

Grade Levels(s): K , 1st , 2nd , 3rd , 4th , 5th , 6th , 7th ,
8th , 9th , 10th , 11th , 12th
Subject(s): ELA, Science

Wonder of the Day #1136
What's the Science of Glass Blowing?

Laura McShane

Glass versus Rubber 90 min

Objective:

Understand the process of glass making

Big Idea:

What natural resources are needed to make common household items?

1. Warm Up / Anticipatory 30 min



Prepare for a field trip to a glass blowing studio by reviewing:

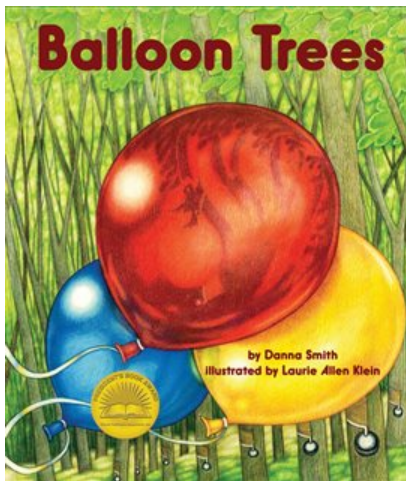
<https://wonderopolis.org/wonder/whats-the-science-...>

Have students compile a list of words that describe the properties of glass. Is it a liquid, solid or gas?

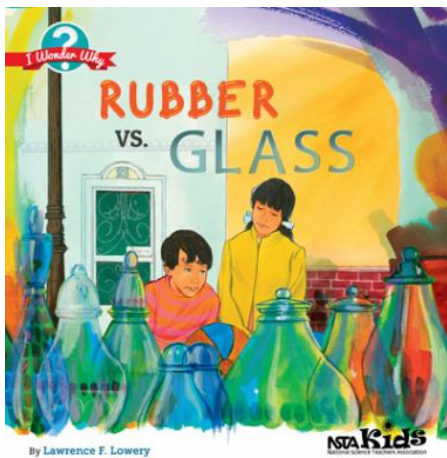
What materials are used to make glass? Are the materials living or non-living?

Attach a balloon to a straw and ask kids to blow up the balloon. A balloon is made of latex - a milky fluid found in many plants that exudes when the plant is cut and coagulates on exposure to the air. The latex of the rubber tree is the chief source of natural rubber.

For reading:



Balloon Trees



Rubber versus Glass

2. Investigation and New Learning 30 min

The Glass Bubble Project in Cleveland, Ohio, encourages field trips. Cyndi 216-696-7043 will make arrangements. Classes can be broken down into groups of six.

With chaperones, some kids can attend the Westside Market, some can visit Mitchell's Ice Cream and some can make their own glass hearts at the Glass Bubble Project-and then, rotate.

3. Review & Check for Understanding 30 min

When kids return to the classroom have them draw pictures of the steps to make glass and write up a review of their experience. How is making glass similar/different from making rubber.

What new words did they learn and what was their favorite part of the trip?

