

Instructional Activities and Assessments

Here are some sample assessment activities for the EZ Block Sizer instructional design project

I would provide the following note (reminder) on each activity for learners that may need to increase the size of the text or images used in these activities.

NOTE: If needed, use the Zoom feature in your Internet browser settings (or software application) to increase the size of the instruction text and screen images in the activities.



Drag and Drop (Do Activity)

Terminal Objective: The mechanical engineer will navigate to the various pages in the EZ Block Sizer software.

Enabling Objective: Using a computer, the mechanical engineer will locate (identify) the Home, Inquiries, Block Sizing, and Machine Database pages in the EZ Block Sizer software on the first attempt.

Displayed below is the EZ Block Sizer Welcome page.

Locate and drag the brief functionality description on the left to the corresponding page on the menu bar picture on the right. When finished click Submit.

View and enter new inquiries

View machine information

View and enter block sizing

View the welcome page

MenuHomeInquiriesBlock SizingMachine Database

Welcome to EZ Block Sizer

SubmitTry Again

Feedback will display here

Note: The Try Again button will be available (if necessary) after you submit your answers. You are allowed to Try Again multiple times.

Feedback:

Correct: You've matched the corresponding functionality description to the correct page on the menu bar.

Try Again: There are some incorrect matches. Review your answers above and then click **Try Again** to give it another try.

Multiple Pick/Choice (Do Activity)

Terminal Objective: The mechanical engineer will identify the pertinent information entered on the customer form to create and save a new Cold or Hot Chamber inquiry and block sizing in the EZ Block Sizer software.

Enabling Objective: Given a customer information form, the mechanical engineer will identify and enter the customer information into the appropriate corresponding fields in the EZ Block Sizer software Inquiry page and save the inquiry on the first attempt.

The Inquiry page allows you to view and create new inquiries in the EZ Block Sizer software application.

Which fields displayed on the EZ Block Sizer Create New Inquiry page (dialog box) are required fields? (Pick all that apply and click Submit.)

Today's Date	Inquiry Number
Delivery Date	Email
Machine (Manufacturer & Model)	Casting Alloy
Chambering (Cold or Hot)	Customer Name
Part Number	Phone Number

Feedback will display here

Note: The Try Again button will be available (if necessary) after you submit your answers. You are allowed to Try Again multiple times.

Feedback:

Correct: These are the five (actually six) required fields on the Inquiry page: Inquiry Number, Customer Name, Chambering (Cold or Hot), Casting Alloy, Machine (Manufacture and Model). The Machine Manufacture and Model drop-downs count as two separate selections because you need to select both the Machine Manufacture and a Model. The Today's Date, Part Number, Delivery Date, Email, Phone Number fields are not displayed or required fields on the Inquiry page. These fields are on the Customer Information form but they are not displayed or required fields on the Inquiry page.

Try Again: There are some incorrect answers. Review your answers above and then click **Try Again** to give it another try.

True or False (Do Activity)

Terminal Objective: The mechanical engineer will analyze (compare) the vent and vacuum block size input/output information for Cold or Hot Chamber inquiries and block sizing.

Enabling Objective: The mechanical engineer will conclude if the variances between the ABC Company pre-set (generated and/or calculated) parameters and the customer information are correct and within the 15% variance allowed by ABC Company.

The Block Sizing page in the EZ Block Sizer software application allows you to enter and update block sizing information.

The block sizing information (data and calculations) in the screenshot example below is correct and ready to be sent to a client? (True or False)

The screenshot displays the EZ Block Sizer software interface. The top navigation bar includes 'Menu', 'Home', 'Inquiries', 'Block Sizing', and 'Machine Database'. The main content is divided into three sections:

- Casting Information:** A table comparing ABC Company and Customer data for various parameters. The 'Cavity Fill Time' field shows a discrepancy: ABC Company is 31.373 ms and Customer is 1.234 ms.
- Cold Chamber Results:** A table comparing ABC Company and Customer data for parameters like Shot Volume, Sleeve Volume, Total Volume, Max P, Max Q, Flow Rate Q, Gate Velocity, and Shot Weight*.
- Block Sizing Results:** A table comparing ABC Company and Customer data for parameters like Vacuum and Vent across different block sizes (Areas, 1 Block, 2 Blocks, 4 Blocks).

At the bottom of the interface, there are two buttons: 'True' and 'False'. Below the buttons, a feedback message reads: 'Feedback will display here'.

Feedback:

False: Correct. The information in the Cavity Fill Time field does not fall within the 15% variance allowed by ABC Company. A follow-up discussion with the prospective client is needed to confirm the correct information was entered on their customer information form.

True: Incorrect. The information is not correct because the data in the Cavity Fill Time field does not fall within the 15% variance allowed by ABC Company. This incorrect data also miscalculates the cold chamber and block sizing results.

Job Aid (Connect Activity)

Terminal Objective: The mechanical engineer will identify the pertinent information entered on the customer form to create and save a new Cold or Hot Chamber inquiry and block sizing in the EZ Block Sizer software.

Enabling Objectives:

- Given a customer information form, the mechanical engineer will identify and enter the customer information into the appropriate corresponding fields in the EZ Block Sizer software Inquiry page and save the inquiry on the first attempt.
- Given a customer information form, the mechanical engineer will identify and enter the customer information into the appropriate corresponding fields (Cold or Hot Chamber) in the EZ Block Sizer software Block Sizing page on the first attempt.

Note: See Job Aid on following page.

Pertinent Information from the Customer Information Form Entered into the EZ Block Sizer Application

The “X” indicates if the information from the Customer Information Form
is entered into the EZ Block Sizer Application

Customer Information Form	Inquiry Page	Hot Chamber Block Sizing Page	Cold Chamber Block Sizing Page
Date (auto-generated)			
Customer	X		
E-mail			
Phone			
Part Identification			
System requested (Vacuum or Venting)			
Material (Aluminum, Magnesium, Zinc) Note alloy used	X		
Chamber: (Hot or Cold)	X		
Machine Tonnage		X	X
Manufacture (and model)	X, X		
Machine shot cylinder dia.		X	X
Hydraulic system pressure (psi.)		X	X
Fast shot accumulator pressure (psi.)		X	X
Cold Chamber (Dia. And Length)			X
Hot Chamber (Plunger dia. and Plunger stroke)		X	
Goose neck length		X	
Nozzle dia.		X	
Nozzle length			
Dry shot speed (This is critical to design)		X	X
No. of cavities		X	X
Shot weight (w/o biscuit)		X	X
Through gate weight (include part weights and overflows vacuum)		X	X
Part weight 's (w/o)		X	X
Slow shot speed (IPS. If known)			
Fast shot speed (IPS. If known)		X	X
Cavity fill time (ms. If known)		X	X
Total gate area (in ² .)		X	X
Gate thickness (in.)			