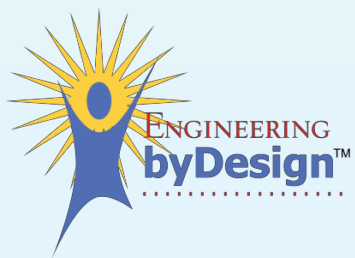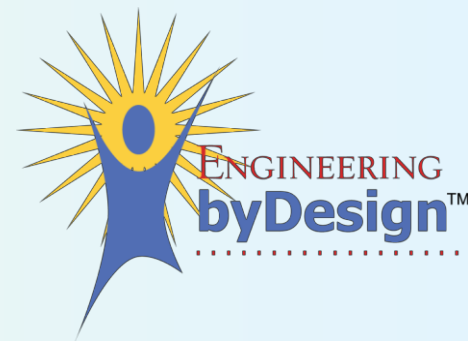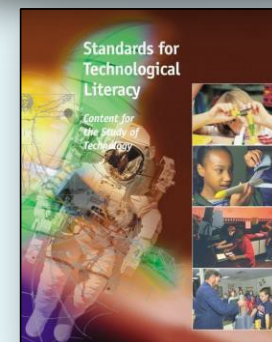# HOW TO ACCESS

Engineering byDesign™

In Virginia

ENGINEERING
byDesign™

What Is
Engineering byDesign™?

- **Model Curriculum for K-12 STEM and Engineering**

- **Aligned to National Standards:**

  - **Common Core State Standards – Math & ELA**

  - **Next Generation Science Standards**

  - **Standards for Technological Literacy**

- **Real world context through engineering challenges**

- **Developed by the STEM Center for Teaching and Learning at ITEEA**

K-12 Integrative STEM Curriculum

Engineering byDesign™

CORE PROGRAM			
PreK–2	**EbD-TEEMS NXTGEN™**		**1-6 weeks**
3–6	**EbD-TEEMS NXTGEN™** *(6th Grade Capstone),* **I³**		**1-6 weeks**
6	*Exploring Technology*		**18 weeks**
7	*Invention and Innovation*		**18 weeks**
8	*Technological Systems*		**18 weeks**
9	**Foundations of Technology**		**36 weeks**
10–12	**Technology and Society**	HS Choices	**36 weeks**
10–12	**Technological Design**		**36 weeks**
11–12	**Advanced Design Applications**		**36 weeks**
11–12	**Advanced Technological Applications**		**36 weeks**
11–12	**Engineering Design** *(Capstone)*		**36 weeks**

Access to EbD Curriculum in Virginia: VA-EbD STEM Network

Eligibility Options:

1. Virginia teachers

2. University and college that are a VA-EbD partner

- **NO COST TO ACCESS THE SE →**

- **ACCESS THROUGH PASSWORD-PROTECTED WEBSITE**

Unit 2: Design and Engineering

Overview

Standards

- Understanding engineering design (ITEA/STL – 9)
- Abilities to apply the design process (ITEA/STL – 11)
- Understanding of and abilities to select and use transportation technologies (ITEA/STL – 18)
- Technology and Science (AAAS - 7)
- Scientific Inquiry (AAAS-2)
- Use visualization, spatial reasoning and geometric modeling to solve problems (NCTM – 11)
- Understand measurable attributes of objects and the units, systems, and processes of measurement (NCTM – 12)
- Apply appropriate techniques, tools, and formulas to determine measurements (NCTM – 13)

Benchmarks

AAAS - Bencharks for Science	NCTM - Bencharks for Mathematics
• Scientists differ greatly in what phenomena they study and how they go about their work. Although there is no fixed set of steps that all scientists follow, scientific investigations usually involve the collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations to make sense of the collected evidence (2.I). • Engineers, architects, and others who engage in design and technology use scientific knowledge to solve practical problems. But they usually have to take human values and limitations into account as well. (7.J).	• Draw geometric objects with specified properties, such as side lengths or angle measures. (11-R) • Recognize and apply geometric ideas and relationships in areas outside the mathematics classroom, such as art, science and everyday life. (11-V) • Understand relationships among units and convert from one unit to another within the same system (12-K) • Understand, select, and use units of appropriate size and type to measure angles, perimeter, area, surface area, and volume. (12-L) • Solve problems involving scale factors, using ratio and proportion (13-R) • Solve simple problems involving rates and derived measurements for such attributes as velocity and density (13-S)

