Graducted Cylinder/ Volume (size)
(ligned | goes) Beaker / Pipette Not According / Procise Not Accurate or Precise Volume (Ciz) - Ruler/Coliper (solid) Known and Unknown (estimated) Digits laking good measurements Hecuracy of Measurement Tools Measurement: 3.12 m known estimate unit Last digit is always the estimated digit According: ± 0.1m According: ±0.01m Measurement: 14321 m [10 x more accumile] (10x less accumbe) known estimate unit More divisions = More accuracy Estimation in measurements known cligits known Digits + O.In (3._m) ±/m (3m) 3m 4m Estimated clique Ectimated Digits +0.01 (3.0_4) Estimate where line + O.Im (O.Im) is between 3-4m 3.4 m 3.5 m Final Value Final Value 3.7.3.8m 3.3,3.4 03.5 Hround 3.7-3.8m (Smaller division = Around 0.3, 0.4 or 1.5 m Harder to Estimate)