Standards: [3] SA1.1. L.K.6. 0.10.6.6. 0.8.2.2. 0.6.1.1. SL.K.2. RF.K.4. RI.K.2. RI.K.4. RI.K.8. RI.K.10. 0.3.0.4. 0.2.10.10. K.RI.P.4.1. K.RI.MC.6.1. K.RI.LCS.8.1. K.C.MC.2.1. K.RL.P.4.1. K.I.3.1. 0.2.8.8. 0.2.4.4. 0.2.2.2. 0.2.1.1. RI.K.1. K.RV.1.1. K.5 (A) 110.11 (F) K.5 (B) 1.1. 2.1. 110.11 (C) 110.11 (B) K.RF.1.1. K.4 (B) (K.9) K.10 (A) 3.1. 3.2. K.RN.2.1. K.RN.2.2. K.RN.3.2. K.RN.4.1. K.RN.1.1. K.1.K) 5.1. K.7 (C) K.9.B) K.5.A) K.S.1A.6. K.RI.LCS.11.2. LA 0.1.6.E. LA 0.1.6.F. LA 0.1.6.I. LA 0.1.6.D. LA 0.1.5.C. L.K.6 LA 0.1.5.B. K.S.1A.8. 2.4.2.A. LA 0.4.1.A. LA 0.1.6.O. LA 0.1.6.M. 2.1.1.D. 2.1.1.F. 2.2.1.D. 2.2.1.A. SL.K.2 W.K.1 [3] SB3.1. SB1. SB3. [3] SB1.1. [3] SA2.1. [3] SA1.2. RI.K.2 SG1. SG3. RI.K.8 RI.K.10 RF.K.4 RI.K.1 RI.K.4 K.RV.3.2. K.SL.3.1. K.PS.2. 1.8.E) 1.10.F) 1.8.D) SG1. 1.RN.1.1. 1.RN.2.1. 1.RN.2.2. 1.RF.2.2. 1.RF.2.1. 1.10.G) 1.RF.1.1. 1.RN.4.1. 1.RV.1.1. SG3. 1.1.A) 1.8.B) 1.PS.1. 1.SL.3.1. 1.RV.2.1. 1.RV.3.2. 1.8.C) 1.8.7.7.B. 1.E.4A.1. 1.S.1A.8. 1.E.4B.1. 2.4.2.A. 2.2.1.D. 1.S.1A.6. 1.W.MCC.2.1. 1.RI.MC.6.1. 1.RI.LCS.8.1. 1.RI.LCS.9.1. 1.RI.LCS.11.2. 2.2.1.A. 2.1.1.F. LA 1.1.6.E. LA 1.1.6.D. LA 1.1.5.C. LA 1.1.5.B. LA 1.1.6.I. LA 1.1.6.M. 2.1.1.D. LA 1.4.1.A. LA 1.2.1.C. LA 1.1.6.O. 1.I.3.1. 1.I.2.1. 1.1 (C) 110.12 (F) 1.5 (B) 1.7 (C) 1.3.1.3.3. 110.12 (D) 110.12 (C) 1.6 (C) 1.14 (A) 1.14 (B) 1.19 (C) 1.10.4.4.A. SB3. 1.2.6.6. 1.2.4.4. 1.2.2.2. 1.2.1.1. 1.2.7.7. 1.2.8.8. 1.8.7.7.A. 1.8.2.2. 1.3.0.4.A. 1.2.10.10. 1.4 (B) 1.1.1.1.2. L.1.4.A. SL.1.2. [3] SA1.1. [3] SA1.2. [3] SA2.1. RF.1.4.C. RF.1.4.A. RI.1.4. RI.1.1. RI.1.6. RI.1.7. RI.1.10. [3] SB1.1. RI.1.1 RF.1.4C RF.1.4A SL.1.2 L.1.4A SB1. RI.1.10 RI.1.8 RI.1.2 RI.1.4 RI.1.6 RI.1.7 RL.1.5. RI.1.2. 1.1. 3.3. [3] SB3.1. 2.1. 3.1. 9.14.7.7. 110.33 (A) EIII.15 (C) (V) EIII.9 (B) EIV.1 (A) EIV.1 (B) EIV.9 (D) (EIV.8) EIV.2 (C) EIII.2 (C) EIII.1 (B) 110.32 (B) 110.32 (A) L.9-10.4D EIII.1 (A) 9.14.10.10. 