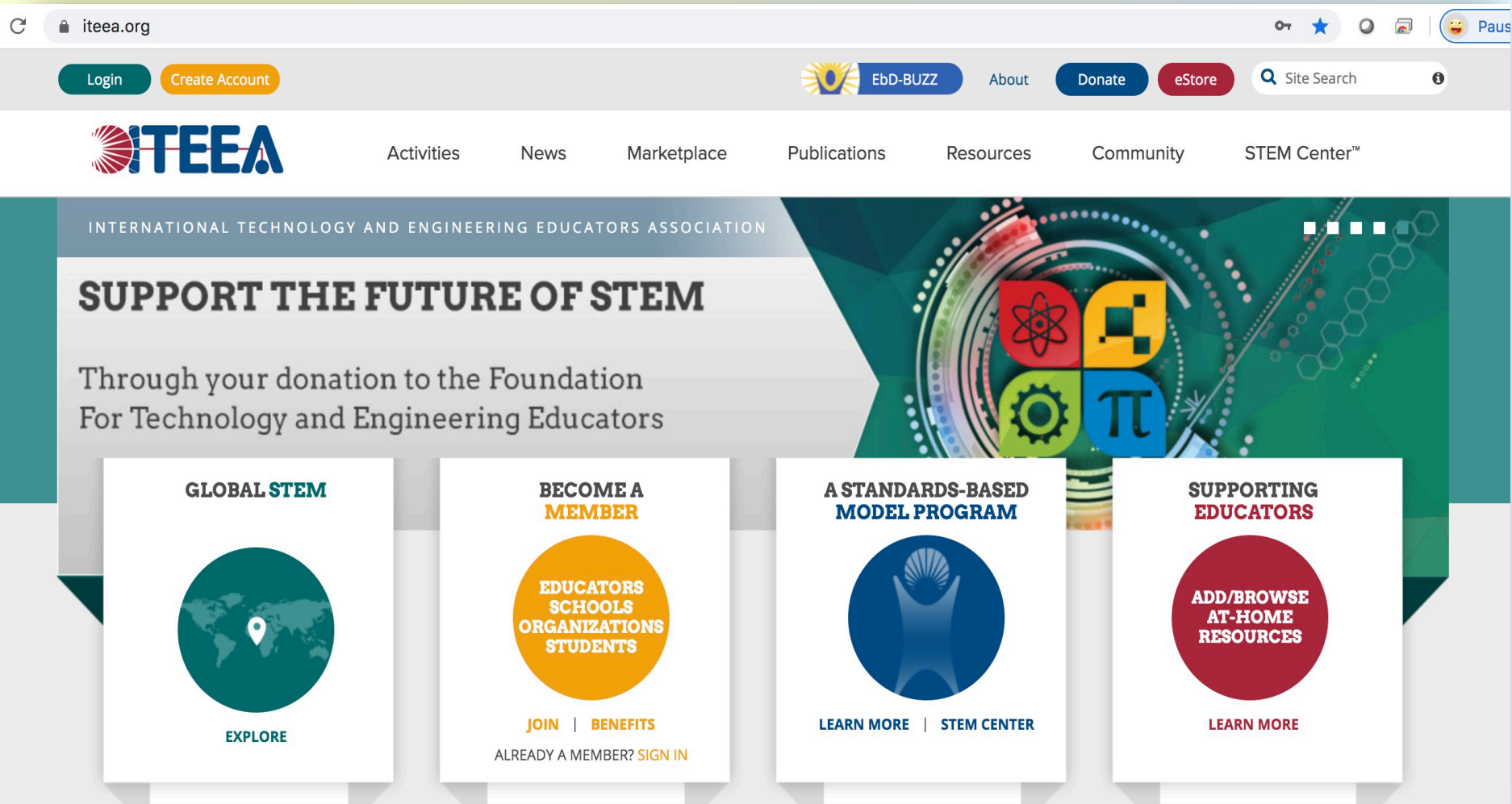| ITEA - Bencharks for Technolgical Literacy |
|---|
| • Expressing ideas to others verbally and through sketches and models is an important part of the design process (9-R) |

1

Unit 2
Design and
Engineering

Next Page

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Go to the www.iteea.org website

"Login" or "Create Account" to create a FREE account

Click on GLOBAL STEM

Click on STEM BY STATE

Click on VA on the map

Click on Request Access Button

Complete the Form and Submit

The EbD State Director receives notification

Reply Reply All Forward

Thu 7/13/2017 12:43 AM

iteea@iteea.org

ITEEA - EbD State Resources Request Access

To: acaffarano@oneida-boces.org; smorris@oneida-boces.org; Anita Deck; support@diamas.com; ITEEA

ⓘ If there are problems with how this message is displayed, click here to view it in a web browser.

A user has logged on to the ITEEA website and is requesting access to the STEM CTL resources from your state.

john cirincione (cirincionejo@egcsd.org), (Organization/ School: from State: **NY**) is awaiting your response.

The user message request:

For access, login to the **ITEEA website** , visit your consortium resources page and locate the user. To enable access to the documents, click on box next to their name. To remove access, unclick this box.

For additional questions, contact **ITEEA** at (iteea@iteea.org)

The EbD Director will then log into the state page and grant access by clicking on the Manage Access tab and checking the box next to the teacher's name. Only the person who has been designated to manage access for each state can see this tab. When access has been granted, the teacher will receive notification by email.

Reply Email from Access Request

Your request for access to the EbD resources on the (STATE) Consortium page has been granted by your EbD Consortium Director. Go to the ITEEA website and login. Click the STEM by STATE map and click on your state. You will now see the "EbD Resources" tab. Click the tab to see your state's EbD courses. If you do not see this tab, log out, refresh your browser, and log back in so the system will recognize your new status. The files you see here are either ZIP files or PDF. You must "extract all" files in the Zip files. Click the START HERE file in the root folder to begin.

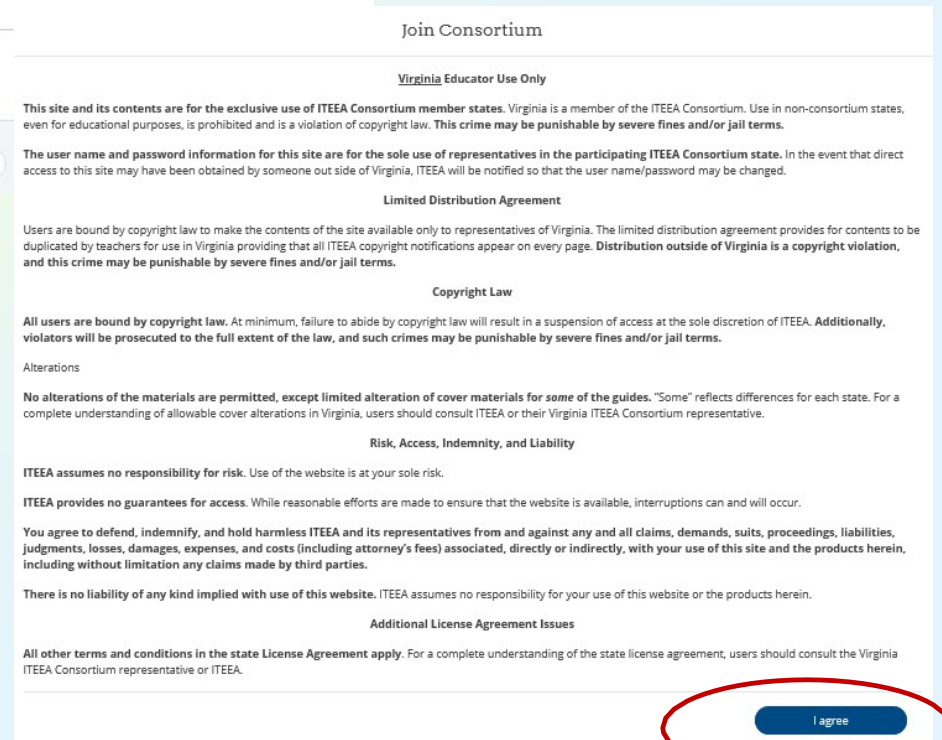Email ITEEA at iteea@iteea.org with questions.

Log back into the ITEEA website (you should log out and refresh your browser so the system will recognize your new status). Go to the VA page. You should now see the EbD Resources tab which contains the EbD courses to which you have access.