9.14.8.8. EIV.15 (C) (V) 9.14.9.9. L.9-10.4A 110.34 (A) 110.48.2 (F) 110.48.3 (A) 110.48.2 (A) 110.48.1 (A) 110.47.9 (E) 110.48.4 (E) 110.48.4 (F) 110.49.2 (B) 110.48.6 (C) 110.48.6 (A) 110.48.5 (A) 110.47.8 (D) 110.47.8 (B) 110.47.2 (A) 110.47.3 (D) 110.47.1 (A) 110.46.1 (A) 110.34 (B) 110.47.4 (C) 110.47.5 (B) 110.47.8 (A) 110.47.7 (A) 110.47.6 (C) 110.47.6 (A) 10.3.F) 10.5.H) C.2.1. C.1.1. 3.1. 9.4.7.7. 12.2.1.C. 12.1.2.D. LA 10.2.1.C. LA 10.4.1.A. 12.1.2.A. 12.1.2.C. 9.5.1.1. 9.5.2.2. 9.1.1.1.6. 9.1.1.1.7. 9.13.2.2. 9.13.4.4. 9.11.6.6. 9.11.4.4.D. 9.5.4.4. 9.7.8.8. 9.9.7.7.B. 9.11.4.4.A. LA 10.1.6.O. LA 10.1.6.M. RI.9-10.4 RI.9-10.2 RI.9-10.1 9.14.4.4. W.9-10.8 PH.12.G) 10.5.F) 9.13.5.5. CH.2.H) PH.3.A) 9.14.2.2.D. 110.51.2 (C) 110.31 (B) 110.31 (A) (Ei.8) Ei.1 (A) EII.1 (A) EII.2 (A) 9.13.10.10. 9.13.9.9. EII.9 (B) (EII.8) 10.4.G) 110.55.2 (A) E3.RI.LCS.9.2. E3.RI.LCS.9.3. E3.RI.LCS.9.1. E3.RI.LCS.8.1. E3.RI.MC.5.2. E3.RI.MC.6.1. E3.RI.LCS.9.4. E3.RI.LCS.9.5. E4.I.3.2. E4.RI.P.4.1. E4.I.2.1. E3.C.MC.1.1. E3.RI.LCS.11.2. E3.RI.MC.5.1. E3.RI.P.4.3. E2.RI.LCS.9.1. E2.RI.LCS.9.2. E2.RI.LCS.8.1. E2.RI.MC.6.1. E2.RI.MC.5.2. E2.RI.LCS.9.3. E2.RI.LCS.9.4. E3.I.3.2. E3.RI.P.4.1. E3.I.2.1. E2.C.MC.1.1. E2.RI.LCS.9.5. E4.RI.P.4.3. E4.RI.MC.5.1. RST.9-10.9. RST.9-10.10. RST.9-10.5. RST.9-10.4. RST.9-10.2. WHST.9-10.2(D) WHST.9-10.4. WHST.9-10.9. WHST.9-10.10. WHST.9-10.8. WHST.9-10.7. WHST.9-10.6. H.P.1A.8. H.P.1A.6. E4.RI.LCS.9.1. E4.RI.LCS.9.2. E4.RI.LCS.8.1. E4.RI.MC.6.1. E4.RI.MC.5.2. E4.RI.LCS.9.3. E4.RI.LCS.9.4. H.C.1A.6. H.C.4A.1. E4.C.MC.1.1. E4.RI.LCS.11.2. E4.RI.LCS.9.5. E2.RI.MC.5.1. E2.RI.P.4.3. 110.59.1 (A) 110.59.1 (C) 110.55.5 (B) 110.55.5 (A) 110.55.4 (C) 110.55.4 (D) 10-12.3 (D) 10-12.3 (F) 9-10.3 (B) 9-10.3 (D) 10-12.4 (C) 10-12.4 (B) 10-12.4 (A) 110.55.4 (B) 110.55.4 (A) 110.54.5 (B) 110.55.1 (A) 110.54.5 (A) 110.54.3 (A) 110.53.3 (B) L.9-10.6 110.55.2 (B) 110.55.3 (B) 110.55.3 (C) 110.55.3 (A) 110.55.2 (D) 110.55.2 (C) 9-10.3 (F) 9-10.6 (A) E1.RI.LCS.9.1. E1.RI.LCS.9.2. E1.RI.MC.6.1. E1.RI.MC.5.2. E1.RI.MC.5.1. E1.RI.LCS.9.3. E1.RI.LCS.9.4. E2.I.3.2. E2.RI.P.4.1. E2.I.2.1. E1.C.MC.1.1. E1.RI.LCS.9.5. E1.RI.P.4.3. E1.RI.P.4.1. LA 10.1.6.H. LA 10.1.6.G. LA 10.1.6.I. 9-12.3 (B) 9-10.6 (C) LA 10.1.6.F. LA 10.1.6.E. E1.I.2.1.