Downloading a Course

Click the EbD Consortium Resources tab.
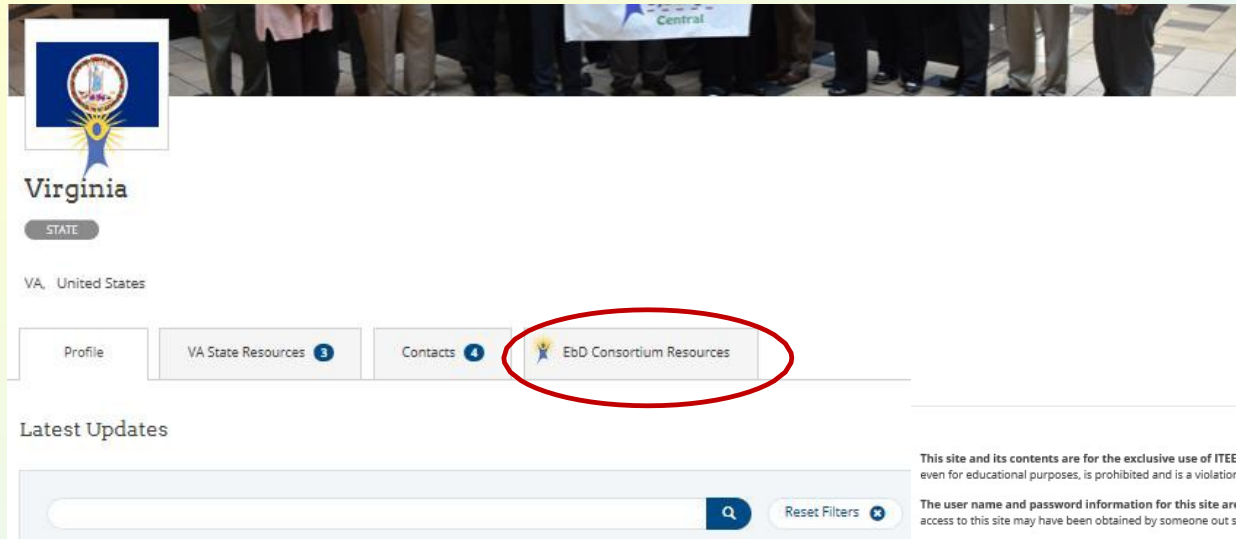
Click I Agree on the user agreement screen.

Downloading a Course

Click the course title.

Click the download button.

Downloading a Course
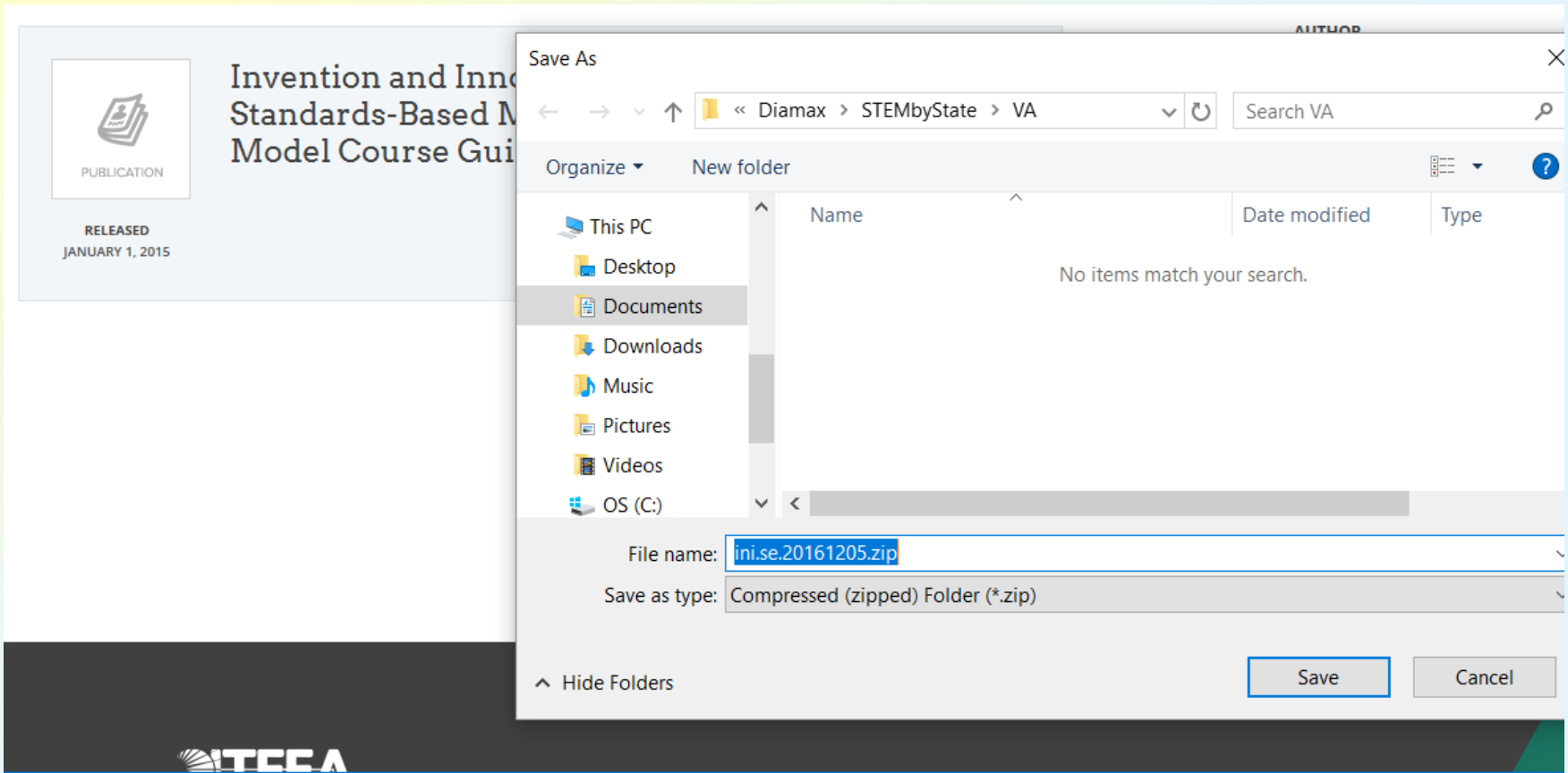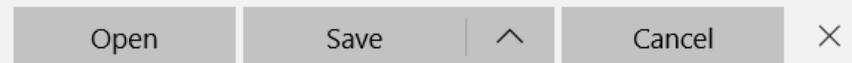
Download the ZIP file and save as to the appropriate folder on your computer.

Unzipping Your File
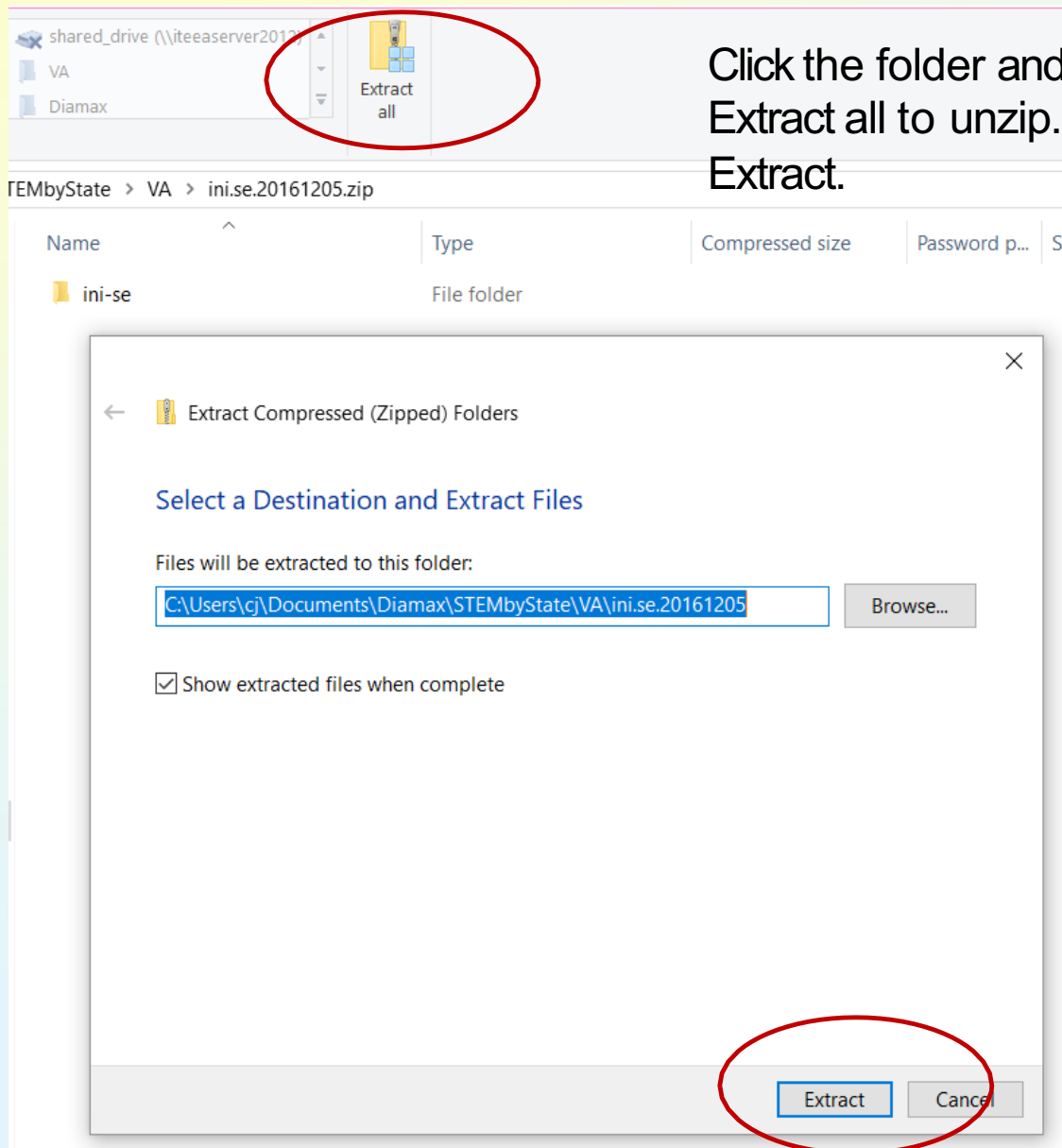
Click the folder and then click Extract all to unzip. Click Extract.

Click the Start_Here.html to open the course.

UPGRADE YOUR SCHOOL'S ACCESS TO EbD!

Become an EbD™ Network School

- ✓ Online access to the Media Rich edition (MRe) of the curriculum delivered through a state-of-the-art platform –EbD Buzz™
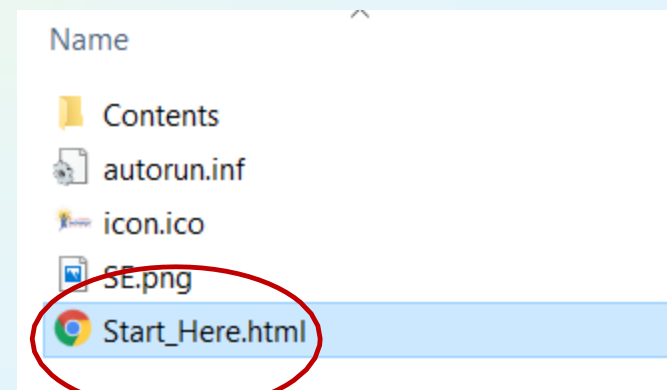
- ✓ Online Pre/Post assessments to measure student learning and a dashboard to access real-time data

- ✓ Summative achievement and growth reports – useful for identifying "teacher effectiveness" and SOL data

- ✓ Lead teachers in VA receive "train-the-trainer" professional development at the annual VA-EbD Institute

- ✓ Exclusive online professional learning community

- ✓ Additional PD offerings are available from ITEEA throughout the summer and at the ITEEA conference

- ✓ VA-EbD Network Schools are also provided with an ITEEA STEM School membership!
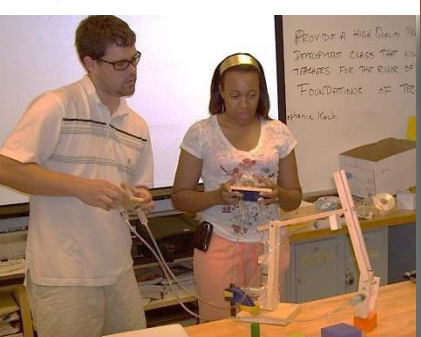
FOR MORE INFORMATION:

Kevin Reilly

Administrative Coordinator

CTE Resource Center

kreilly@cteresource.org